

Table S6 Combined biological process VLAD results, triglyceride, total cholesterol, LDL chol

GO Term	M
<a href="#">GO:0008150: biological process</a>	29612
<a href="#">GO:0008152: metabolic process</a>	14817
<a href="#">GO:0044710: single-organism metabolic process</a>	14505
<a href="#">GO:0044238: primary metabolic process</a>	13667
<a href="#">GO:0071704: organic substance metabolic process</a>	14197

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<a href="#">GO:0044237: cellular metabolic process</a>	12556
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<a href="#">GO:0044281: small molecule metabolic process</a>	3455
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<a href="#">GO:0006629: lipid metabolic process</a>	1762
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<a href="#">GO:0065008: regulation of biological quality</a>	3451
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<a href="#">GO:0009058: biosynthetic process</a>	6142
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<a href="#">GO:1901576: organic substance biosynthetic process</a>	5968
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	5811
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<a href="#">GO:0044249: cellular biosynthetic process</a>	5811
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<a href="#">GO:0042221: response to chemical stimulus</a>	3988
<hr/>	
<a href="#">GO:0048518: positive regulation of biological process</a>	5136
<hr/>	
<a href="#">GO:0042592: homeostatic process</a>	1700
<hr/>	
<a href="#">GO:0032879: regulation of localization</a>	1830
<hr/>	
<a href="#">GO:0044255: cellular lipid metabolic process</a>	1274
<hr/>	
<a href="#">GO:0033036: macromolecule localization</a>	2555
<hr/>	
<a href="#">GO:0048878: chemical homeostasis</a>	1156
<hr/>	
<a href="#">GO:0010033: response to organic substance</a>	2789
<hr/>	
<a href="#">GO:0055088: lipid homeostasis</a>	115
<hr/>	
<a href="#">GO:0009893: positive regulation of metabolic process</a>	2783
<hr/>	
<a href="#">GO:0065009: regulation of molecular function</a>	2329
<hr/>	
<a href="#">GO:0050790: regulation of catalytic activity</a>	1840
<hr/>	

<a href="#">GO:1901575: organic substance catabolic process</a>	2254
<a href="#">GO:0043933: macromolecular complex subunit organization</a>	1414
	2457
<a href="#">GO:0006066: alcohol metabolic process</a>	374
<a href="#">GO:1901615: organic hydroxy compound metabolic process</a>	471
<a href="#">GO:0006082: organic acid metabolic process</a>	1635
<a href="#">GO:0016042: lipid catabolic process</a>	307
<a href="#">GO:0070887: cellular response to chemical stimulus</a>	2141
<a href="#">GO:0010876: lipid localization</a>	272
<a href="#">GO:0008203: cholesterol metabolic process</a>	126
<a href="#">GO:0016125: sterol metabolic process</a>	141
<a href="#">GO:0008202: steroid metabolic process</a>	322
<a href="#">GO:0051049: regulation of transport</a>	1321
<a href="#">GO:0019637: organophosphate metabolic process</a>	1497
<a href="#">GO:0043436: oxoacid metabolic process</a>	1617
<a href="#">GO:0008610: lipid biosynthetic process</a>	790

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<a href="#">GO:0044283: small molecule biosynthetic process</a>	680
<a href="#">GO:0044711: single-organism biosynthetic process</a>	702
<a href="#">GO:0019752: carboxylic acid metabolic process</a>	1485
<a href="#">GO:0032787: monocarboxylic acid metabolic process</a>	621
<a href="#">GO:0006644: phospholipid metabolic process</a>	526
<a href="#">GO:0046486: glycerolipid metabolic process</a>	454
<a href="#">GO:0070328: triglyceride homeostasis</a>	31
<a href="#">GO:0055090: acylglycerol homeostasis</a>	32
<a href="#">GO:0055092: sterol homeostasis</a>	82
<a href="#">GO:0042632: cholesterol homeostasis</a>	82
<a href="#">GO:0006869: lipid transport</a>	247
<a href="#">GO:0044092: negative regulation of molecular function</a>	798
<a href="#">GO:0043086: negative regulation of catalytic activity</a>	607
<a href="#">GO:0042157: lipoprotein metabolic process</a>	172
<a href="#">GO:0019216: regulation of lipid metabolic process</a>	282
<a href="#">GO:0097006: regulation of plasma lipoprotein particle levels</a>	60
<a href="#">GO:0006631: fatty acid metabolic process</a>	434
<a href="#">GO:0071827: plasma lipoprotein particle organization</a>	33

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<a href="#">GO:0071825: protein-lipid complex subunit organization</a>	33
<a href="#">GO:0034369: plasma lipoprotein particle remodeling</a>	27
<a href="#">GO:0034368: protein-lipid complex remodeling</a>	27
<a href="#">GO:0034367: macromolecular complex remodeling</a>	27
<a href="#">GO:0051338: regulation of transferase activity</a>	844
<a href="#">GO:0042325: regulation of phosphorylation</a>	1142
<a href="#">GO:0030334: regulation of cell migration</a>	563
<a href="#">GO:2000145: regulation of cell motility</a>	588
<a href="#">GO:0048585: negative regulation of response to stimulus</a>	1148
<a href="#">GO:0040012: regulation of locomotion</a>	632
<a href="#">GO:0051270: regulation of cellular component movement</a>	635
<a href="#">GO:0030301: cholesterol transport</a>	58
<a href="#">GO:0015918: sterol transport</a>	58
<a href="#">GO:0015850: organic hydroxy compound transport</a>	84
<a href="#">GO:0045834: positive regulation of lipid metabolic process</a>	123
<a href="#">GO:0009894: regulation of catabolic process</a>	725
<a href="#">GO:0055114: oxidation-reduction process</a>	686
<a href="#">GO:0006639: acylglycerol metabolic process</a>	114
<a href="#">GO:0006638: neutral lipid metabolic process</a>	116
<a href="#">GO:0006641: triglyceride metabolic process</a>	107
<a href="#">GO:0072330: monocarboxylic acid biosynthetic process</a>	268
<a href="#">GO:0016053: organic acid biosynthetic process</a>	484
<a href="#">GO:0046394: carboxylic acid biosynthetic process</a>	484
<a href="#">GO:0006633: fatty acid biosynthetic process</a>	197
<a href="#">GO:0009896: positive regulation of catabolic process</a>	185
<a href="#">GO:0044242: cellular lipid catabolic process</a>	184
<a href="#">GO:0006897: endocytosis</a>	405
<a href="#">GO:0006898: receptor-mediated endocytosis</a>	125

<a href="#">GO:0009743: response to carbohydrate stimulus</a>	246
<a href="#">GO:0032374: regulation of cholesterol transport</a>	32
<a href="#">GO:0032371: regulation of sterol transport</a>	32
<a href="#">GO:0032368: regulation of lipid transport</a>	74
<a href="#">GO:0043691: reverse cholesterol transport</a>	19
<a href="#">GO:0034381: plasma lipoprotein particle clearance</a>	38
<a href="#">GO:0034375: high-density lipoprotein particle remodeling</a>	15
<a href="#">GO:0051348: negative regulation of transferase activity</a>	228
<a href="#">GO:0034374: low-density lipoprotein particle remodeling</a>	13
<a href="#">GO:0048844: artery morphogenesis</a>	59
<a href="#">GO:0060840: artery development</a>	71
<a href="#">GO:0034372: very-low-density lipoprotein particle remodeling</a>	7
<a href="#">GO:0034370: triglyceride-rich lipoprotein particle remodeling</a>	10
<a href="#">GO:0046470: phosphatidylcholine metabolic process</a>	65
<a href="#">GO:0042439: ethanolamine-containing compound metabolic process</a>	94
<a href="#">GO:0031400: negative regulation of protein modification process</a>	404
<a href="#">GO:0006650: glycerophospholipid metabolic process</a>	365
<a href="#">GO:0031331: positive regulation of cellular catabolic process</a>	132
<a href="#">GO:0044106: cellular amine metabolic process</a>	157
<a href="#">GO:0006576: cellular biogenic amine metabolic process</a>	157
<a href="#">GO:0009308: amine metabolic process</a>	201
<a href="#">GO:0055091: phospholipid homeostasis</a>	9
<a href="#">GO:0015914: phospholipid transport</a>	41
<a href="#">GO:0015748: organophosphate ester transport</a>	66
<a href="#">GO:0046890: regulation of lipid biosynthetic process</a>	133
<a href="#">GO:0019218: regulation of steroid metabolic process</a>	99
<a href="#">GO:0042158: lipoprotein biosynthetic process</a>	108
<a href="#">GO:0034377: plasma lipoprotein particle assembly</a>	15
<a href="#">GO:0065005: protein-lipid complex assembly</a>	15
<a href="#">GO:0033500: carbohydrate homeostasis</a>	150
<a href="#">GO:0042593: glucose homeostasis</a>	150
<a href="#">GO:0006636: unsaturated fatty acid biosynthetic process</a>	68
<a href="#">GO:0033559: unsaturated fatty acid metabolic process</a>	110
<a href="#">GO:0010874: regulation of cholesterol efflux</a>	17

<a href="#">GO:0010743: regulation of macrophage derived foam cell differentiation</a>	42
<a href="#">GO:0019433: triglyceride catabolic process</a>	23
<a href="#">GO:0046464: acylglycerol catabolic process</a>	26
<a href="#">GO:0046461: neutral lipid catabolic process</a>	26
<a href="#">GO:0010906: regulation of glucose metabolic process</a>	104
<a href="#">GO:0010675: regulation of cellular carbohydrate metabolic process</a>	127
<a href="#">GO:0006109: regulation of carbohydrate metabolic process</a>	132
<a href="#">GO:0030336: negative regulation of cell migration</a>	165
<a href="#">GO:2000146: negative regulation of cell motility</a>	167
<a href="#">GO:0046503: glycerolipid catabolic process</a>	32
	173
	192
	192
<a href="#">GO:0045862: positive regulation of proteolysis</a>	85
<a href="#">GO:0051271: negative regulation of cellular component movement</a>	173
<a href="#">GO:0040013: negative regulation of locomotion</a>	192
<a href="#">GO:0033344: cholesterol efflux</a>	26
<a href="#">GO:0042159: lipoprotein catabolic process</a>	11
<a href="#">GO:0045940: positive regulation of steroid metabolic process</a>	28
<a href="#">GO:0090181: regulation of cholesterol metabolic process</a>	33
<a href="#">GO:0034380: high-density lipoprotein particle assembly</a>	6
<a href="#">GO:0033700: phospholipid efflux</a>	12
<a href="#">GO:0032489: regulation of Cdc42 protein signal transduction</a>	21
<a href="#">GO:0032376: positive regulation of cholesterol transport</a>	13
<a href="#">GO:0032373: positive regulation of sterol transport</a>	13
<a href="#">GO:0032370: positive regulation of lipid transport</a>	37
<a href="#">GO:0009395: phospholipid catabolic process</a>	36
<a href="#">GO:0034384: high-density lipoprotein particle clearance</a>	7
<a href="#">GO:0010873: positive regulation of cholesterol esterification</a>	7
<a href="#">GO:0010872: regulation of cholesterol esterification</a>	9
<a href="#">GO:0045540: regulation of cholesterol biosynthetic process</a>	22
<a href="#">GO:0043651: linoleic acid metabolic process</a>	8
<a href="#">GO:0036109: alpha-linolenic acid metabolic process</a>	11
<a href="#">GO:0034382: chylomicron remnant clearance</a>	9
<a href="#">GO:0071830: triglyceride-rich lipoprotein particle clearance</a>	9
<a href="#">GO:0010875: positive regulation of cholesterol efflux</a>	11
<a href="#">GO:0010885: regulation of cholesterol storage</a>	25
	32
<a href="#">GO:0010907: positive regulation of glucose metabolic process</a>	32
<a href="#">GO:0045923: positive regulation of fatty acid metabolic process</a>	36



<a href="#">GO:0010676: positive regulation of cellular carbohydrate metabolic process</a>	42
<a href="#">GO:0030317: sperm motility</a>	38
<a href="#">GO:0014912: negative regulation of smooth muscle cell migration</a>	10
<a href="#">GO:0042953: lipoprotein transport</a>	13
<a href="#">GO:0050996: positive regulation of lipid catabolic process</a>	26
<a href="#">GO:0010886: positive regulation of cholesterol storage</a>	19
<a href="#">GO:0010884: positive regulation of lipid storage</a>	27
	29
	35
<a href="#">GO:0006775: fat-soluble vitamin metabolic process</a>	28
<a href="#">GO:0044707: single-multicellular organism process</a>	8030
<a href="#">GO:0032501: multicellular organismal process</a>	8067
<a href="#">GO:0019222: regulation of metabolic process</a>	7178
<a href="#">GO:0080090: regulation of primary metabolic process</a>	6458
<a href="#">GO:0051179: localization</a>	5992
<a href="#">GO:1901360: organic cyclic compound metabolic process</a>	6677

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<a href="#">GO:0006810: transport</a>	4771
<hr/>	
<a href="#">GO:0051234: establishment of localization</a>	4875
<hr/>	
<a href="#">GO:0031323: regulation of cellular metabolic process</a>	6511
<hr/>	
<a href="#">GO:0048519: negative regulation of biological process</a>	4507
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<a href="#">GO:0071702: organic substance transport</a>	2430
<hr/>	
<a href="#">GO:0048523: negative regulation of cellular process</a>	4093
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<a href="#">GO:0006793: phosphorus metabolic process</a>	2720
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<a href="#">GO:0006796: phosphate-containing compound metabolic process</a>	2610
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<a href="#">GO:0051239: regulation of multicellular organismal process</a>	2790
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<a href="#">GO:0050793: regulation of developmental process</a>	2235
<hr/>	
<a href="#">GO:0031325: positive regulation of cellular metabolic process</a>	2626
<hr/>	
<a href="#">GO:0016192: vesicle-mediated transport</a>	1300
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<a href="#">GO:0009719: response to endogenous stimulus</a>	1708
<a href="#">GO:0019220: regulation of phosphate metabolic process</a>	1614
<a href="#">GO:0051174: regulation of phosphorus metabolic process</a>	1626
<a href="#">GO:0045595: regulation of cell differentiation</a>	1576
<a href="#">GO:0009725: response to hormone stimulus</a>	1157
<a href="#">GO:0031667: response to nutrient levels</a>	473
<a href="#">GO:0009991: response to extracellular stimulus</a>	519
<a href="#">GO:0010243: response to organic nitrogen</a>	1044
<a href="#">GO:0051241: negative regulation of multicellular organismal process</a>	499
<a href="#">GO:0043434: response to peptide hormone stimulus</a>	607
<a href="#">GO:1901652: response to peptide</a>	621
<a href="#">GO:0031329: regulation of cellular catabolic process</a>	600
<a href="#">GO:0006694: steroid biosynthetic process</a>	149
<a href="#">GO:0051346: negative regulation of hydrolase activity</a>	273
<a href="#">GO:0009746: response to hexose stimulus</a>	173
<a href="#">GO:0034284: response to monosaccharide stimulus</a>	196
	348
<a href="#">GO:0032868: response to insulin stimulus</a>	387
<a href="#">GO:0033673: negative regulation of kinase activity</a>	211
<a href="#">GO:0030299: intestinal cholesterol absorption</a>	8
<a href="#">GO:0044241: lipid digestion</a>	14
<a href="#">GO:0050892: intestinal absorption</a>	28
<a href="#">GO:0022600: digestive system process</a>	50
<a href="#">GO:0007586: digestion</a>	119
<a href="#">GO:0042176: regulation of protein catabolic process</a>	247
<a href="#">GO:0009749: response to glucose stimulus</a>	162
<a href="#">GO:0032803: regulation of low-density lipoprotein particle receptor catabolic process</a>	5
<a href="#">GO:0030300: regulation of intestinal cholesterol absorption</a>	6
<a href="#">GO:2000644: regulation of receptor catabolic process</a>	6
<a href="#">GO:0034383: low-density lipoprotein particle clearance</a>	15

<a href="#">GO:0044058: regulation of digestive system process</a>	30
<a href="#">GO:0006695: cholesterol biosynthetic process</a>	41
<a href="#">GO:0016126: sterol biosynthetic process</a>	52
<a href="#">GO:0050810: regulation of steroid biosynthetic process</a>	73
<a href="#">GO:0009267: cellular response to starvation</a>	103
<a href="#">GO:0045732: positive regulation of protein catabolic process</a>	115
<a href="#">GO:0010984: regulation of lipoprotein particle clearance</a>	13
<a href="#">GO:0030804: positive regulation of cyclic nucleotide biosynthetic process</a>	73
<a href="#">GO:1900373: positive regulation of purine nucleotide biosynthetic process</a>	74
<a href="#">GO:0030810: positive regulation of nucleotide biosynthetic process</a>	74
<a href="#">GO:0030801: positive regulation of cyclic nucleotide metabolic process</a>	75
<a href="#">GO:1900544: positive regulation of purine nucleotide metabolic process</a>	77
<a href="#">GO:0045981: positive regulation of nucleotide metabolic process</a>	77
	107
	108
	108
	117
<a href="#">GO:0046889: positive regulation of lipid biosynthetic process</a>	55
<a href="#">GO:0015758: glucose transport</a>	67
<a href="#">GO:0046164: alcohol catabolic process</a>	67
<a href="#">GO:0008645: hexose transport</a>	68
<a href="#">GO:0015749: monosaccharide transport</a>	70
<a href="#">GO:1901616: organic hydroxy compound catabolic process</a>	76
	101
<a href="#">GO:0010949: negative regulation of intestinal phytosterol absorption</a>	2
<a href="#">GO:0045796: negative regulation of intestinal cholesterol absorption</a>	2
<a href="#">GO:0035376: sterol import</a>	3
<a href="#">GO:0070508: cholesterol import</a>	3
<a href="#">GO:0035382: sterol transmembrane transport</a>	3
<a href="#">GO:0046323: glucose import</a>	4
<a href="#">GO:0010989: negative regulation of low-density lipoprotein particle clearance</a>	4
<a href="#">GO:0051005: negative regulation of lipoprotein lipase activity</a>	6
<a href="#">GO:0010985: negative regulation of lipoprotein particle clearance</a>	7
<a href="#">GO:0010988: regulation of low-density lipoprotein particle clearance</a>	7
<a href="#">GO:0010867: positive regulation of triglyceride biosynthetic process</a>	11
<a href="#">GO:0032375: negative regulation of cholesterol transport</a>	11
<a href="#">GO:0032372: negative regulation of sterol transport</a>	11
<a href="#">GO:0006707: cholesterol catabolic process</a>	13
<a href="#">GO:0016127: sterol catabolic process</a>	13

<a href="#">GO:0060192: negative regulation of lipase activity</a>	13
<a href="#">GO:0010866: regulation of triglyceride biosynthetic process</a>	16
<a href="#">GO:0090208: positive regulation of triglyceride metabolic process</a>	17
<a href="#">GO:0060457: negative regulation of digestive system process</a>	18
<a href="#">GO:0006699: bile acid biosynthetic process</a>	23
	26
	27
	27
<a href="#">GO:0010745: negative regulation of macrophage derived foam cell differentiation</a>	13
<a href="#">GO:0032367: intracellular cholesterol transport</a>	8
<a href="#">GO:0032366: intracellular sterol transport</a>	8
<a href="#">GO:0009750: response to fructose stimulus</a>	13
<a href="#">GO:0032365: intracellular lipid transport</a>	18
	23
	27
	23018

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[GO:0009987: cellular process](#) 23018

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	836
<a href="#">GO:0060341: regulation of cellular localization</a>	836
<a href="#">GO:0010563: negative regulation of phosphorus metabolic process</a>	343
<a href="#">GO:0045936: negative regulation of phosphate metabolic process</a>	343
<a href="#">GO:0001933: negative regulation of protein phosphorylation</a>	272
<a href="#">GO:0042326: negative regulation of phosphorylation</a>	287
<a href="#">GO:0006469: negative regulation of protein kinase activity</a>	200
<a href="#">GO:0007568: aging</a>	380
<a href="#">GO:0071900: regulation of protein serine/threonine kinase activity</a>	502

<a href="#">GO:0032269: negative regulation of cellular protein metabolic process</a>	539
<a href="#">GO:0043405: regulation of MAP kinase activity</a>	334
<a href="#">GO:0048259: regulation of receptor-mediated endocytosis</a>	51
<a href="#">GO:0043407: negative regulation of MAP kinase activity</a>	86
	119
<a href="#">GO:0046165: alcohol biosynthetic process</a>	127
<a href="#">GO:0060191: regulation of lipase activity</a>	129
<a href="#">GO:0031669: cellular response to nutrient levels</a>	142
<a href="#">GO:0042594: response to starvation</a>	149
<a href="#">GO:0031664: regulation of lipopolysaccharide-mediated signaling pathway</a>	13
	31
	32
<a href="#">GO:0065007: biological regulation</a>	14777
<a href="#">GO:0050789: regulation of biological process</a>	13977
	5118
<a href="#">GO:0009889: regulation of biosynthetic process</a>	5118
	5077
	4326
<a href="#">GO:0034645: cellular macromolecule biosynthetic process</a>	4326

	4397
<a href="#">GO:0009059: macromolecule biosynthetic process</a>	4397
<a href="#">GO:0071310: cellular response to organic substance</a>	1692
<a href="#">GO:0033993: response to lipid</a>	949
	1011
<a href="#">GO:0008654: phospholipid biosynthetic process</a>	302
<a href="#">GO:0045913: positive regulation of carbohydrate metabolic process</a>	49
<a href="#">GO:0019217: regulation of fatty acid metabolic process</a>	103
<a href="#">GO:0019934: cGMP-mediated signaling</a>	5
<a href="#">GO:0045723: positive regulation of fatty acid biosynthetic process</a>	15
	17
<a href="#">GO:0002021: response to dietary excess</a>	17
	27
	29
<a href="#">GO:0010470: regulation of gastrulation</a>	32
<a href="#">GO:0034405: response to fluid shear stress</a>	32
	36

k is the number of genes in the query set annotated to that node, and M is the number of genes in the annotation dataset 12<sup>th</sup> November 2012 and GO ontology from 27<sup>th</sup> November 2012.

Individual lipid trait SNP datasets associated with each of the listed GO terms. HDL-C: HDL cholesterol

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triglyceride and HDL cholesterol trait associated genes

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**TG**

<b>p</b>	<b>k</b>	<b>genes</b>	<b>p</b>
1	29	ANGPTL3, APOA1, APOB, APOE, CAPN3, CETP, CTF1, CYP26A1, FADS1, FADS2, FADS3, *FRMD5, GALNT2, GCKR, IRS1, JMJD1C, LIPC, LPL, LRP1, MAP3K1, MLXIPL, MSL2, NAT2, PINX1, PLA2G6, PLTP, TRIB1, TYW1B, *ZNF664	1
0.00000768	26	ANGPTL3, APOA1, APOB, APOE, CAPN3, CETP, *CYP26A1, FADS1, FADS2, FADS3, GALNT2, GCKR, IRS1, JMJD1C, LIPC, LPL, LRP1, MAP3K1, MLXIPL, MSL2, NAT2, PINX1, PLA2G6, PLTP, TYW1B, ZNF664	0.000237
0.00000468	26	ANGPTL3, APOA1, APOB, APOE, CAPN3, CETP, CYP26A1, FADS1, FADS2, FADS3, GALNT2, GCKR, IRS1, JMJD1C, LIPC, LPL, LRP1, MAP3K1, MLXIPL, MSL2, NAT2, PINX1, PLA2G6, PLTP, TYW1B, ZNF664	0.000423
0.00000913	25	ANGPTL3, APOA1, APOB, APOE, CAPN3, CETP, CYP26A1, FADS1, FADS2, FADS3, GALNT2, GCKR, IRS1, JMJD1C, LIPC, LPL, LRP1, MAP3K1, MLXIPL, MSL2, PINX1, PLA2G6, PLTP, TYW1B, ZNF664	0.000854
0.0000209	25	ANGPTL3, APOA1, APOB, APOE, CAPN3, CETP, CYP26A1, FADS1, FADS2, FADS3, GALNT2, GCKR, IRS1, JMJD1C, LIPC, LPL, LRP1, MAP3K1, MLXIPL, MSL2, PINX1, PLA2G6, PLTP, TYW1B, ZNF664	-

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0.00000992	24	ANGPTL3, APOA1, APOB, APOE, CETP, CYP26A1, FADS1, FADS2, FADS3, GALNT2, GCKR, JMJD1C, LIPC, LPL, LRP1, MAP3K1, MLXIPL, MSL2, NAT2, PINX1, PLA2G6, PLTP, TYW1B, ZNF664	0.0000102
1.72E-09	17	ANGPTL3, *APOA1, *APOB, *APOE, *CETP, *CYP26A1, *FADS1, *FADS2, FADS3, *GCKR, LIPC, *LPL, LRP1, *MLXIPL, *NAT2, *PLA2G6, PLTP	1.96E-12
1.37E-11	15	ANGPTL3, *APOA1, *APOB, *APOE, *CETP, CYP26A1, FADS1, FADS2, FADS3, IRS1, LIPC, *LPL, LRP1, PLA2G6, *PLTP	7.37E-16
0.00000015	15	ANGPTL3, APOA1, APOB, APOE, CAPN3, CETP, CYP26A1, GCKR, IRS1, JMJD1C, LIPC, LPL, MAP3K1, MLXIPL, PINX1	5.75E-09
0.000216	15	APOA1, APOB, APOE, FADS1, FADS2, FADS3, GALNT2, JMJD1C, LIPC, LPL, MLXIPL, PINX1, PLA2G6, PLTP, ZNF664	0.000382
0.000154	15	APOA1, APOB, APOE, FADS1, FADS2, FADS3, GALNT2, JMJD1C, LIPC, LPL, MLXIPL, PINX1, PLA2G6, PLTP, ZNF664	0.000752
0.000112	15	APOA1, APOB, APOE, FADS1, FADS2, FADS3, GALNT2, JMJD1C, LIPC, LPL, MLXIPL, PINX1, PLA2G6, PLTP, ZNF664	-
0.000112	15	APOA1, APOB, APOE, FADS1, FADS2, FADS3, GALNT2, JMJD1C, LIPC, LPL, MLXIPL, PINX1, PLA2G6, PLTP, ZNF664	-

0.00000665	14	ANGPTL3, APOB, APOE, CAPN3, CYP26A1, FADS1, GCKR, IRS1, LPL, MAP3K1, MLXIPL, NAT2, PLA2G6, TRIB1	4.26E-07
0.000535	13	ANGPTL3, APOA1, APOB, APOE, CAPN3, CTF1, GCKR, IRS1, LPL, LRP1, MAP3K1, MLXIPL, TRIB1	0.000309
2.56E-08	12	ANGPTL3, APOA1, APOB, APOE, CAPN3, CETP, GCKR, IRS1, LIPC, LPL, MLXIPL, PINX1	6.36E-14
5.79E-08	12	ANGPTL3, APOA1, APOB, APOE, CAPN3, CETP, GCKR, IRS1, LPL, LRP1, MAP3K1, TRIB1	2.53E-09
1E-09	12	ANGPTL3, *APOA1, APOB, APOE, CETP, CYP26A1, *FADS1, FADS2, FADS3, LIPC, LPL, PLA2G6	1.1E-10
0.0000154	11	ANGPTL3, APOA1, APOB, APOE, CAPN3, CETP, GCKR, IRS1, LIPC, LRP1, PLTP	8.48E-09
8.04E-08	10	ANGPTL3, APOA1, APOB, APOE, CETP, GCKR, IRS1, LIPC, LPL, MLXIPL	3.04E-17
0.00018	10	ANGPTL3, APOB, APOE, CYP26A1, FADS1, GCKR, IRS1, MAP3K1, MLXIPL, TRIB1	0.0000236
1.37E-15	9	*ANGPTL3, APOA1, APOB, APOE, *CETP, GCKR, LIPC, LPL, MLXIPL	5.62E-34
0.000989	9	ANGPTL3, APOA1, APOE, CAPN3, GCKR, IRS1, MAP3K1, MLXIPL, TRIB1	0.00000581
0.000266	9	ANGPTL3, APOA1, APOE, CAPN3, GCKR, IRS1, LRP1, PINX1, TRIB1	0.0000758
0.0000435	9	ANGPTL3, APOA1, APOE, *CAPN3, GCKR, IRS1, LRP1, PINX1, TRIB1	0.000168

0.000208	9	ANGPTL3, APOB, APOE, CYP26A1, IRS1, LIPC, LPL, MAP3K1, PLA2G6	0.000945
0.00000529	9	APOA1, APOB, APOE, CAPN3, CETP, IRS1, LIPC, LPL, MAP3K1	0.000459
0.000397	9	ANGPTL3, APOB, APOE, CYP26A1, IRS1, LIPC, LPL, MAP3K1, PLA2G6	-
2.05E-09	8	ANGPTL3, APOA1, APOB, APOE, CETP, LIPC, LRP1, PLA2G6	9.33E-16
1.24E-08	8	ANGPTL3, APOA1, APOB, APOE, CETP, LIPC, LRP1, PLA2G6	2.22E-14
0.000128	8	ANGPTL3, CYP26A1, FADS1, FADS2, FADS3, GCKR, LIPC, LPL	0.0000105
4.33E-10	8	ANGPTL3, APOB, APOE, CYP26A1, *IRS1, LIPC, LPL, *PLA2G6	0.0000114
0.000799	8	APOB, APOE, CAPN3, CYP26A1, IRS1, MAP3K1, MLXIPL, NAT2	-
6.71E-09	7	ANGPTL3, APOA1, APOB, APOE, CETP, LIPC, PLTP	4.2E-21
3.08E-11	7	*ANGPTL3, *APOA1, *APOB, *APOE, *CETP, *LIPC, *LRP1	1.8E-22
6.83E-11	7	ANGPTL3, APOA1, APOB, APOE, CETP, LIPC, LRP1	9.3E-22
2.14E-08	7	ANGPTL3, APOA1, APOB, APOE, CETP, LIPC, LRP1	1.17E-16
0.000227	7	APOA1, APOE, CAPN3, CETP, GCKR, IRS1, LRP1	1.53E-07
0.000486	7	ANGPTL3, APOA1, CETP, FADS1, LIPC, LPL, PLA2G6	0.0000262
0.000771	7	ANGPTL3, CYP26A1, FADS1, FADS2, FADS3, LIPC, LPL	0.000053
0.00000876	7	APOA1, FADS1, FADS2, FADS3, LIPC, LPL, PLA2G6	5.53E-07

0.00000328	7	APOA1, FADS1, FADS2, FADS3, LIPC, LPL, PLTP	0.00000152
0.00000405	7	APOA1, FADS1, FADS2, FADS3, LIPC, LPL, PLTP	0.00000198
0.000463	7	ANGPTL3, CYP26A1, FADS1, FADS2, FADS3, LIPC, LPL	0.000653
0.0000018	7	ANGPTL3, CYP26A1, FADS1, FADS2, FADS3, LIPC, LPL	0.00000756
5.96E-07	7	*ANGPTL3, APOA1, CETP, FADS1, LIPC, *LPL, *PLA2G6	0.00000224
2.22E-07	7	APOA1, APOB, APOE, CETP, LIPC, LPL, PLA2G6	0.00000937
1.02E-15	7	*ANGPTL3, *APOA1, *CETP, *GCKR, *LIPC, *LPL, *MLXIPL	1.07E-11
1.31E-15	7	*ANGPTL3, APOA1, CETP, GCKR, LIPC, LPL, MLXIPL	1.31E-11
1.69E-10	6	ANGPTL3, APOA1, APOB, APOE, CETP, LIPC	7.84E-30
1.69E-10	6	*ANGPTL3, *APOA1, *APOB, *APOE, *CETP, *LIPC	7.84E-30
1.28E-07	6	APOA1, APOB, APOE, *CETP, LIPC, *PLTP	5.25E-20
0.000105	6	ANGPTL3, APOA1, APOE, GCKR, PINX1, TRIB1	5.82E-08
0.000023	6	ANGPTL3, APOA1, APOE, GCKR, PINX1, TRIB1	4.87E-08
1.5E-08	6	*APOA1, *APOB, *APOE, *CETP, *LPL, *LRP1	1.03E-11
2.79E-07	6	ANGPTL3, APOA1, APOB, APOE, IRS1, MLXIPL	8.35E-10
2.45E-11	6	APOA1, APOB, APOE, CETP, LIPC, LPL	5.92E-16
0.00000342	6	*ANGPTL3, FADS1, FADS2, FADS3, LIPC, LPL	0.00000699
5.52E-13	6	APOA1, APOB, APOE, CETP, LIPC, LPL	8.98E-14

5.52E-13	6	APOA1, APOB, APOE, CETP, LIPC, LPL	8.98E-14
1.48E-13	6	APOA1, APOB, APOE, CETP, LIPC, LPL	4.31E-12
1.48E-13	6	APOA1, APOB, APOE, CETP, LIPC, LPL	4.31E-12
1.48E-13	6	APOA1, APOB, APOE, CETP, LIPC, LPL	4.31E-12
0.000143	6	APOA1, APOE, GCKR, IRS1, PINX1, TRIB1	-
0.000719	6	APOA1, APOE, GCKR, IRS1, MLXIPL, TRIB1	-
0.0000151	6	ANGPTL3, APOE, IRS1, LRP1, *MAP3K1, TRIB1	-
0.0000192	6	ANGPTL3, APOE, IRS1, LRP1, MAP3K1, TRIB1	-
0.00074	6	APOA1, APOE, CYP26A1, IRS1, LRP1, TRIB1	-
0.0000288	6	ANGPTL3, APOE, IRS1, LRP1, MAP3K1, TRIB1	-
0.0000296	6	ANGPTL3, APOE, IRS1, LRP1, MAP3K1, TRIB1	-
2.77E-09	5	*APOA1, *APOB, APOE, *CETP, LIPC	3.65E-25
2.77E-09	5	APOA1, APOB, APOE, CETP, LIPC	3.65E-25
1.83E-08	5	APOA1, APOB, APOE, CETP, LIPC	7.03E-23
1.25E-07	5	ANGPTL3, APOA1, APOE, IRS1, MLXIPL	1.33E-09
0.000633	5	ANGPTL3, APOE, IRS1, MLXIPL, TRIB1	0.00018
0.000492	5	APOA1, FADS1, FADS2, FADS3, MLXIPL	0.000907
8.54E-08	5	APOB, APOE, CETP, LIPC, LPL	3.48E-08
9.32E-08	5	APOB, APOE, CETP, LIPC, LPL	3.87E-08
6.21E-08	5	APOB, *APOE, *CETP, LIPC, *LPL	2.38E-08
0.00000582	5	FADS1, FADS2, FADS3, LIPC, LPL	0.00000524
0.0000981	5	FADS1, FADS2, FADS3, LIPC, LPL	0.000143
0.0000981	5	FADS1, FADS2, FADS3, LIPC, LPL	0.000143
0.00000129	5	FADS1, FADS2, FADS3, *LIPC, *LPL	0.0000186
9.48E-07	5	ANGPTL3, APOE, IRS1, MLXIPL, TRIB1	0.000251
9.23E-07	5	ANGPTL3, APOB, CYP26A1, LIPC, LPL	0.000246
0.000625	4	APOB, APOE, CETP, LRP1	1.94E-08
0.00000662	4	*APOB, *APOE, *CETP, *LRP1	1.49E-09

0.0000938	4	*APOB, FADS1, GCKR, MLXIPL	0.00000016
2.62E-08	4	APOA1, APOE, CETP, *LRP1	7.08E-14
2.62E-08	4	APOA1, APOE, CETP, LRP1	7.08E-14
8.14E-07	4	APOA1, APOE, CETP, LRP1	3.59E-11
2.85E-09	4	*APOA1, *APOE, *CETP, *LIPC	1.08E-15
5.35E-08	4	APOA1, APOB, APOE, LIPC	3.96E-11
1E-09	4	*APOA1, *APOE, *CETP, *LIPC	2.98E-11
0.0000699	4	APOE, GCKR, PINX1, TRIB1	0.000553
5.27E-10	4	*APOB, *APOE, *CETP, *LIPC	4.68E-09
3.25E-07	4	*ANGPTL3, *APOB, *APOE, LRP1	0.00013
6.89E-07	4	ANGPTL3, APOB, APOE, LRP1	0.000225
2.59E-11	4	*APOE, *CETP, *LIPC, *LPL	1.48E-07
1.55E-10	4	APOE, CETP, LIPC, LPL	5.07E-07
4.82E-07	4	APOA1, *CETP, LIPC, PLA2G6	0.000173
0.00000213	4	APOA1, CETP, LIPC, PLA2G6	0.000513
0.000619	4	APOE, CAPN3, MLXIPL, TRIB1	-
0.000423	4	APOA1, CETP, LIPC, PLA2G6	-
0.00000822	4	APOE, IRS1, MLXIPL, TRIB1	-
0.0000163	4	APOA1, CETP, LIPC, PLA2G6	-
0.0000163	4	APOA1, CETP, LIPC, PLA2G6	-
0.0000412	4	APOA1, CETP, LIPC, PLA2G6	-
7.07E-08	3	*ANGPTL3, *APOA1, *CETP	7.79E-09
0.00000878	3	APOA1, APOE, *CETP	6.43E-11
0.0000371	3	APOA1, APOE, CETP	1.26E-09
0.000297	3	APOB, APOE, MLXIPL	8.74E-08
0.000124	3	APOA1, APOB, APOE	0.00000064
0.000161	3	*APOA1, *APOB, *APOE	0.0000312
3.81E-07	3	APOA1, APOB, APOE	8.91E-09
3.81E-07	3	APOA1, APOB, APOE	8.91E-09
0.000423	3	GCKR, IRS1, MLXIPL	0.000112
0.000423	3	GCKR, *IRS1, *MLXIPL	0.000112
0.0000405	3	*FADS1, *FADS2, *FADS3	0.000198
0.00017	3	*FADS1, *FADS2, FADS3	0.000811
5.69E-07	3	APOE, *CETP, LRP1	0.00000285

0.00000945	3	APOB, CETP, LPL	0.0000467
0.00000148	3	*APOB, *LIPC, *LPL	0.000664
0.00000216	3	APOB, LIPC, LPL	0.00085
0.00000216	3	APOB, LIPC, LPL	0.00085
0.000144	3	GCKR, IRS1, MLXIPL	-
0.000259	3	GCKR, IRS1, MLXIPL	-
0.000291	3	GCKR, IRS1, MLXIPL	-
0.000558	3	APOE, LRP1, TRIB1	-
0.000578	3	APOE, LRP1, TRIB1	-
0.00000411	3	APOB, LIPC, LPL	-
0.00064	3	APOE, LRP1, TRIB1	-
0.000866	3	APOE, LRP1, TRIB1	-
0.000866	3	*FADS1, *FADS2, *FADS3	-
0.000079	3	APOE, *CAPN3, TRIB1	-
0.00064	3	APOE, LRP1, TRIB1	-
0.000866	3	APOE, LRP1, TRIB1	-
0.000297	2	*APOA1, *APOE	6.44E-10
0.0000507	2	*APOB, *APOE	6.96E-07
0.000345	2	APOA1, APOE	0.0000135
0.00048	2	APOB, APOE	0.0000224
0.0000139	2	*APOA1, *APOE	8.49E-08
0.0000607	2	*APOA1, *APOE	9.27E-07
0.000192	2	*APOA1, *APOE	0.00000555
0.0000718	2	APOE, LRP1	0.0000012
0.0000718	2	APOE, LRP1	0.0000012
0.000604	2	APOE, *LRP1	0.0000318
0.000571	2	*ANGPTL3, LIPC	0.0000293
0.0000194	2	*APOA1, *APOE	0.000056
0.0000194	2	*APOA1, *APOE	0.000056
0.0000332	2	APOA1, APOE	0.0000959
0.000211	2	*APOB, APOE	0.000607
0.0000258	2	*FADS1, *FADS2	0.0000746
0.0000507	2	*FADS1, *FADS2	0.000146
0.0000332	2	*APOE, *LIPC	0.0000959
0.0000332	2	APOE, LIPC	0.0000959
0.0000507	2	*APOE, *LRP1	0.000146
0.000274	2	APOB, LPL	0.000785
0.000451	2	*ANGPTL3, *APOA1	-
0.000451	2	*IRS1, MLXIPL	-
0.000571	2	IRS1, MLXIPL	-

0.000778	2	IRS1, MLXIPL	-
0.000637	2	*APOB, *PLTP	-
0.0000415	2	*LRP1, *TRIB1	-
0.0000718	2	*APOB, *LRP1	-
0.000297	2	*ANGPTL3, IRS1	-
0.000157	2	*APOB, *LPL	-
0.00032	2	*APOB, LPL	-
0.00037	2	*APOB, *LPL	-
0.00054	2	LRP1, TRIB1	-
0.000345	2	CYP26A1, PLTP	-
-	-	-	0.00000916
-	-	-	0.0000101
-	-	-	0.0000131
-	-	-	0.0000244
-	-	-	0.0000241
-	-	-	0.000434



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-	-	-	0.00000283
-	-	-	0.000866
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-	-	-	3.71E-09
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-	-	-	0.000007

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-	-	-	0.000168
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-	-	-	0.00054
-	-	-	0.00045
-	-	-	0.00000481
-	-	-	0.0000879
-	-	-	0.00000995
-	-	-	0.0000182
-	-	-	0.000272
-	-	-	0.000442
-	-	-	0.000413
-	-	-	4.61E-10
-	-	-	6.54E-09
-	-	-	1.32E-07
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-	-	-	0.0000457
-	-	-	0.000746
-	-	-	0.000151
-	-	-	4.25E-08
-	-	-	8.49E-08
-	-	-	8.49E-08
-	-	-	0.00000191

-	-	-	0.0000168
-	-	-	0.0000434
-	-	-	0.0000889
-	-	-	0.000244
-	-	-	0.00067
-	-	-	0.000923
-	-	-	0.0000012
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-	-	-	0.000254
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-	-	-	0.000286
-	-	-	0.000749
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-	-	-	0.00097
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## TC

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k	genes	p	k
49	ABCA1, ABCG5, ABCG8, ABO, ANGPTL3, APOA1, APOB, APOE, BRAP, *C6orf106, CETP, CYP7A1, DNAH11, ERGIC3, EVI5, FADS1, FADS2, FADS3, FRK, GCKR, GPAM, HFE, HMGCR, HNF1A, HNF4A, IRF2BP2, LDLR, LDLRAP1, LIPC, LIPG, LPA, MAFB, MAMSTR, MARC1, MYLIP, NAT2, NPC1L1, OSBPL7, PCSK9, PLEC, PPP1R3B, RAB3GAP1, RAF1, SORT1, *SPTY2D1, ST3GAL4, TOP1, TRIB1, TRPS1	1	38
37	ABCA1, ABCG5, ABCG8, ABO, ANGPTL3, APOA1, APOB, APOE, CETP, CYP7A1, FADS1, FADS2, FADS3, FRK, GCKR, GPAM, HFE, HMGCR, HNF1A, HNF4A, IRF2BP2, LDLR, LDLRAP1, LIPC, LIPG, LPA, MAFB, MARC1, MYLIP, NAT2, NPC1L1, PCSK9, PPP1R3B, RAF1, ST3GAL4, TOP1, TRPS1	0.0000586	31
36	ABCA1, ABCG5, ABCG8, ABO, ANGPTL3, APOA1, APOB, APOE, CETP, CYP7A1, FADS1, FADS2, FADS3, FRK, GCKR, GPAM, HMGCR, HNF1A, HNF4A, IRF2BP2, LDLR, LDLRAP1, LIPC, LIPG, LPA, MAFB, MARC1, MYLIP, NAT2, NPC1L1, PCSK9, PPP1R3B, RAF1, ST3GAL4, TOP1, TRPS1	0.000147	30
34	ABCA1, ABCG5, ABCG8, ABO, ANGPTL3, APOA1, APOB, APOE, CETP, CYP7A1, FADS1, FADS2, FADS3, FRK, GCKR, GPAM, HMGCR, HNF1A, HNF4A, IRF2BP2, LDLR, LDLRAP1, LIPC, LIPG, LPA, MAFB, MYLIP, NPC1L1, PCSK9, PPP1R3B, RAF1, ST3GAL4, TOP1, TRPS1	0.000149	29
-	-	0.00034	29

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36	ABCA1, ABCG5, ABCG8, ABO, ANGPTL3, APOA1, APOB, APOE, CETP, CYP7A1, FADS1, FADS2, FADS3, FRK, GCKR, GPAM, HMGCR, HNF1A, HNF4A, IRF2BP2, LDLR, LDLRAP1, LIPC, LIPG, LPA, MAFB, MARC1, MYLIP, NAT2, NPC1L1, PCSK9, PPP1R3B, RAF1, ST3GAL4, TOP1, TRPS1	0.00000475	30
26	*ABCA1, *ABCG5, *ABCG8, ANGPTL3, *APOA1, *APOB, *APOE, *CETP, *CYP7A1, *FADS1, *FADS2, FADS3, *GCKR, *GPAM, *HMGCR, HNF1A, HNF4A, *LDLR, LDLRAP1, LIPC, *LPA, MARC1, *NAT2, *NPC1L1, PCSK9, *ST3GAL4	9.53E-12	22
23	*ABCA1, *ABCG5, *ABCG8, ANGPTL3, *APOA1, *APOB, *APOE, *CETP, CYP7A1, FADS1, FADS2, FADS3, GPAM, HMGCR, HNF1A, *HNF4A, *LDLR, LDLRAP1, LIPC, *LIPG, *LPA, *NPC1L1, PCSK9	5.63E-14	19
22	ABCA1, ABCG5, ABCG8, ANGPTL3, APOA1, APOB, APOE, CETP, CYP7A1, GCKR, GPAM, HFE, HNF1A, HNF4A, LDLR, LDLRAP1, LIPC, LIPG, MYLIP, NPC1L1, PCSK9, RAF1	3.31E-07	17
21	ABCA1, ABO, APOA1, APOB, APOE, CYP7A1, FADS1, FADS2, FADS3, GPAM, HFE, HMGCR, HNF1A, HNF4A, IRF2BP2, LIPC, MAFB, NPC1L1, ST3GAL4, TOP1, TRPS1	0.000746	17
20	ABCA1, ABO, APOA1, APOB, APOE, CYP7A1, FADS1, FADS2, FADS3, GPAM, HMGCR, HNF1A, HNF4A, IRF2BP2, LIPC, MAFB, NPC1L1, ST3GAL4, TOP1, TRPS1	-	-
-	-	-	-
-	-	-	-



21	ABCA1, ABCG5, ANGPTL3, APOB, APOE, CYP7A1, FADS1, GCKR, GPAM, HMGCR, HNF1A, HNF4A, LDLR, LIPG, MARC1, NAT2, PCSK9, RAF1, SORT1, TOP1, TRIB1	0.0000132	16
19	ABCA1, ANGPTL3, APOA1, APOB, APOE, GCKR, GPAM, HMGCR, HNF1A, HNF4A, LDLR, LDLRAP1, LIPG, MAFB, MAMSTR, MYLIP, PCSK9, RAF1, TRIB1	-	-
21	ABCA1, ABCG5, ABCG8, ANGPTL3, APOA1, APOB, APOE, CETP, CYP7A1, GCKR, GPAM, HFE, HNF1A, HNF4A, LDLR, LDLRAP1, LIPC, LIPG, MYLIP, NPC1L1, PCSK9	6.7E-12	17
17	ABCA1, ABCG5, ABCG8, ANGPTL3, APOA1, APOB, APOE, CETP, GCKR, GPAM, HNF1A, HNF4A, LDLRAP1, LIPG, PCSK9, RAF1, TRIB1	2.67E-08	14
16	*ABCA1, ANGPTL3, *APOA1, APOB, APOE, CETP, *CYP7A1, *FADS1, FADS2, FADS3, *GPAM, *HMGCR, HNF1A, LIPC, LIPG, PCSK9	3.23E-09	13
19	ABCA1, ABCG5, ABCG8, ANGPTL3, APOA1, APOB, APOE, CETP, GCKR, GPAM, HNF1A, LDLR, LDLRAP1, LIPC, LIPG, LPA, NPC1L1, OSBPL7, TRPS1	0.00000161	14
21	ABCA1, ABCG5, ABCG8, ANGPTL3, APOA1, APOB, APOE, CETP, CYP7A1, GCKR, GPAM, HFE, HNF1A, HNF4A, LDLR, LDLRAP1, LIPC, LIPG, MYLIP, NPC1L1, PCSK9	1.34E-14	17
15	ABCA1, ANGPTL3, APOB, APOE, CYP7A1, FADS1, GCKR, GPAM, HNF1A, HNF4A, LDLR, PCSK9, RAF1, SORT1, TRIB1	0.000109	12
19	ABCA1, ABCG5, ABCG8, *ANGPTL3, APOA1, APOB, APOE, *CETP, CYP7A1, GCKR, GPAM, *HNF4A, LDLR, LDLRAP1, LIPC, LIPG, MYLIP, NPC1L1, PCSK9	6.99E-25	14
16	ABCA1, ANGPTL3, APOA1, APOE, GCKR, GPAM, HNF1A, HNF4A, LDLR, LDLRAP1, MAFB, MAMSTR, MYLIP, PCSK9, RAF1, TRIB1	0.000122	12
13	ANGPTL3, APOA1, APOE, GCKR, HMGCR, HNF4A, LDLRAP1, LPA, PCSK9, RAB3GAP1, RAF1, SORT1, TRIB1	0.000114	11
11	ANGPTL3, APOA1, APOE, GCKR, HMGCR, LPA, PCSK9, RAB3GAP1, RAF1, SORT1, TRIB1	0.0000794	10

11	ABCG5, ABCG8, ANGPTL3, APOB, APOE, CYP7A1, LDLR, LIPC, LIPG, MYLIP, PCSK9	-	-
9	ABCA1, APOA1, APOB, APOE, CETP, HFE, HMGCR, LIPC, LIPG	-	-
-	-	-	-
14	ABCA1, ANGPTL3, APOA1, APOB, APOE, CETP, CYP7A1, HMGCR, HNF1A, LDLR, LDLRAP1, LIPC, NPC1L1, PCSK9	2.78E-14	12
14	ABCA1, ANGPTL3, APOA1, APOB, APOE, CETP, CYP7A1, HMGCR, HNF1A, LDLR, LDLRAP1, LIPC, NPC1L1, PCSK9	4.25E-13	12
12	ANGPTL3, CYP7A1, FADS1, FADS2, FADS3, GCKR, GPAM, HNF1A, HNF4A, LIPC, MARC1, ST3GAL4	0.000177	9
6	ANGPTL3, APOB, APOE, CYP7A1, LIPC, LIPG	0.000633	4
-	-	-	-
16	ABCA1, ABCG5, ABCG8, ANGPTL3, APOA1, APOB, APOE, CETP, HNF1A, LDLR, LDLRAP1, LIPC, LIPG, LPA, NPC1L1, OSBPL7	1.1E-17	13
14	*ABCA1, *ANGPTL3, *APOA1, *APOB, *APOE, *CETP, CYP7A1, HMGCR, *HNF1A, *LDLR, *LDLRAP1, *LIPC, NPC1L1, *PCSK9	5.07E-20	12
14	ABCA1, ANGPTL3, APOA1, APOB, APOE, CETP, CYP7A1, HMGCR, HNF1A, LDLR, LDLRAP1, LIPC, NPC1L1, PCSK9	2.05E-09	12
14	ABCA1, ANGPTL3, APOA1, APOB, APOE, CETP, CYP7A1, HMGCR, HNF1A, LDLR, LDLRAP1, LIPC, NPC1L1, PCSK9	4.68E-15	12
13	ABCA1, ABCG5, ABCG8, APOA1, APOE, CETP, GCKR, GPAM, HNF1A, HNF4A, LDLRAP1, LIPG, PCSK9	5.28E-07	11
11	ABCG5, ABCG8, ANGPTL3, APOA1, CETP, FADS1, GPAM, HMGCR, LIPC, LIPG, PCSK9	0.0000906	9
11	ANGPTL3, CYP7A1, FADS1, FADS2, FADS3, GPAM, HNF1A, HNF4A, LIPC, MARC1, ST3GAL4	0.000163	9
10	APOA1, CYP7A1, FADS1, FADS2, FADS3, GPAM, HMGCR, HNF1A, LIPC, NPC1L1	5.33E-07	9

9	APOA1, CYP7A1, FADS1, FADS2, FADS3, HMGCR, HNF1A, LIPC, NPC1L1	0.00000197	8
9	APOA1, CYP7A1, FADS1, FADS2, FADS3, HMGCR, HNF1A, LIPC, NPC1L1	0.0000025	8
9	ANGPTL3, CYP7A1, FADS1, FADS2, FADS3, GPAM, HNF1A, HNF4A, LIPC	-	-
8	ANGPTL3, CYP7A1, FADS1, FADS2, FADS3, GPAM, HNF1A, LIPC	0.0000124	7
8	*ANGPTL3, APOA1, CETP, FADS1, *GPAM, LIPC, LIPG, *PCSK9	0.000052	6
7	APOA1, APOB, APOE, CETP, GPAM, LIPC, PCSK9	0.0000229	6
6	*ANGPTL3, *APOA1, *CETP, *GCKR, *HNF4A, *LIPC	0.00000855	3
6	*ANGPTL3, APOA1, CETP, GCKR, HNF4A, LIPC	0.00000942	3
16	ABCA1, ABCG5, ABCG8, ANGPTL3, APOA1, APOB, APOE, CETP, CYP7A1, LDLR, LDLRAP1, LIPC, LIPG, MYLIP, NPC1L1, PCSK9	1.06E-24	13
16	*ABCA1, *ABCG5, *ABCG8, *ANGPTL3, *APOA1, *APOB, *APOE, *CETP, *CYP7A1, *LDLR, *LDLRAP1, *LIPC, *LIPG, *MYLIP, *NPC1L1, *PCSK9	1.06E-24	13
15	ABCA1, ABCG5, ABCG8, APOA1, APOB, APOE, *CETP, HNF1A, LDLR, LDLRAP1, LIPC, LIPG, *LPA, NPC1L1, *OSBPL7	1.94E-16	12
11	ANGPTL3, APOA1, APOE, GCKR, HMGCR, HNF4A, LPA, PCSK9, RAF1, SORT1, TRIB1	4.56E-08	10
10	ANGPTL3, APOA1, APOE, GCKR, HMGCR, LPA, *PCSK9, RAF1, SORT1, TRIB1	3.43E-09	10
9	*ABCA1, *APOA1, *APOB, *APOE, *CETP, *LDLR, *LPA, *NPC1L1, *PCSK9	4.64E-11	8
9	ANGPTL3, APOA1, APOB, APOE, CYP7A1, GPAM, *HNF4A, LDLR, LDLRAP1	2.34E-09	8
9	ABCA1, APOA1, APOB, APOE, CETP, LDLR, LDLRAP1, LIPC, LIPG	1.4E-10	6
7	*ANGPTL3, FADS1, FADS2, FADS3, *GPAM, HNF1A, LIPC	0.0000178	6
7	ABCA1, APOA1, APOB, APOE, CETP, LIPC, LIPG	9.18E-08	4

7	ABCA1, APOA1, APOB, APOE, CETP, LIPC, LIPG	9.18E-08	4
6	APOA1, APOB, APOE, CETP, LIPC, LIPG	3.96E-08	4
6	APOA1, APOB, APOE, CETP, LIPC, LIPG	3.96E-08	4
6	APOA1, APOB, APOE, CETP, LIPC, LIPG	3.96E-08	4
-	-	0.000667	6
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
13	ABCA1, ABCG5, ABCG8, *APOA1, *APOB, APOE, *CETP, HNF1A, *LDLR, LDLRAP1, LIPC, LIPG, *NPC1L1	1.66E-09	10
13	ABCA1, *ABCG5, *ABCG8, APOA1, APOB, APOE, CETP, HNF1A, LDLR, LDLRAP1, LIPC, LIPG, *NPC1L1	1.66E-09	10
13	ABCA1, ABCG5, ABCG8, APOA1, APOB, APOE, CETP, HNF1A, LDLR, LDLRAP1, LIPC, LIPG, NPC1L1	8.59E-08	10
7	ANGPTL3, APOA1, APOE, GPAM, HNF4A, LDLR, LDLRAP1	1.12E-08	6
7	ANGPTL3, APOE, LDLR, MYLIP, PCSK9, RAB3GAP1, TRIB1	0.000299	6
6	APOA1, FADS1, FADS2, FADS3, *MARC1, PPP1R3B	0.0000235	7
6	APOB, APOE, CETP, GPAM, LIPC, PCSK9	3.51E-07	5
6	APOB, APOE, CETP, GPAM, LIPC, PCSK9	3.83E-07	5
6	APOB, *APOE, *CETP, GPAM, LIPC, *PCSK9	2.56E-07	5
6	CYP7A1, FADS1, FADS2, FADS3, HNF1A, LIPC	0.000023	5
6	CYP7A1, FADS1, FADS2, FADS3, HNF1A, LIPC	0.000368	5
6	CYP7A1, FADS1, FADS2, FADS3, HNF1A, LIPC	0.000368	5
5	FADS1, FADS2, FADS3, *HNF1A, *LIPC	0.000117	4
4	ANGPTL3, APOE, MYLIP, TRIB1	0.0000922	4
4	ANGPTL3, APOB, LIPC, LIPG	-	-
9	ABCA1, APOB, APOE, CETP, HFE, *LDLR, LDLRAP1, LPA, *SORT1	3.9E-08	8
7	*APOB, *APOE, *CETP, *HFE, *LDLR, *LDLRAP1, *LPA	2.28E-10	7

7	*APOB, CYP7A1, FADS1, GCKR, GPAM, HNF1A, HNF4A	6.83E-07	6
7	ABCA1, ABCG5, ABCG8, APOA1, APOE, CETP, LIPG	5.2E-10	5
7	ABCA1, ABCG5, ABCG8, APOA1, APOE, CETP, LIPG	5.2E-10	5
7	ABCA1, ABCG5, ABCG8, APOA1, APOE, CETP, LIPG	0.00000004	5
7	*ABCA1, *APOA1, *APOE, *CETP, *HNF1A, *LIPC, *LIPG	8.81E-09	4
6	APOA1, APOB, APOE, LDLR, LDLRAP1, LIPC	1.29E-09	5
5	*APOA1, *APOE, *CETP, *LIPC, *LIPG	8.78E-07	3
4	APOE, GCKR, HMGCR, TRIB1	0.0000106	5
4	*APOB, *APOE, *CETP, *LIPC	5.53E-07	3
3	*ANGPTL3, *APOB, *APOE	0.0000603	3
3	ANGPTL3, APOB, APOE	0.000105	3
3	*APOE, *CETP, *LIPC	0.0000335	2
3	APOE, CETP, LIPC	0.0000717	2
3	APOA1, *CETP, LIPC	-	-
3	APOA1, CETP, LIPC	-	-
-	-	0.00016	5
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
7	*ABCA1, *ANGPTL3, *APOA1, *CETP, *GPAM, *HNF4A, *LIPG	2.89E-10	4
6	ABCA1, *ABCG8, APOA1, APOE, *CETP, *LDLR	1.92E-09	5
6	ABCA1, ABCG8, APOA1, APOE, CETP, LDLR	2.23E-08	5
6	APOB, APOE, CYP7A1, GPAM, HNF4A, LDLR	7.55E-07	5
5	APOA1, APOB, APOE, CYP7A1, LDLRAP1	1.73E-07	5
4	ABCA1, *APOA1, *APOB, *APOE	0.000363	3
4	ABCA1, APOA1, APOB, APOE	8.78E-07	3
4	ABCA1, APOA1, APOB, APOE	8.78E-07	3
4	CYP7A1, GCKR, HNF1A, HNF4A	-	-
4	CYP7A1, GCKR, *HNF1A, *HNF4A	-	-
3	*FADS1, *FADS2, *FADS3	0.0000922	3
3	*FADS1, *FADS2, FADS3	0.000383	3
3	ABCA1, APOE, *CETP	0.000215	2

3	ABCA1, APOB, CETP	-	-
2	*APOB, *LIPC	-	-
2	APOB, LIPC	-	-
2	APOB, LIPC	-	-
-	-	-	-
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-	-	-	-
-	-	-	-
-	-	-	-
5	*ABCA1, *ABCG5, *ABCG8, *APOA1, *APOE	3.38E-08	4
3	*APOB, *APOE, *LDLR	3.19E-07	3
3	APOA1, APOE, LDLRAP1	0.00000625	3
3	APOB, APOE, LDLRAP1	0.0000104	3
3	*ABCA1, *APOA1, *APOE	0.000024	2
3	*ABCA1, *APOA1, *APOE	0.000105	2
3	*ABCA1, *APOA1, *APOE	0.000332	2
3	ABCA1, APOE, *LIPG	-	-
3	ABCA1, APOE, LIPG	-	-
3	ABCA1, APOE, LIPG	-	-
3	*ANGPTL3, LIPC, *LIPG	-	-
2	*APOA1, *APOE	0.0000335	2
2	*APOA1, *APOE	0.0000335	2
2	APOA1, APOE	0.0000574	2
2	*APOB, APOE	0.000364	2
2	*FADS1, *FADS2	0.0000447	2
2	*FADS1, *FADS2	0.0000876	2
2	*APOE, *LIPC	-	-
2	APOE, LIPC	-	-
2	*ABCA1, *APOE	-	-
2	ABCA1, APOB	-	-
-	-	0.000776	2
-	-	-	-
-	-	-	-

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-	-	-	-
-	-	-	-
-	-	-	-
28	ABCA1, ABCG5, ABCG8, ANGPTL3, APOA1, APOB, APOE, CETP, EVI5, GPAM, HFE, HMGCR, HNF1A, HNF4A, LDLR, LDLRAP1, LIPC, LIPG, LPA, MAFB, MYLIP, NPC1L1, PCSK9, RAB3GAP1, RAF1, SORT1, TOP1, TRPS1	0.0000632	22
28	ABCA1, ABCG5, ABCG8, ANGPTL3, APOA1, APOB, APOE, CETP, EVI5, GPAM, HFE, HMGCR, HNF1A, HNF4A, LDLR, LDLRAP1, LIPC, LIPG, LPA, MAFB, MYLIP, NPC1L1, PCSK9, RAB3GAP1, RAF1, SORT1, TOP1, TRPS1	0.0000682	22
26	ABCA1, ANGPTL3, APOA1, APOB, APOE, CYP7A1, FADS1, GCKR, GPAM, HMGCR, HNF1A, HNF4A, IRF2BP2, LDLR, LDLRAP1, LIPG, LPA, MAFB, MAMSTR, MYLIP, PCSK9, RAB3GAP1, RAF1, SORT1, TRIB1, TRPS1	0.00015	20
24	ABCA1, ANGPTL3, APOA1, APOB, APOE, CYP7A1, FADS1, GCKR, GPAM, HMGCR, HNF1A, HNF4A, IRF2BP2, LDLR, LDLRAP1, LIPG, MAFB, MAMSTR, MYLIP, PCSK9, RAB3GAP1, RAF1, TRIB1, TRPS1	0.000422	18
23	ABCA1, ABCG5, ABCG8, ANGPTL3, APOA1, APOB, APOE, CETP, ERGIC3, GCKR, GPAM, HFE, HNF1A, LDLR, LDLRAP1, LIPC, LIPG, LPA, NPC1L1, OSBPL7, PCSK9, SORT1, TRPS1	0.000158	18
22	ABCA1, ABCG5, ABCG8, ANGPTL3, APOA1, APOB, APOE, CETP, CYP7A1, GCKR, HMGCR, HNF1A, HNF4A, IRF2BP2, LDLR, LDLRAP1, LIPC, MAFB, NPC1L1, PCSK9, TOP1, TRPS1	0.00019	19

22	ABCA1, ABCG5, ABCG8, APOA1, APOB, APOE, CETP, ERGIC3, GCKR, GPAM, HFE, HNF1A, LDLR, *LDLRAP1, LIPC, LIPG, LPA, NPC1L1, OSBPL7, PCSK9, SORT1, TRPS1	0.000125	16
22	ABCA1, ABCG5, ABCG8, APOA1, APOB, APOE, CETP, ERGIC3, GCKR, GPAM, HFE, HNF1A, LDLR, LDLRAP1, LIPC, LIPG, LPA, NPC1L1, OSBPL7, PCSK9, SORT1, TRPS1	0.000163	16
21	ABCA1, APOA1, APOE, CYP7A1, FADS1, GCKR, GPAM, HMGCR, HNF1A, HNF4A, IRF2BP2, LDLR, LIPG, MAFB, MAMSTR, MYLIP, PCSK9, RAB3GAP1, RAF1, TRIB1, TRPS1	-	-
19	ABCA1, ABCG5, ABCG8, APOA1, APOE, BRAP, CETP, FRK, GPAM, HMGCR, HNF1A, HNF4A, MAFB, MYLIP, PCSK9, RAF1, SORT1, TRIB1, TRPS1	0.000014	17
19	ABCA1, ABCG5, ABCG8, APOA1, APOB, APOE, CETP, GCKR, GPAM, HNF1A, LDLR, LDLRAP1, LIPC, LIPG, LPA, NPC1L1, OSBPL7, SORT1, TRPS1	8.83E-07	14
16	ABCA1, APOA1, APOE, BRAP, CETP, FRK, GPAM, HMGCR, HNF1A, HNF4A, MAFB, PCSK9, RAF1, SORT1, TRIB1, TRPS1	0.000333	14
15	ABCG5, ABCG8, ANGPTL3, APOA1, CETP, FADS1, FRK, GPAM, HMGCR, HNF4A, LIPC, LIPG, PCSK9, RAF1, TOP1	0.000098	12
14	ABCG5, ABCG8, ANGPTL3, APOA1, CETP, FADS1, FRK, GPAM, HMGCR, LIPC, LIPG, PCSK9, RAF1, TOP1	0.0000657	12
14	ABCG5, ABCG8, ANGPTL3, APOA1, APOE, GPAM, HMGCR, HNF4A, LIPG, MAFB, MAMSTR, MYLIP, PCSK9, TRPS1	0.000553	11
13	ABCA1, ANGPTL3, APOA1, APOB, APOE, CETP, FADS1, HMGCR, HNF4A, MAFB, MAMSTR, RAF1, TRPS1	-	-
12	ABCA1, APOA1, APOE, GPAM, HNF1A, HNF4A, LDLR, MAFB, MAMSTR, PCSK9, RAF1, TRIB1	-	-
11	ABCA1, APOA1, APOB, APOE, CETP, *ERGIC3, HFE, LDLR, LDLRAP1, LPA, SORT1	0.0000303	9



10	ABCA1, ANGPTL3, APOB, FADS1, GPAM, HNF4A, LDLR, PCSK9, RAF1, SORT1	0.000996	8
10	ABCA1, APOA1, APOE, GCKR, HMGCR, HNF4A, LDLR, RAB3GAP1, RAF1, TRIB1	-	-
10	ABCA1, APOA1, APOE, GCKR, HMGCR, HNF4A, LDLR, RAB3GAP1, RAF1, TRIB1	-	-
9	ABCA1, APOB, APOE, CETP, *FADS1, MAFB, MAMSTR, *RAF1, TRPS1	-	-
8	*ANGPTL3, APOB, FADS1, GPAM, LDLR, PCSK9, RAF1, SORT1	0.0000911	8
7	ABCG5, FADS1, *GPAM, HFE, HMGCR, LIPG, PCSK9	0.0000288	6
7	ABCG5, FADS1, GPAM, HFE, HMGCR, LIPG, PCSK9	0.0000483	6
7	FADS1, GPAM, HNF4A, LDLR, PCSK9, RAF1, SORT1	-	-
6	ABCG5, ABCG8, APOA1, APOE, MYLIP, PCSK9	0.00000297	7
6	FADS1, GPAM, LDLR, PCSK9, RAF1, SORT1	0.000114	6
6	FADS1, GPAM, LDLR, PCSK9, RAF1, SORT1	0.000129	6
6	APOE, LDLR, MYLIP, PCSK9, RAB3GAP1, TRIB1	0.00097	5
5	APOA1, CYP7A1, HMGCR, HNF1A, NPC1L1	0.00000132	5
5	ANGPTL3, *APOA1, LPA, RAF1, SORT1	0.0000251	5
5	CYP7A1, GCKR, GPAM, HNF1A, HNF4A	-	-
5	CYP7A1, GCKR, GPAM, HNF1A, HNF4A	-	-
5	ABCG5, ABCG8, ANGPTL3, LIPC, LIPG	-	-
5	*FADS1, GPAM, PCSK9, RAF1, *SORT1	-	-
4	APOE, GCKR, HMGCR, TRIB1	0.00000726	5
4	*ABCG5, *ABCG8, *LDLR, *NPC1L1	1.61E-10	4
4	ABCG5, ABCG8, LDLR, NPC1L1	2.29E-09	4
4	ABCG5, ABCG8, LDLR, NPC1L1	4.62E-08	4
4	ABCG5, ABCG8, LDLR, NPC1L1	5.09E-07	4
4	ABCG5, ABCG8, LDLR, NPC1L1	0.0000165	4
4	APOE, MYLIP, PCSK9, TRIB1	0.000279	4
4	CYP7A1, *GPAM, *HNF1A, *HNF4A	-	-
3	APOE, *MYLIP, *PCSK9	1.95E-08	3
3	ABCG5, ABCG8, *APOA1	3.89E-08	3
3	APOE, MYLIP, PCSK9	3.89E-08	3
3	*APOB, *LDLR, LDLRAP1	8.78E-07	3

3	ABCG5, ABCG8, APOA1	0.00000773	3
3	*APOA1, *HMGCR, *NPC1L1	0.0000201	3
3	APOA1, HMGCR, NPC1L1	0.0000413	3
3	APOB, APOE, CYP7A1	0.000114	3
3	*FADS1, HFE, *PCSK9	0.000316	3
3	APOE, *MYLIP, TRIB1	0.000436	3
3	LIPG, MYLIP, PCSK9	0.000124	2
3	ABCA1, APOE, RAF1	-	-
3	ABCA1, APOE, RAF1	-	-
3	ABCA1, APOE, RAF1	-	-
3	ABCA1, APOE, RAF1	-	-
3	ABCA1, APOE, RAF1	-	-
3	ABCA1, APOE, RAF1	-	-
3	ABCA1, APOE, RAF1	-	-
3	ABCA1, APOE, RAF1	-	-
3	ABCA1, APOE, RAF1	-	-
3	GPAM, HNF4A, LDLR	-	-
3	*GCKR, HNF1A, SORT1	-	-
3	APOE, CYP7A1, LIPC	-	-
3	*GCKR, HNF1A, SORT1	-	-
3	GCKR, HNF1A, SORT1	-	-
3	APOE, CYP7A1, LIPC	-	-
3	GCKR, HNF1A, SORT1	-	-
2	*ABCG5, *ABCG8	0.0000016	2
2	*ABCG5, *ABCG8	0.0000016	2
2	APOA1, LDLR	0.00000481	2
2	*APOA1, *LDLR	0.00000481	2
2	APOA1, LDLR	0.00000481	2
2	*HNF1A, *SORT1	0.00000961	2
2	*MYLIP, *PCSK9	0.00000961	2
2	*ANGPTL3, *SORT1	0.000024	2
2	MYLIP, PCSK9	0.0000335	2
2	MYLIP, PCSK9	0.0000335	2
2	*GPAM, *LDLR	0.0000876	2
2	ABCG5, ABCG8	0.0000876	2
2	ABCG5, ABCG8	0.0000876	2
2	*APOE, *CYP7A1	0.000124	2
2	APOE, CYP7A1	0.000124	2

2	ANGPTL3, SORT1	0.000124	2
2	GPAM, LDLR	0.00019	2
2	GPAM, LDLR	0.000215	2
2	ABCG5, ABCG8	0.000242	2
2	*CYP7A1, *HNF1A	0.000399	2
2	APOE, CYP7A1	0.000511	2
2	GPAM, LDLR	0.000552	2
2	ABCG5, ABCG8	0.000552	2
2	*ABCA1, *CETP	-	-
2	*ABCA1, LDLRAP1	-	-
2	ABCA1, LDLRAP1	-	-
2	*GCKR, *GPAM	-	-
2	ABCA1, LDLRAP1	-	-
2	*HNF1A, *HNF4A	-	-
2	ABCA1, GPAM	-	-
-	-	0.000823	37

-	-	0.000823	37
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-	-	0.000635	6
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-	-	0.000635	6
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-	-	0.0000743	5
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-	-	0.0000743	5
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-	-	0.0000247	5
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-	-	0.0000319	5
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-	-	0.0000056	5
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-	-	0.00012	5
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-	-	0.000434	5
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-	-	0.000599	5
-	-	0.000867	4
-	-	0.0000389	3
-	-	0.000185	3
-	-	0.000482	3
-	-	0.000582	3
-	-	0.000609	3
-	-	0.000805	3
-	-	0.000926	3
-	-	0.000124	2
-	-	0.000728	2
-	-	0.000776	2
-	-	-	-

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**LDL**

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<b>genes</b>	<b>p</b>	<b>k</b>
ABCG5, ABCG8, ABO, ANGPTL3, APOA1, APOB, APOE, BRAP, CETP, CYP7A1, DNAH11, FADS1, FADS2, FADS3, FRK, GPAM, HFE, HMGCR, HNF1A, IRF2BP2, LDLR, LDLRAP1, LPA, MAFB, MARC1, MYLIP, NPC1L1, *NYNRIN, OSBPL7, PCSK9, PLEC, PPP1R3B, PRKCA, SFN, SORT1, ST3GAL4, TOP1, TRIB1	1	34
ABCG5, ABCG8, ABO, ANGPTL3, APOA1, APOB, APOE, CETP, CYP7A1, FADS1, FADS2, FADS3, FRK, GPAM, HFE, HMGCR, HNF1A, IRF2BP2, LDLR, LDLRAP1, LPA, MAFB, MARC1, MYLIP, NPC1L1, NYNRIN, PCSK9, PPP1R3B, PRKCA, ST3GAL4, TOP1	-	-
ABCG5, ABCG8, ABO, ANGPTL3, APOA1, APOB, APOE, CETP, CYP7A1, FADS1, FADS2, FADS3, FRK, GPAM, HMGCR, HNF1A, IRF2BP2, LDLR, LDLRAP1, LPA, MAFB, MARC1, MYLIP, NPC1L1, NYNRIN, PCSK9, PPP1R3B, PRKCA, ST3GAL4, TOP1	-	-
ABCG5, ABCG8, ABO, ANGPTL3, APOA1, APOB, APOE, CETP, CYP7A1, FADS1, FADS2, FADS3, FRK, GPAM, HMGCR, HNF1A, IRF2BP2, LDLR, LDLRAP1, LPA, MAFB, MYLIP, NPC1L1, NYNRIN, PCSK9, PPP1R3B, PRKCA, ST3GAL4, TOP1	-	-
ABCG5, ABCG8, ABO, ANGPTL3, APOA1, APOB, APOE, CETP, CYP7A1, FADS1, FADS2, FADS3, FRK, GPAM, HMGCR, HNF1A, IRF2BP2, LDLR, LDLRAP1, LPA, MAFB, MYLIP, NPC1L1, NYNRIN, PCSK9, PPP1R3B, PRKCA, ST3GAL4, TOP1	-	-

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ABCG5, ABCG8, ABO, ANGPTL3, APOA1, APOB, APOE, CETP, CYP7A1, FADS1, FADS2, FADS3, FRK, GPAM, HMGCR, HNF1A, IRF2BP2, LDLR, LDLRAP1, LPA, MAFB, MARC1, MYLIP, NPC1L1, NYNRIN, PCSK9, PPP1R3B, PRKCA, ST3GAL4, TOP1	0.00083	24
*ABCG5, *ABCG8, ANGPTL3, *APOA1, *APOB, *APOE, *CETP, *CYP7A1, *FADS1, *FADS2, FADS3, *GPAM, *HMGCR, HNF1A, *LDLR, LDLRAP1, *LPA, MARC1, *NPC1L1, PCSK9, *PRKCA, *ST3GAL4	3.16E-07	16
*ABCG5, *ABCG8, ANGPTL3, *APOA1, *APOB, *APOE, *CETP, CYP7A1, FADS1, FADS2, FADS3, GPAM, HMGCR, HNF1A, *LDLR, LDLRAP1, *LPA, *NPC1L1, PCSK9	1.83E-11	16
ABCG5, ABCG8, ANGPTL3, APOA1, APOB, APOE, CETP, CYP7A1, GPAM, HFE, HNF1A, LDLR, LDLRAP1, MYLIP, NPC1L1, PCSK9, PRKCA	0.00000203	15
ABO, APOA1, APOB, APOE, CYP7A1, FADS1, FADS2, FADS3, GPAM, HFE, HMGCR, HNF1A, IRF2BP2, MAFB, NPC1L1, ST3GAL4, TOP1	0.0000339	18
-	0.0000225	18
-	0.0000154	18
-	0.0000154	18

ABCG5, ANGPTL3, APOB, APOE, CYP7A1, FADS1, GPAM, HMGCR, HNF1A, LDLR, MARC1, PCSK9, PRKCA, SORT1, TOP1, TRIB1	0.000273	13
-	-	-
ABCG5, ABCG8, ANGPTL3, APOA1, APOB, APOE, CETP, CYP7A1, GPAM, HFE, HNF1A, LDLR, LDLRAP1, MYLIP, NPC1L1, PCSK9, PRKCA	2.07E-07	12
ABCG5, ABCG8, ANGPTL3, APOA1, APOB, APOE, CETP, GPAM, HNF1A, LDLRAP1, PCSK9, PRKCA, SFN, TRIB1	0.000165	9
ANGPTL3, *APOA1, APOB, APOE, CETP, *CYP7A1, *FADS1, FADS2, FADS3, *GPAM, *HMGCR, HNF1A, PCSK9	0.00000107	10
ABCG5, ABCG8, ANGPTL3, APOA1, APOB, APOE, CETP, GPAM, HNF1A, LDLR, LDLRAP1, LPA, NPC1L1, OSBPL7	0.000015	12
ABCG5, ABCG8, ANGPTL3, APOA1, APOB, APOE, CETP, CYP7A1, GPAM, HFE, HNF1A, LDLR, LDLRAP1, MYLIP, NPC1L1, PCSK9, PRKCA	3.83E-08	11
ANGPTL3, APOB, APOE, CYP7A1, FADS1, GPAM, HNF1A, LDLR, PCSK9, PRKCA, SORT1, TRIB1	0.00000532	13
ABCG5, ABCG8, *ANGPTL3, APOA1, APOB, APOE, *CETP, CYP7A1, GPAM, LDLR, LDLRAP1, MYLIP, NPC1L1, PCSK9	6.34E-17	10
ANGPTL3, APOA1, APOE, GPAM, HNF1A, LDLR, LDLRAP1, MAFB, MYLIP, PCSK9, PRKCA, TRIB1	-	-
ANGPTL3, APOA1, APOE, HMGCR, LDLRAP1, LPA, PCSK9, PRKCA, SFN, SORT1, TRIB1	-	-
ANGPTL3, APOA1, APOE, HMGCR, LPA, PCSK9, PRKCA, SFN, SORT1, TRIB1	-	-



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-	0.0000223	9
-	-	-
ANGPTL3, APOA1, APOB, APOE, CETP, CYP7A1, HMGCR, HNF1A, LDLR, LDLRAP1, NPC1L1, PCSK9	8.19E-09	8
ANGPTL3, APOA1, APOB, APOE, CETP, CYP7A1, HMGCR, HNF1A, LDLR, LDLRAP1, NPC1L1, PCSK9	4.88E-08	8
ANGPTL3, CYP7A1, FADS1, FADS2, FADS3, GPAM, HNF1A, MARC1, ST3GAL4	-	-
ANGPTL3, APOB, APOE, CYP7A1	0.000411	4
-	0.00053	9
ABCG5, ABCG8, ANGPTL3, APOA1, APOB, APOE, CETP, HNF1A, LDLR, LDLRAP1, LPA, NPC1L1, OSBPL7	1.75E-11	9
*ANGPTL3, *APOA1, *APOB, *APOE, *CETP, CYP7A1, HMGCR, *HNF1A, *LDLR, *LDLRAP1, NPC1L1, *PCSK9	1.42E-12	8
ANGPTL3, APOA1, APOB, APOE, CETP, CYP7A1, HMGCR, HNF1A, LDLR, LDLRAP1, NPC1L1, PCSK9	3.54E-12	8
ANGPTL3, APOA1, APOB, APOE, CETP, CYP7A1, HMGCR, HNF1A, LDLR, LDLRAP1, NPC1L1, PCSK9	2.54E-09	8
ABCG5, ABCG8, APOA1, APOE, CETP, GPAM, HNF1A, LDLRAP1, PCSK9, PRKCA, SFN	-	-
ABCG5, ABCG8, ANGPTL3, APOA1, CETP, FADS1, GPAM, HMGCR, PCSK9	-	-
ANGPTL3, CYP7A1, FADS1, FADS2, FADS3, GPAM, HNF1A, MARC1, ST3GAL4	-	-
APOA1, CYP7A1, FADS1, FADS2, FADS3, GPAM, HMGCR, HNF1A, NPC1L1	0.000251	6

APOA1, CYP7A1, FADS1, FADS2, FADS3, HMGCR, HNF1A, NPC1L1	0.000111	6
APOA1, CYP7A1, FADS1, FADS2, FADS3, HMGCR, HNF1A, NPC1L1	0.000133	6
-	-	-
ANGPTL3, CYP7A1, FADS1, FADS2, FADS3, GPAM, HNF1A	-	-
*ANGPTL3, APOA1, CETP, FADS1, *GPAM, *PCSK9	0.0000269	6
APOA1, APOB, APOE, CETP, GPAM, PCSK9	7.15E-07	7
*ANGPTL3, *APOA1, *CETP	1.04E-12	6
*ANGPTL3, APOA1, CETP	1.27E-12	6
ABCG5, ABCG8, ANGPTL3, APOA1, APOB, APOE, CETP, CYP7A1, LDLR, LDLRAP1, MYLIP, NPC1L1, PCSK9	4.87E-12	7
*ABCG5, *ABCG8, *ANGPTL3, *APOA1, *APOB, *APOE, *CETP, *CYP7A1, *LDLR, *LDLRAP1, *MYLIP, *NPC1L1, *PCSK9	4.87E-12	7
ABCG5, ABCG8, APOA1, APOB, APOE, *CETP, HNF1A, LDLR, LDLRAP1, *LPA, NPC1L1, *OSBPL7	7.39E-12	9
ANGPTL3, APOA1, APOE, HMGCR, LPA, PCSK9, PRKCA, SFN, SORT1, TRIB1	0.000265	6
ANGPTL3, APOA1, APOE, HMGCR, LPA, *PCSK9, PRKCA, SFN, SORT1, TRIB1	0.000606	5
*APOA1, *APOB, *APOE, *CETP, *LDLR, *LPA, *NPC1L1, *PCSK9	9.3E-10	7
ANGPTL3, APOA1, APOB, APOE, CYP7A1, GPAM, LDLR, LDLRAP1	0.00000076	6
APOA1, APOB, APOE, CETP, LDLR, LDLRAP1	5.03E-13	7
*ANGPTL3, FADS1, FADS2, FADS3, *GPAM, HNF1A	-	-
APOA1, APOB, APOE, CETP	5.69E-15	7

APOA1, APOB, APOE, CETP	5.69E-15	7
APOA1, APOB, APOE, CETP	4.18E-13	6
APOA1, APOB, APOE, CETP	4.18E-13	6
APOA1, APOB, APOE, CETP	4.18E-13	6
APOA1, APOE, HMGCR, PRKCA, SFN, TRIB1	-	-
-	0.000269	7
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
ABCG5, ABCG8, *APOA1, *APOB, APOE, *CETP, HNF1A, *LDLR, LDLRAP1, *NPC1L1	3.92E-13	7
*ABCG5, *ABCG8, APOA1, APOB, APOE, CETP, HNF1A, LDLR, LDLRAP1, *NPC1L1	3.92E-13	7
ABCG5, ABCG8, APOA1, APOB, APOE, CETP, HNF1A, LDLR, LDLRAP1, NPC1L1	5.79E-12	7
ANGPTL3, APOA1, APOE, GPAM, LDLR, LDLRAP1	2.88E-07	5
ANGPTL3, APOE, LDLR, MYLIP, PCSK9, TRIB1	-	-
APOA1, FADS1, FADS2, FADS3, *MARC1, PPP1R3B, PRKCA	-	-
APOB, APOE, CETP, GPAM, PCSK9	1.97E-07	5
APOB, APOE, CETP, GPAM, PCSK9	2.15E-07	5
APOB, *APOE, *CETP, GPAM, *PCSK9	0.00000687	4
CYP7A1, FADS1, FADS2, FADS3, HNF1A	-	-
CYP7A1, FADS1, FADS2, FADS3, HNF1A	-	-
CYP7A1, FADS1, FADS2, FADS3, HNF1A	-	-
FADS1, FADS2, FADS3, *HNF1A	-	-
ANGPTL3, APOE, MYLIP, TRIB1	0.0000591	4
-	-	-
APOB, APOE, CETP, HFE, *LDLR, LDLRAP1, LPA, *SORT1	0.00000613	6
*APOB, *APOE, *CETP, *HFE, *LDLR, *LDLRAP1, *LPA	0.0000127	4

*APOB, CYP7A1, FADS1, GPAM, HNF1A, PRKCA	0.000177	4
ABCG5, ABCG8, APOA1, APOE, CETP	5.09E-08	4
ABCG5, ABCG8, APOA1, APOE, CETP	5.09E-08	4
ABCG5, ABCG8, APOA1, APOE, CETP	0.00000157	4
*APOA1, *APOE, *CETP, *HNF1A	3.86E-14	6
APOA1, APOB, APOE, LDLR, LDLRAP1	1.04E-07	4
*APOA1, *APOE, *CETP	4.37E-12	5
APOE, HMGCR, PRKCA, SFN, TRIB1	-	-
*APOB, *APOE, *CETP	1.03E-09	4
*ANGPTL3, *APOB, *APOE	0.000043	3
ANGPTL3, APOB, APOE	0.0000749	3
*APOE, *CETP	5.06E-11	4
APOE, CETP	3.03E-10	4
-	9.33E-07	4
-	0.0000041	4
APOE, HMGCR, PRKCA, SFN, TRIB1	-	-
-	0.0000574	5
-	0.0000158	4
-	0.0000312	4
-	0.0000312	4
-	0.0000784	4
*ANGPTL3, *APOA1, *CETP, *GPAM	1.82E-10	4
*ABCG8, APOA1, APOE, *CETP, *LDLR	1.42E-07	4
ABCG8, APOA1, APOE, CETP, LDLR	9.92E-07	4
APOB, APOE, CYP7A1, GPAM, LDLR	0.0000162	4
APOA1, APOB, APOE, CYP7A1, LDLRAP1	0.000201	3
*APOA1, *APOB, *APOE	0.00000015	5
APOA1, APOB, APOE	1.96E-09	4
APOA1, APOB, APOE	1.96E-09	4
-	0.000679	3
-	0.000679	3
*FADS1, *FADS2, *FADS3	-	-
*FADS1, *FADS2, FADS3	-	-
APOE, *CETP	0.00000093	3

-	0.0000154	3
-	0.000319	2
-	0.000409	2
-	0.000409	2
-	0.000233	3
-	0.000418	3
-	0.000468	3
-	0.000895	3
-	0.000927	3
-	0.000621	2
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
*ABCG5, *ABCG8, *APOA1, *APOE	0.00000353	3
*APOB, *APOE, *LDLR	0.0000699	2
APOA1, APOE, LDLRAP1	0.000475	2
APOB, APOE, LDLRAP1	0.000661	2
*APOA1, *APOE	2.76E-08	3
*APOA1, *APOE	3.02E-07	3
*APOA1, *APOE	0.00000181	3
-	0.000099	2
-	0.000099	2
-	0.000831	2
-	-	-
*APOA1, *APOE	0.0000268	2
*APOA1, *APOE	0.0000268	2
APOA1, APOE	0.0000458	2
*APOB, APOE	0.000291	2
*FADS1, *FADS2	-	-
*FADS1, *FADS2	-	-
-	0.0000458	2
-	0.0000458	2
-	0.0000699	2
-	0.000378	2
*ANGPTL3, *APOA1	-	-
-	0.0000067	3
-	0.00000962	3

-	0.0000154	3
-	0.000877	2
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
ABCG5, ABCG8, ANGPTL3, APOA1, APOB, APOE, CETP, GPAM, HFE, HMGCR, HNF1A, LDLR, LDLRAP1, LPA, MAFB, MYLIP, NPC1L1, PCSK9, PRKCA, SFN, SORT1, TOP1	-	-
ABCG5, ABCG8, ANGPTL3, APOA1, APOB, APOE, CETP, GPAM, HFE, HMGCR, HNF1A, LDLR, LDLRAP1, LPA, MAFB, MYLIP, NPC1L1, PCSK9, PRKCA, SFN, SORT1, TOP1	-	-
ANGPTL3, APOA1, APOB, APOE, CYP7A1, FADS1, GPAM, HMGCR, HNF1A, IRF2BP2, LDLR, LDLRAP1, LPA, MAFB, MYLIP, PCSK9, PRKCA, SFN, SORT1, TRIB1	0.0000175	20
ANGPTL3, APOA1, APOB, APOE, CYP7A1, FADS1, GPAM, HMGCR, HNF1A, IRF2BP2, LDLR, LDLRAP1, MAFB, MYLIP, PCSK9, PRKCA, SFN, TRIB1	0.0000687	18
ABCG5, ABCG8, ANGPTL3, APOA1, APOB, APOE, CETP, GPAM, HFE, HNF1A, LDLR, LDLRAP1, LPA, NPC1L1, OSBPL7, PCSK9, PRKCA, SORT1	0.000398	16
ABCG5, ABCG8, ANGPTL3, APOA1, APOB, APOE, CETP, CYP7A1, HMGCR, HNF1A, IRF2BP2, LDLR, LDLRAP1, MAFB, NPC1L1, NYNRIN, PCSK9, PRKCA, TOP1	0.000412	17

ABCG5, ABCG8, APOA1, APOB, APOE, CETP, GPAM, HFE, HNF1A, LDLR, *LDLRAP1, LPA, NPC1L1, OSBPL7, PCSK9, SORT1	0.000107	15
ABCG5, ABCG8, APOA1, APOB, APOE, CETP, GPAM, HFE, HNF1A, LDLR, LDLRAP1, LPA, NPC1L1, OSBPL7, PCSK9, SORT1	0.000138	15
-	0.0003	17
ABCG5, ABCG8, APOA1, APOE, BRAP, CETP, FRK, GPAM, HMGCR, HNF1A, MAFB, MYLIP, PCSK9, PRKCA, SFN, SORT1, TRIB1	0.000913	13
ABCG5, ABCG8, APOA1, APOB, APOE, CETP, GPAM, HNF1A, LDLR, LDLRAP1, LPA, NPC1L1, OSBPL7, SORT1	0.0000538	11
APOA1, APOE, BRAP, CETP, FRK, GPAM, HMGCR, HNF1A, MAFB, PCSK9, PRKCA, SFN, SORT1, TRIB1	0.000354	13
ABCG5, ABCG8, ANGPTL3, APOA1, CETP, FADS1, FRK, GPAM, HMGCR, PCSK9, PRKCA, TOP1	-	-
ABCG5, ABCG8, ANGPTL3, APOA1, CETP, FADS1, FRK, GPAM, HMGCR, PCSK9, PRKCA, TOP1	-	-
ABCG5, ABCG8, ANGPTL3, APOA1, APOE, GPAM, HMGCR, MAFB, MYLIP, PCSK9, PRKCA	0.000187	11
-	0.0000248	11
-	-	-
APOA1, APOB, APOE, CETP, HFE, LDLR, LDLRAP1, LPA, SORT1	0.000587	7

ANGPTL3, APOB, FADS1, GPAM, LDLR, PCSK9, PRKCA, SORT1	0.0000107	10
-	0.0000629	9
-	0.0000666	9
-	-	-
*ANGPTL3, APOB, FADS1, GPAM, LDLR, PCSK9, PRKCA, SORT1	0.000291	7
ABCG5, FADS1, *GPAM, HFE, HMGCR, PCSK9	-	-
ABCG5, FADS1, GPAM, HFE, HMGCR, PCSK9	-	-
-	-	-
ABCG5, ABCG8, APOA1, APOE, MYLIP, PCSK9, PRKCA	-	-
FADS1, GPAM, LDLR, PCSK9, *PRKCA, SORT1	-	-
FADS1, GPAM, LDLR, PCSK9, PRKCA, SORT1	-	-
APOE, LDLR, MYLIP, PCSK9, TRIB1	-	-
APOA1, CYP7A1, HMGCR, HNF1A, NPC1L1	-	-
ANGPTL3, *APOA1, LPA, SFN, SORT1	-	-
-	-	-
-	-	-
-	-	-
-	-	-
APOE, HMGCR, PRKCA, SFN, TRIB1	-	-
*ABCG5, *ABCG8, *LDLR, *NPC1L1	-	-
ABCG5, ABCG8, LDLR, NPC1L1	-	-
ABCG5, ABCG8, LDLR, NPC1L1	-	-
ABCG5, ABCG8, LDLR, NPC1L1	-	-
ABCG5, ABCG8, LDLR, NPC1L1	-	-
APOE, MYLIP, PCSK9, TRIB1	-	-
-	-	-
APOE, *MYLIP, *PCSK9	-	-
ABCG5, ABCG8, *APOA1	-	-
APOE, MYLIP, PCSK9	-	-
*APOB, *LDLR, LDLRAP1	-	-



ABCG5, ABCG8, APOA1	-	-
*APOA1, *HMGCR, *NPC1L1	-	-
APOA1, HMGCR, NPC1L1	-	-
APOB, APOE, CYP7A1	-	-
*FADS1, HFE, *PCSK9	-	-
APOE, *MYLIP, TRIB1	-	-
MYLIP, PCSK9	-	-
-	0.0000814	3
-	0.0000848	3
-	0.0000848	3
-	0.0000882	3
-	0.0000955	3
-	0.0000955	3
-	0.000253	3
-	0.00026	3
-	0.00026	3
-	0.000329	3
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
*ABCG5, *ABCG8	-	-
*ABCG5, *ABCG8	-	-
APOA1, LDLR	-	-
*APOA1, *LDLR	-	-
APOA1, LDLR	-	-
*HNF1A, *SORT1	-	-
*MYLIP, *PCSK9	-	-
*ANGPTL3, *SORT1	-	-
MYLIP, PCSK9	-	-
MYLIP, PCSK9	-	-
*GPAM, *LDLR	-	-
ABCG5, ABCG8	-	-
ABCG5, ABCG8	-	-
*APOE, *CYP7A1	-	-
APOE, CYP7A1	-	-

ANGPTL3, SORT1	-	-
GPAM, LDLR	-	-
GPAM, LDLR	-	-
ABCG5, ABCG8	-	-
*CYP7A1, *HNF1A	-	-
APOE, CYP7A1	-	-
GPAM, LDLR	-	-
ABCG5, ABCG8	-	-
-	0.000099	2
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
ABCG5, ABCG8, ABO, ANGPTL3, APOA1, APOB, APOE, BRAP, CETP, CYP7A1, DNAH11, FADS1, FADS2, FADS3, FRK, GPAM, HFE, HMGCR, HNF1A, IRF2BP2, LDLR, LDLRAP1, LPA, MAFB, MARC1, MYLIP, NPC1L1, NYNRIN, PCSK9, PLEC, PPP1R3B, PRKCA, SFN, SORT1, ST3GAL4, TOP1, TRIB1	-	-
ABCG5, ABCG8, ABO, ANGPTL3, APOA1, APOB, APOE, BRAP, CETP, CYP7A1, DNAH11, FADS1, FADS2, FADS3, FRK, GPAM, HFE, HMGCR, HNF1A, IRF2BP2, LDLR, LDLRAP1, LPA, MAFB, MARC1, MYLIP, NPC1L1, NYNRIN, PCSK9, PLEC, PPP1R3B, PRKCA, SFN, SORT1, ST3GAL4, TOP1, TRIB1	-	-
APOA1, GPAM, HNF1A, LDLRAP1, PRKCA, SFN	-	-
APOA1, GPAM, HNF1A, LDLRAP1, PRKCA, SFN	-	-
APOE, HMGCR, PRKCA, SFN, TRIB1	0.000623	4
APOE, HMGCR, PRKCA, SFN, TRIB1	0.000623	4
APOE, HMGCR, PRKCA, SFN, TRIB1	0.00026	4
APOE, HMGCR, PRKCA, SFN, TRIB1	0.000319	4
APOE, HMGCR, PRKCA, *SFN, *TRIB1	-	-
*APOE, *FADS1, *HMGCR, *LDLR, *PRKCA	-	-
APOE, HMGCR, PRKCA, SFN, TRIB1	-	-

APOE, HMGCR, PRKCA, SFN, TRIB1	-	-
APOE, HMGCR, PRKCA, *TRIB1	-	-
LDLRAP1, PCSK9, *PRKCA	-	-
*APOE, *HMGCR, PRKCA	-	-
APOE, HMGCR, PRKCA	-	-
APOA1, HMGCR, NPC1L1	-	-
ANGPTL3, PRKCA, SORT1	-	-
FADS1, HFE, PCSK9	-	-
FADS1, HFE, PCSK9	-	-
PRKCA, TRIB1	-	-
APOE, PRKCA	-	-
*LDLRAP1, PCSK9	-	-
-	0.000392	27
-	0.000485	26
-	0.0000578	16
-	0.0000578	16
-	0.00022	15
-	0.000613	13
-	0.000613	13

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-	0.000719	13
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-	0.000621	2
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-	0.000621	2
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-	0.000787	2
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## HDL

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### genes

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ABCA1, ABCA8, ANGPTL4, APOA1, APOB,  
APOE, ARL15, \*C6orf106, CETP, CITED2,  
FADS1, GALNT2, HNF4A, IRS1, KLF14,  
LCAT, LILRA3, LIPC, LPA, LRP4, MC4R,  
MLXIPL, PDE3A, PGS1, PLTP, PPP1R3B,  
\*SBNO1, SLC39A8, STARD3, TRIB1, TRPS1,  
UBE2L3, ZNF648, \*ZNF664

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ABCA1, ANGPTL4, APOA1, APOB, APOE,  
CETP, FADS1, GALNT2, HNF4A, KLF14,  
LCAT, LIPC, LPA, MC4R, MLXIPL, PDE3A,  
PGS1, PLTP, PPP1R3B, STARD3, TRPS1,  
UBE2L3, ZNF648, ZNF664

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\*ABCA1, \*ANGPTL4, \*APOA1, \*APOB,  
\*APOE, \*CETP, \*FADS1, HNF4A, \*LCAT,  
LIPC, \*LPA, \*MLXIPL, PDE3A, \*PGS1,  
PLTP, STARD3

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\*ABCA1, ANGPTL4, \*APOA1, \*APOB,  
\*APOE, \*CETP, FADS1, \*HNF4A, IRS1,  
\*LCAT, LIPC, \*LPA, \*PDE3A, PGS1, \*PLTP,  
\*STARD3

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ABCA1, ANGPTL4, APOA1, APOB, APOE,  
CETP, CITED2, HNF4A, IRS1, LCAT, LIPC,  
MC4R, MLXIPL, PDE3A, STARD3

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ABCA1, APOA1, APOB, APOE, FADS1,  
GALNT2, HNF4A, KLF14, LCAT, LIPC,  
MLXIPL, PGS1, PLTP, STARD3, TRPS1,  
UBE2L3, ZNF648, ZNF664

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ABCA1, APOA1, APOB, APOE, FADS1,  
GALNT2, HNF4A, KLF14, LCAT, LIPC,  
MLXIPL, PGS1, PLTP, STARD3, TRPS1,  
UBE2L3, ZNF648, ZNF664

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ABCA1, APOA1, APOB, APOE, FADS1,  
GALNT2, HNF4A, KLF14, LCAT, LIPC,  
MLXIPL, PGS1, PLTP, STARD3, TRPS1,  
UBE2L3, ZNF648, ZNF664

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ABCA1, APOA1, APOB, APOE, FADS1,  
GALNT2, HNF4A, KLF14, LCAT, LIPC,  
MLXIPL, PGS1, PLTP, STARD3, TRPS1,  
UBE2L3, ZNF648, ZNF664

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ABCA1, APOB, APOE, CITED2, FADS1,  
HNF4A, IRS1, LCAT, MC4R, MLXIPL,  
PDE3A, TRIB1, UBE2L3

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ABCA1, ANGPTL4, APOA1, APOB, APOE,  
CETP, CITED2, HNF4A, IRS1, LCAT, LIPC,  
MLXIPL

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ABCA1, APOA1, APOB, APOE, CETP,  
CITED2, HNF4A, IRS1, TRIB1

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\*ABCA1, \*ANGPTL4, \*APOA1, APOB,  
APOE, CETP, \*FADS1, LCAT, LIPC, PGS1

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ABCA1, APOA1, APOB, APOE, CETP, IRS1,  
LCAT, LIPC, LPA, LRP4, PLTP, TRPS1

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ABCA1, ANGPTL4, APOA1, APOB, APOE,  
CETP, HNF4A, IRS1, LCAT, LIPC, MLXIPL

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ABCA1, APOB, APOE, CITED2, FADS1,  
HNF4A, IRS1, LCAT, MC4R, MLXIPL,  
PDE3A, TRIB1, UBE2L3

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ABCA1, ANGPTL4, APOA1, APOB, APOE,  
\*CETP, \*HNF4A, LCAT, LIPC, MLXIPL

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ABCA1, ANGPTL4, APOA1, APOB, APOE,  
CETP, IRS1, LCAT, LIPC

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ABCA1, APOA1, APOB, APOE, CETP, LCAT,  
LIPC, STARD3

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ABCA1, APOA1, APOB, APOE, CETP, LCAT,  
LIPC, STARD3

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APOB, APOE, \*IRS1, LIPC

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ABCA1, APOB, APOE, CITED2, HNF4A,  
IRS1, MLXIPL, PDE3A, UBE2L3

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ABCA1, APOA1, APOB, APOE, CETP, LCAT,  
LIPC, LPA, PLTP

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\*ABCA1, \*APOA1, \*APOB, \*APOE, \*CETP,  
\*LCAT, \*LIPC, \*STARD3

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ABCA1, APOA1, APOB, APOE, CETP, LCAT,  
LIPC, STARD3

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ABCA1, APOA1, APOB, APOE, CETP, LCAT,  
LIPC, \*STARD3

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APOA1, FADS1, LCAT, LIPC, PGS1, STARD3

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APOA1, FADS1, LCAT, LIPC, PLTP, STARD3

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APOA1, FADS1, LCAT, LIPC, PLTP, STARD3

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APOA1, CETP, FADS1, \*LCAT, LIPC, \*PGS1

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APOA1, APOB, APOE, CETP, LCAT, LIPC,  
PGS1

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\*ANGPTL4, \*APOA1, \*CETP, \*HNF4A,  
\*LIPC, \*MLXIPL

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ANGPTL4, APOA1, CETP, HNF4A, LIPC,  
MLXIPL

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ABCA1, APOA1, APOB, APOE, CETP, LCAT,  
LIPC

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\*ABCA1, \*APOA1, \*APOB, \*APOE, \*CETP,  
\*LCAT, \*LIPC

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ABCA1, APOA1, APOB, APOE, \*CETP,  
LCAT, LIPC, \*LPA, \*PLTP

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ANGPTL4, APOA1, APOE, HNF4A, LPA,  
TRIB1

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ANGPTL4, APOA1, APOE, LPA, TRIB1

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\*ABCA1, \*APOA1, \*APOB, \*APOE, \*CETP,  
\*LCAT, \*LPA

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APOA1, APOB, APOE, \*HNF4A, IRS1,  
MLXIPL

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ABCA1, APOA1, APOB, APOE, CETP, LCAT,  
LIPC

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ABCA1, APOA1, APOB, APOE, CETP, LCAT,  
LIPC

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ABCA1, APOA1, APOB, APOE, CETP, LCAT,  
LIPC

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APOA1, APOB, APOE, CETP, LCAT, LIPC

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APOA1, APOB, APOE, CETP, LCAT, LIPC

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APOA1, APOB, APOE, CETP, LCAT, LIPC

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APOA1, APOE, HNF4A, IRS1, LRP4,  
MLXIPL, TRIB1

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ABCA1, \*APOA1, \*APOB, APOE, \*CETP,  
\*LCAT, LIPC

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ABCA1, APOA1, APOB, APOE, CETP, LCAT,  
LIPC

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ABCA1, APOA1, APOB, APOE, CETP, LCAT,  
LIPC

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APOA1, APOE, HNF4A, IRS1, MLXIPL

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APOB, APOE, CETP, LIPC, PGS1

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APOB, APOE, CETP, LIPC, PGS1

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APOB, \*APOE, \*CETP, LIPC

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APOE, IRS1, MLXIPL, TRIB1

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ABCA1, APOB, APOE, CETP, LPA, \*LRP4

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\*APOB, \*APOE, \*CETP, \*LPA

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\*APOB, FADS1, HNF4A, MLXIPL

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ABCA1, APOA1, APOE, CETP

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ABCA1, APOA1, APOE, CETP

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ABCA1, APOA1, APOE, CETP

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\*ABCA1, \*APOA1, \*APOE, \*CETP, \*LCAT,  
\*LIPC

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APOA1, APOB, APOE, LIPC

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\*APOA1, \*APOE, \*CETP, \*LCAT, \*LIPC

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\*APOB, \*APOE, \*CETP, \*LIPC

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\*APOB, \*APOE, CITED2

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APOB, APOE, CITED2

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\*APOE, \*CETP, \*LCAT, \*LIPC

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APOE, CETP, LCAT, LIPC

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APOA1, \*CETP, LCAT, LIPC

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APOA1, CETP, LCAT, LIPC

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APOA1, CETP, LCAT, LIPC, PGS1

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APOE, IRS1, MLXIPL, TRIB1

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APOA1, CETP, LCAT, LIPC

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APOA1, CETP, LCAT, LIPC

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APOA1, CETP, LCAT, LIPC

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\*ABCA1, \*APOA1, \*CETP, \*HNF4A

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ABCA1, APOA1, APOE, \*CETP

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ABCA1, APOA1, APOE, CETP

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APOB, APOE, HNF4A, MLXIPL

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APOA1, APOB, APOE

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ABCA1, \*APOA1, \*APOB, \*APOE, \*LCAT

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ABCA1, APOA1, APOB, APOE

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ABCA1, APOA1, APOB, APOE

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HNF4A, IRS1, MLXIPL

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\*HNF4A, \*IRS1, \*MLXIPL

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ABCA1, APOE, \*CETP

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ABCA1, APOB, CETP

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\*APOB, \*LIPC

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APOB, LIPC

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APOB, LIPC

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HNF4A, IRS1, MLXIPL

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HNF4A, IRS1, MLXIPL

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HNF4A, IRS1, MLXIPL

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APOE, \*CITED2, TRIB1

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APOE, CITED2, TRIB1

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APOB, LIPC

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\*ABCA1, \*APOA1, \*APOE

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\*APOB, \*APOE

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APOA1, APOE

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APOB, APOE

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\*ABCA1, \*APOA1, \*APOE

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\*ABCA1, \*APOA1, \*APOE

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\*ABCA1, \*APOA1, \*APOE

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ABCA1, APOE

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ABCA1, APOE

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ABCA1, APOE

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\*APOA1, \*APOE

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\*APOA1, \*APOE

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APOA1, APOE

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\*APOB, APOE

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\*APOE, \*LIPC

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APOE, LIPC

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\*ABCA1, \*APOE

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ABCA1, APOB

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HNF4A, \*IRS1, MLXIPL

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HNF4A, IRS1, MLXIPL

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HNF4A, IRS1, MLXIPL

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\*APOB, \*PLTP

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ABCA1, ANGPTL4, APOA1, APOB, APOE,  
CITED2, FADS1, HNF4A, IRS1, KLF14, LPA,  
LRP4, MC4R, MLXIPL, SBNO1, TRIB1,  
TRPS1, UBE2L3, ZNF648, ZNF664

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ABCA1, APOA1, APOB, APOE, CITED2,  
FADS1, HNF4A, IRS1, KLF14, LRP4, MC4R,  
MLXIPL, SBNO1, TRIB1, TRPS1, UBE2L3,  
ZNF648, ZNF664

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ABCA1, ABCA8, APOA1, APOB, APOE,  
CETP, IRS1, LCAT, LIPC, LPA, LRP4, MC4R,  
PLTP, SLC39A8, STARD3, TRPS1

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ABCA1, APOA1, APOB, APOE, CETP,  
HNF4A, KLF14, LCAT, LIPC, MLXIPL,  
PDE3A, PLTP, STARD3, TRPS1, UBE2L3,  
ZNF648, ZNF664

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ABCA1, \*ABCA8, APOA1, APOB, APOE,  
CETP, LCAT, LIPC, LPA, LRP4, MC4R, PLTP,  
SLC39A8, STARD3, TRPS1

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ABCA1, ABCA8, APOA1, APOB, APOE,  
CETP, LCAT, LIPC, LPA, LRP4, MC4R, PLTP,  
SLC39A8, STARD3, TRPS1

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ABCA1, APOA1, APOE, CITED2, FADS1,  
HNF4A, IRS1, KLF14, LRP4, MC4R, MLXIPL,  
SBNO1, TRIB1, TRPS1, UBE2L3, ZNF648,  
ZNF664

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ABCA1, ANGPTL4, APOA1, APOE, CETP,  
CITED2, HNF4A, IRS1, LRP4, MLXIPL,  
PDE3A, TRIB1, TRPS1

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ABCA1, APOA1, APOB, APOE, CETP, LCAT,  
LIPC, LPA, MC4R, PLTP, TRPS1

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ABCA1, ANGPTL4, APOA1, APOE, CETP,  
CITED2, HNF4A, IRS1, LRP4, MLXIPL,  
PDE3A, TRIB1, TRPS1

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ANGPTL4, APOA1, APOE, CITED2, HNF4A,  
LCAT, LRP4, MC4R, MLXIPL, PDE3A, TRPS1

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ABCA1, ANGPTL4, APOA1, APOB, APOE,  
CETP, CITED2, FADS1, HNF4A, PDE3A,  
TRPS1

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ABCA1, APOA1, APOB, APOE, CETP, LPA,  
LRP4

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ABCA1, APOB, CITED2, FADS1, HNF4A,  
IRS1, LCAT, MC4R, PDE3A, UBE2L3

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ABCA1, APOA1, APOE, HNF4A, IRS1, LRP4,  
MC4R, MLXIPL, TRIB1

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ABCA1, APOA1, APOE, HNF4A, IRS1, LRP4,  
MC4R, MLXIPL, TRIB1

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APOB, CITED2, FADS1, IRS1, LCAT, MC4R,  
UBE2L3

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ABCA1, APOE, MC4R  
ABCA1, APOE, MC4R

ABCA1, APOE, MC4R  
ABCA1, APOE, MC4R  
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ABCA1, APOE, MC4R

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\*ABCA1, \*CETP

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APOE, HNF4A, MLXIPL, TRIB1

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APOE, HNF4A, MLXIPL, TRIB1

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APOE, HNF4A, MLXIPL, TRIB1

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APOE, HNF4A, MLXIPL, TRIB1

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ABCA1, APOA1, APOB, APOE, GALNT2,  
HNF4A, KLF14, LCAT, MLXIPL, TRPS1,  
UBE2L3, ZNF648, ZNF664

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ABCA1, APOA1, APOB, APOE, GALNT2,  
HNF4A, KLF14, LCAT, MLXIPL, TRPS1,  
UBE2L3, ZNF648, ZNF664

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ABCA1, APOB, APOE, CITED2, IRS1,  
MLXIPL, PDE3A, UBE2L3

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ABCA1, APOB, CITED2, FADS1, LCAT,  
TRIB1, UBE2L3

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CITED2, \*FADS1, HNF4A, LCAT, PDE3A,  
UBE2L3

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APOA1, \*FADS1, LCAT, PGS1

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HNF4A, IRS1, MLXIPL

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HNF4A, IRS1, MLXIPL

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\*APOE, \*PDE3A

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\*HNF4A, \*MLXIPL

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\*APOE, MC4R

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\*APOE, MC4R

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\*APOA1, \*LCAT

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APOE, PDE3A

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APOA1, \*HNF4A

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ABCA1, \*CITED2

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HNF4A, \*MLXIPL

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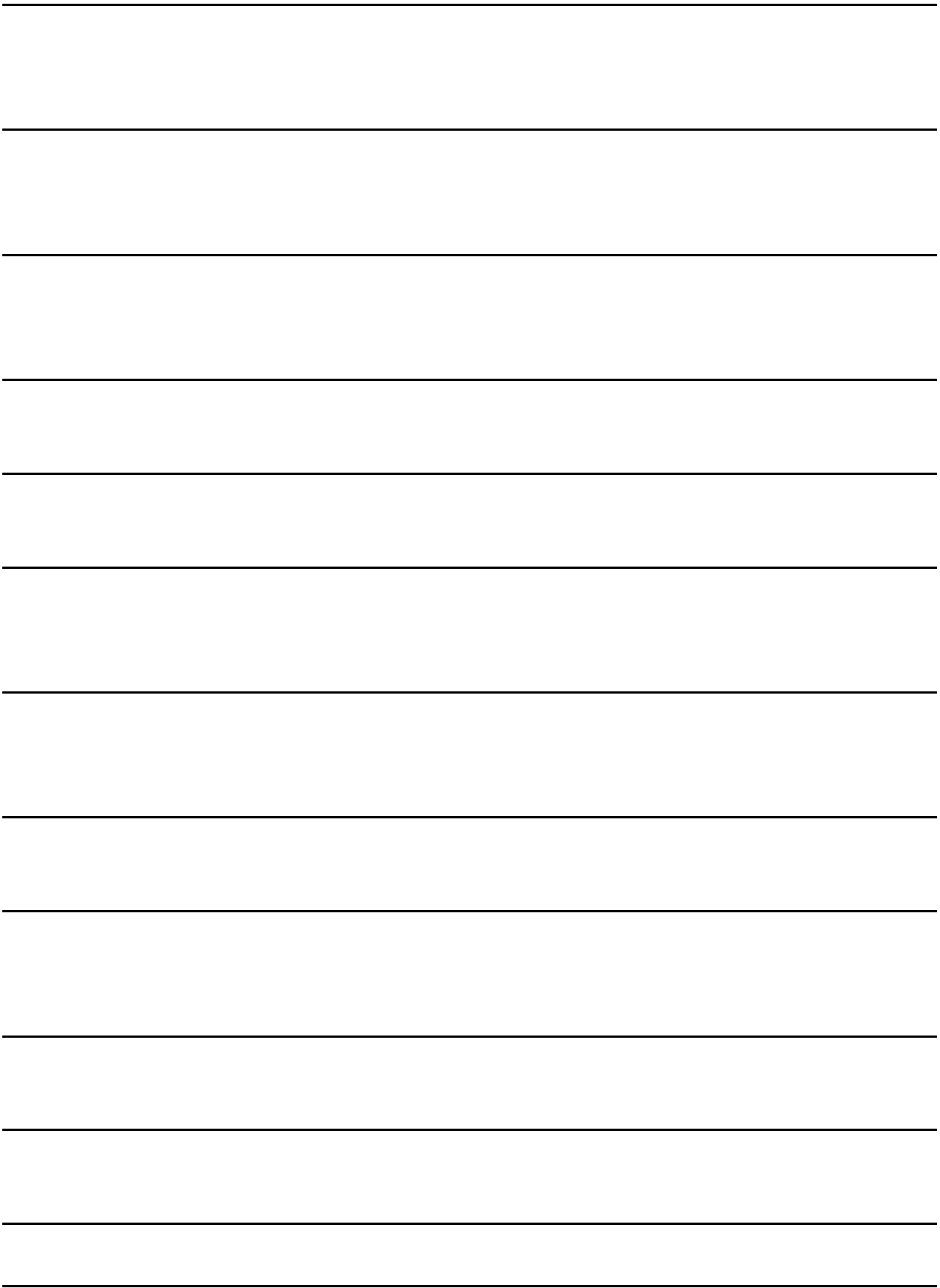
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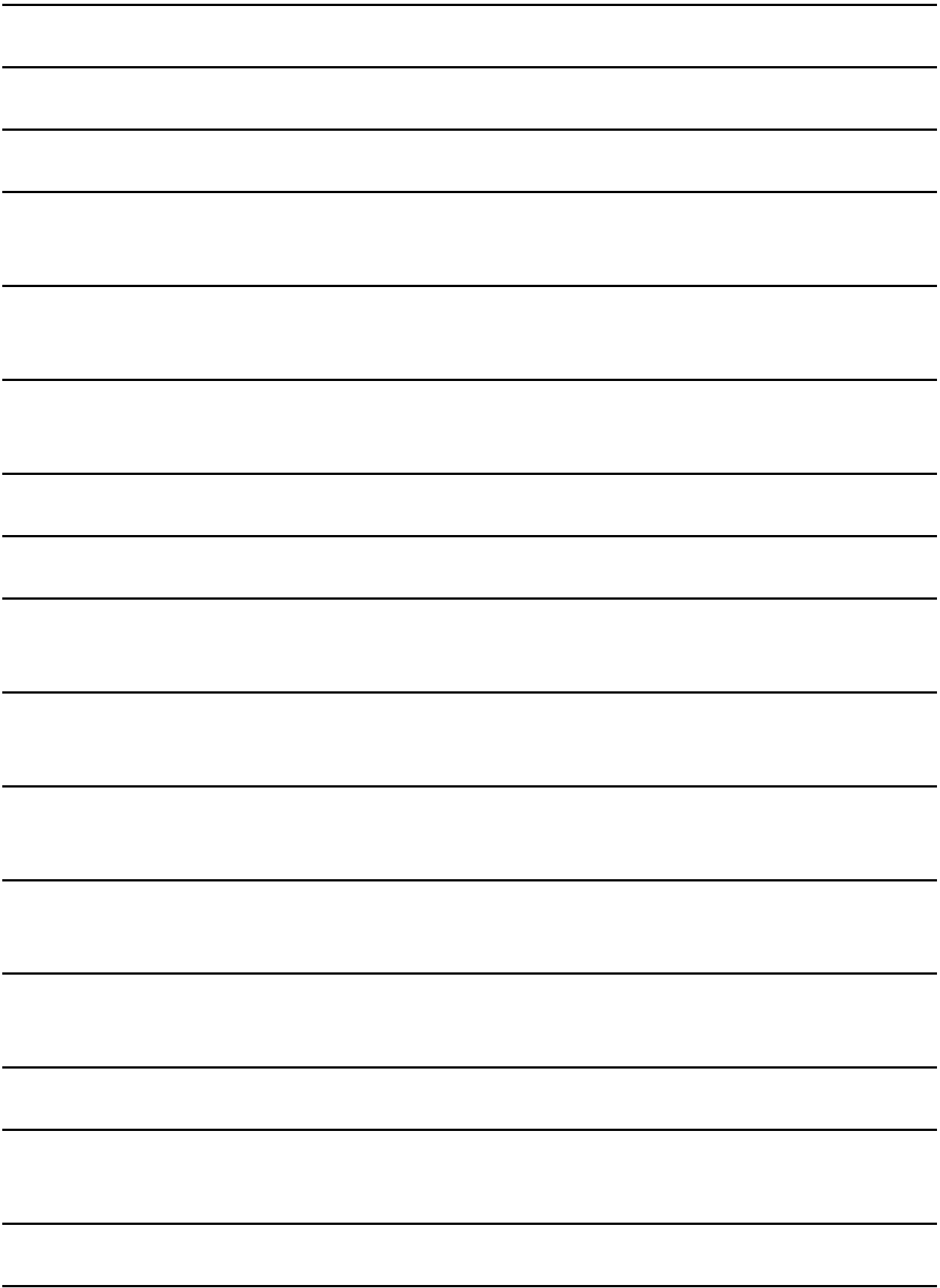
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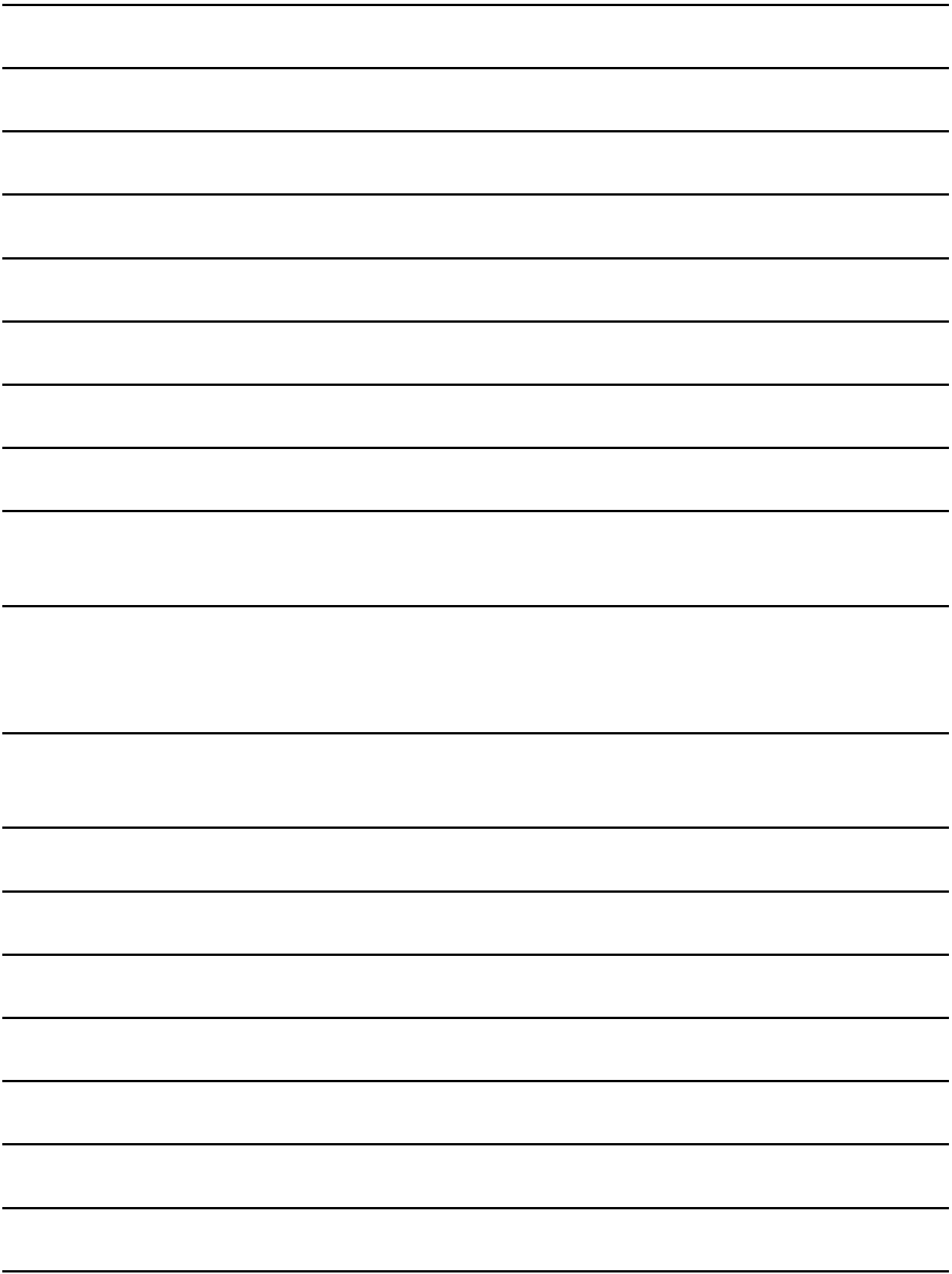
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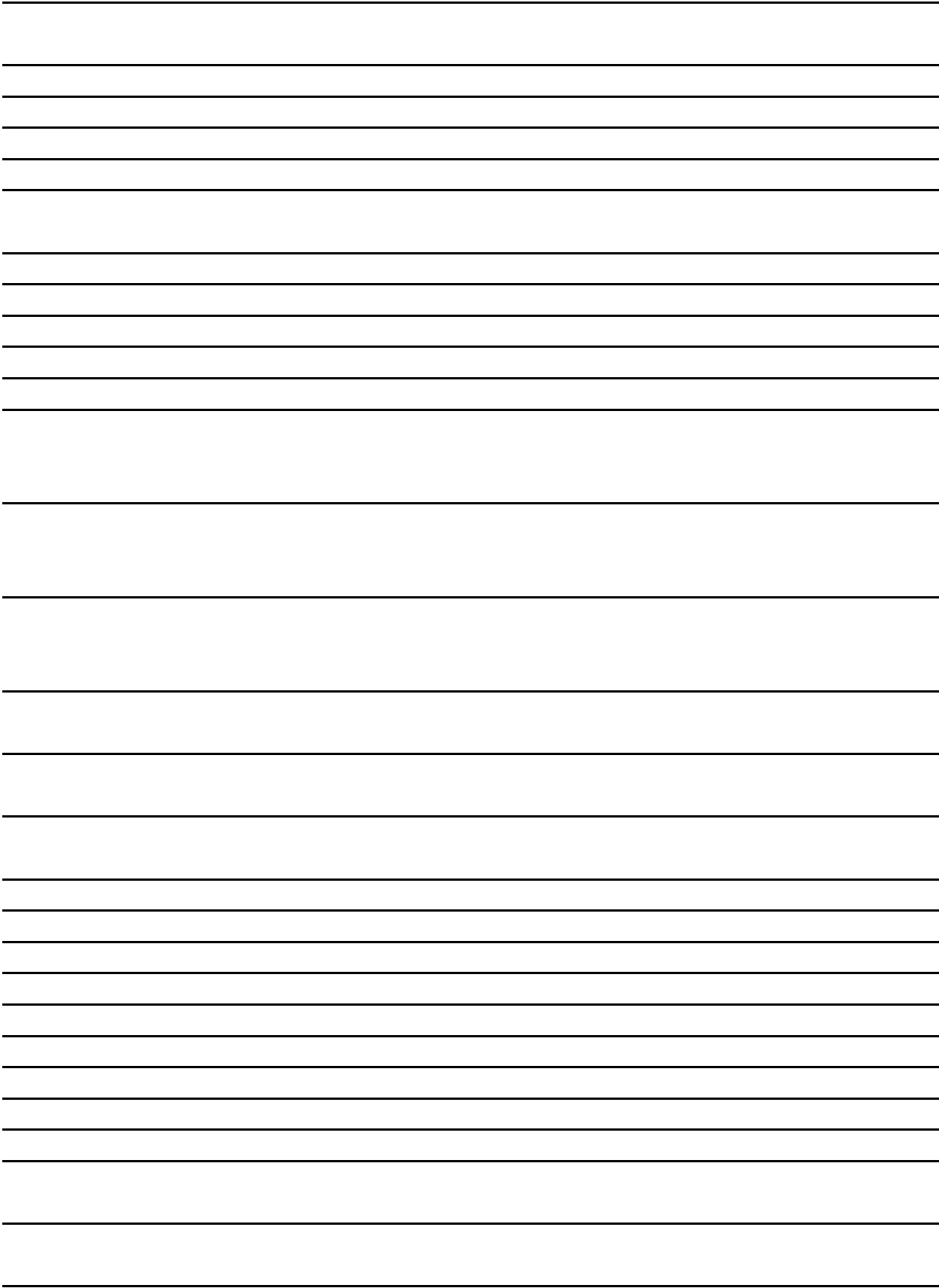
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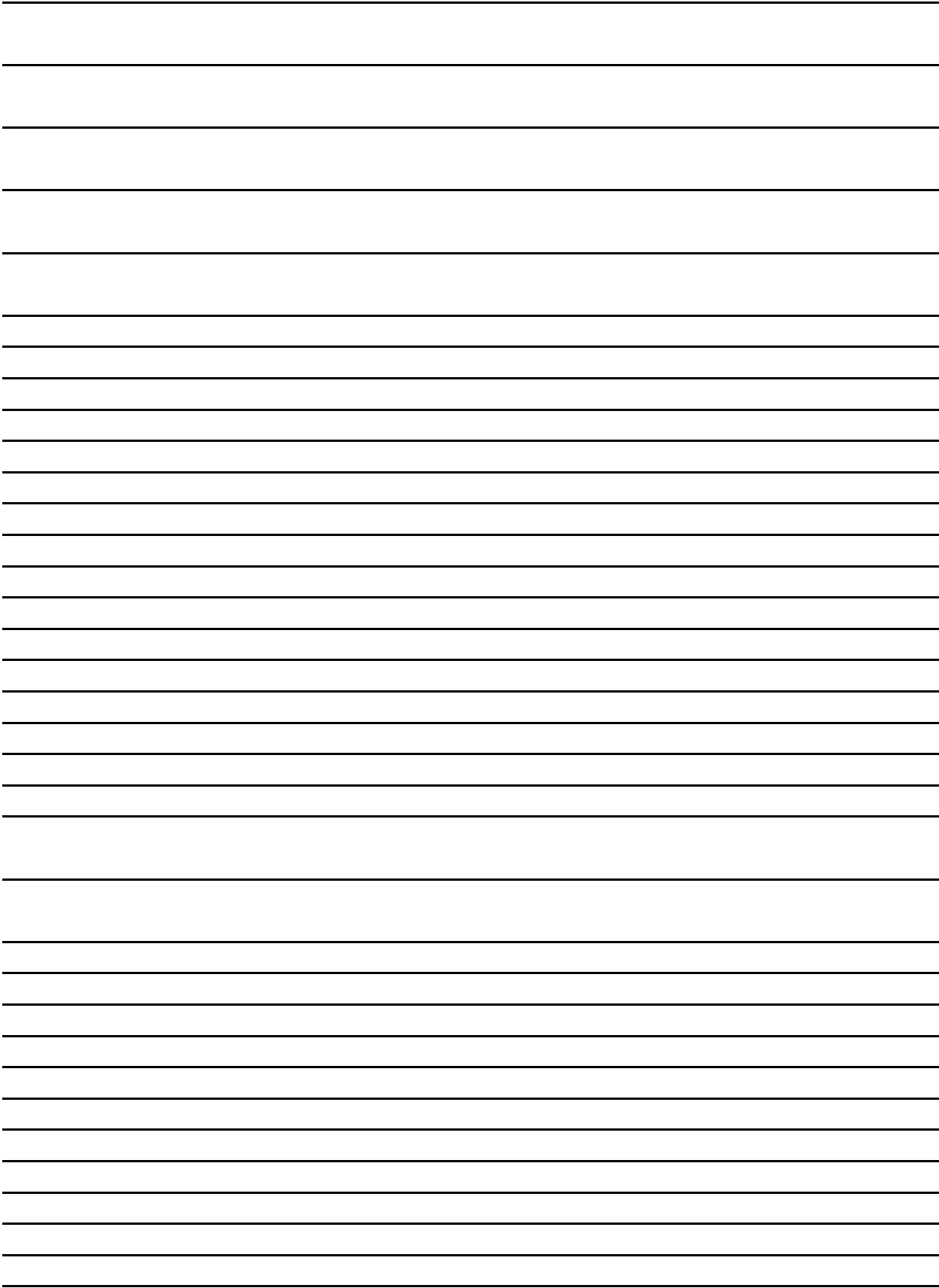


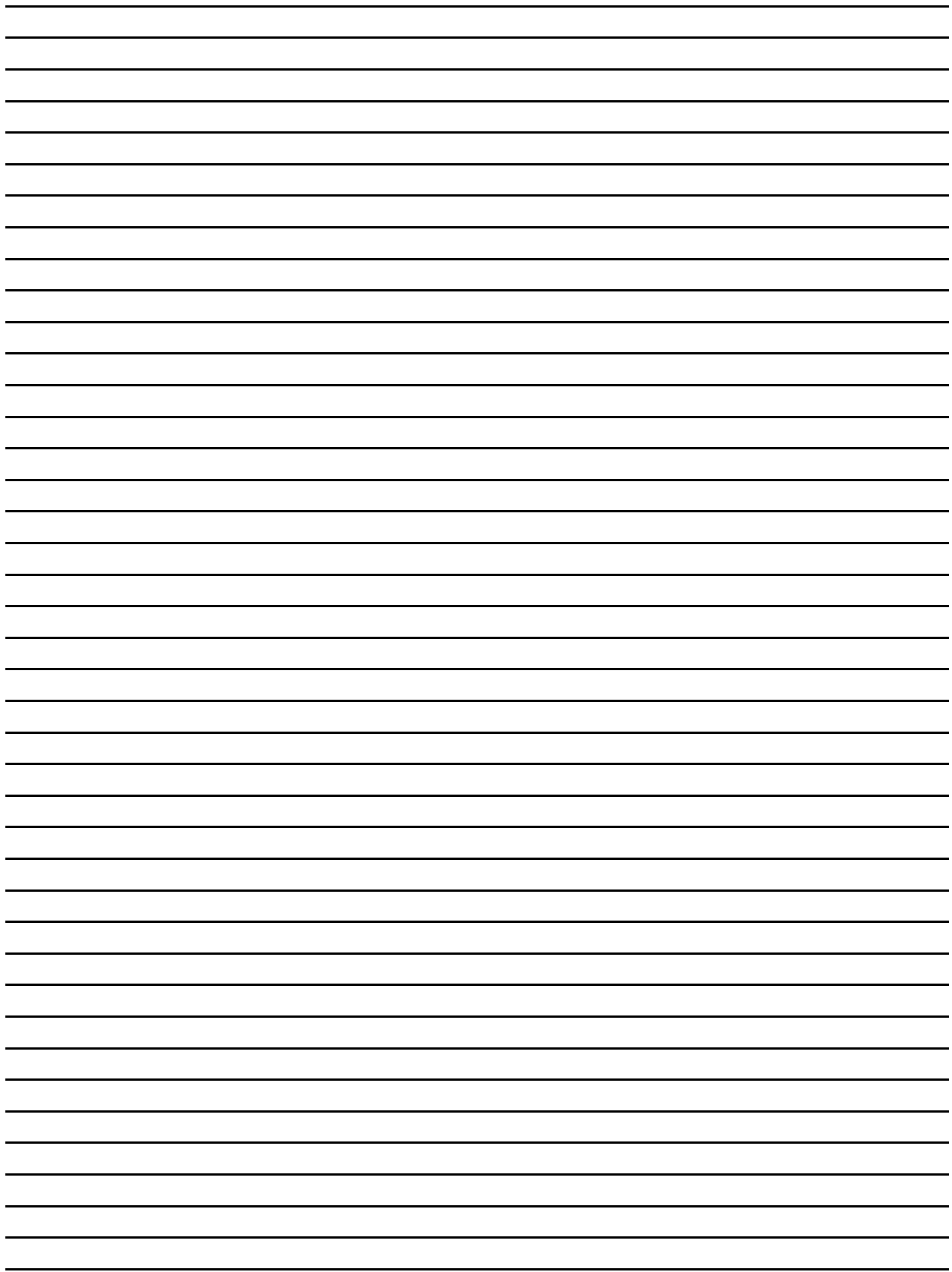












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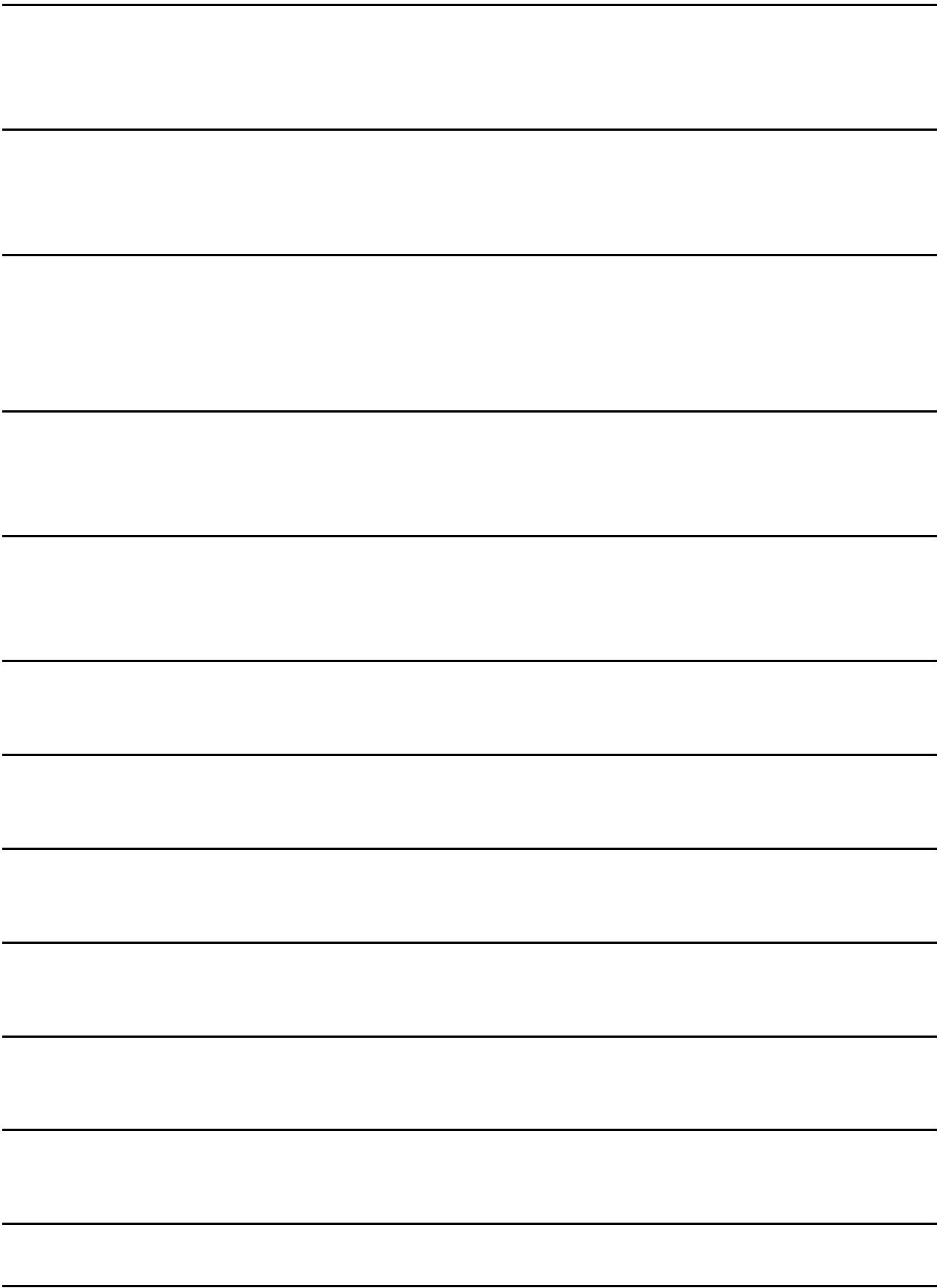
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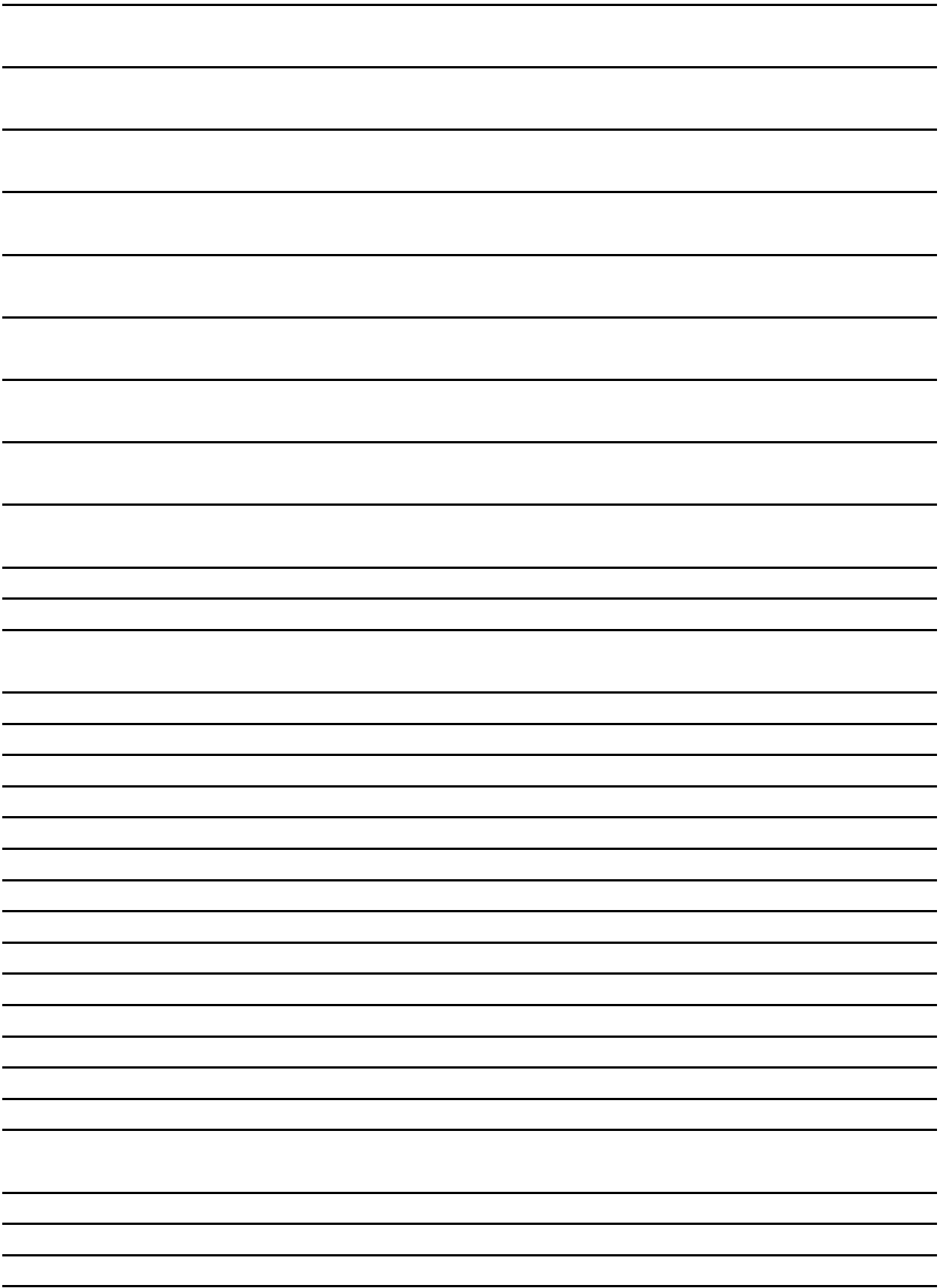
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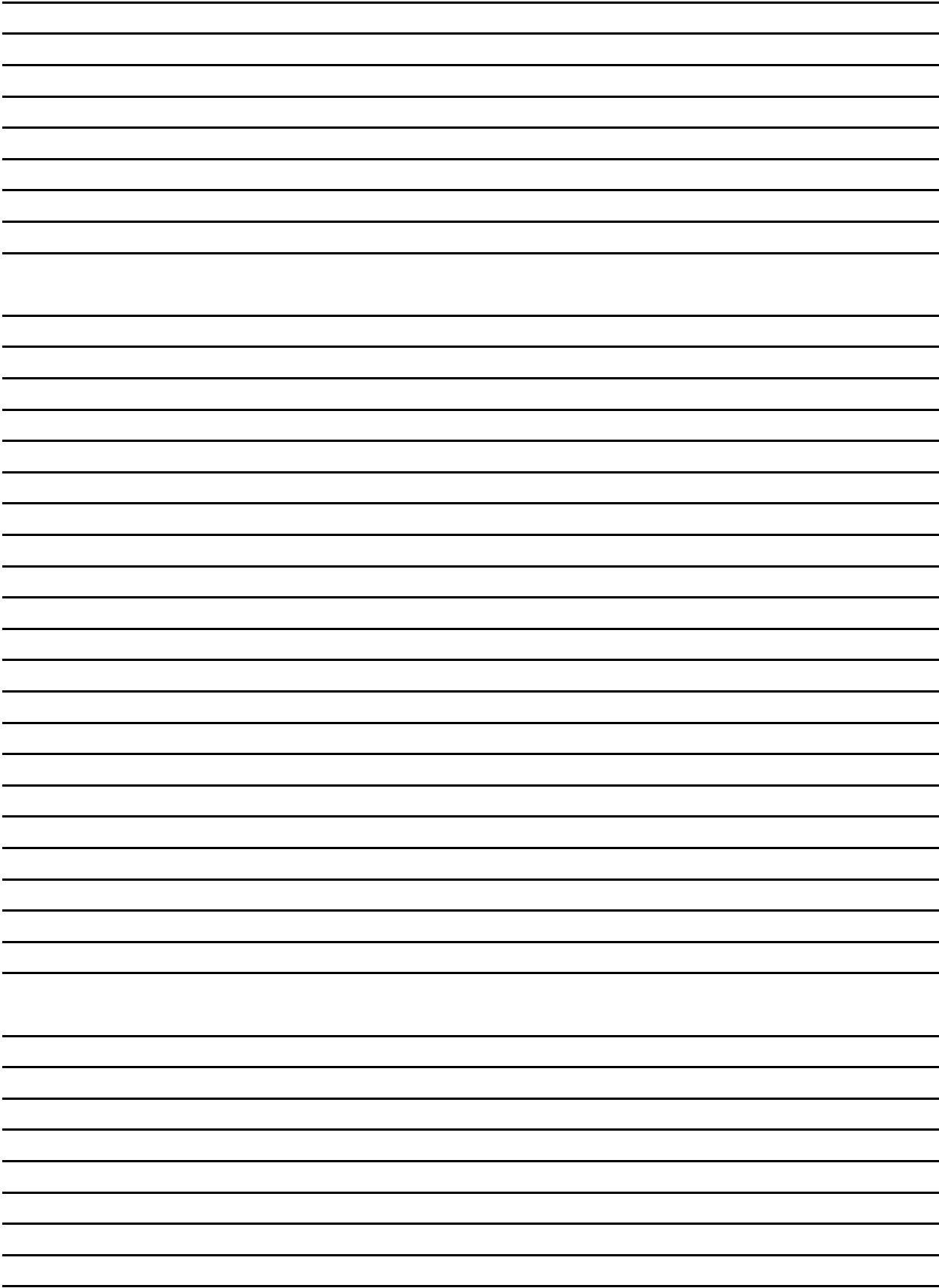
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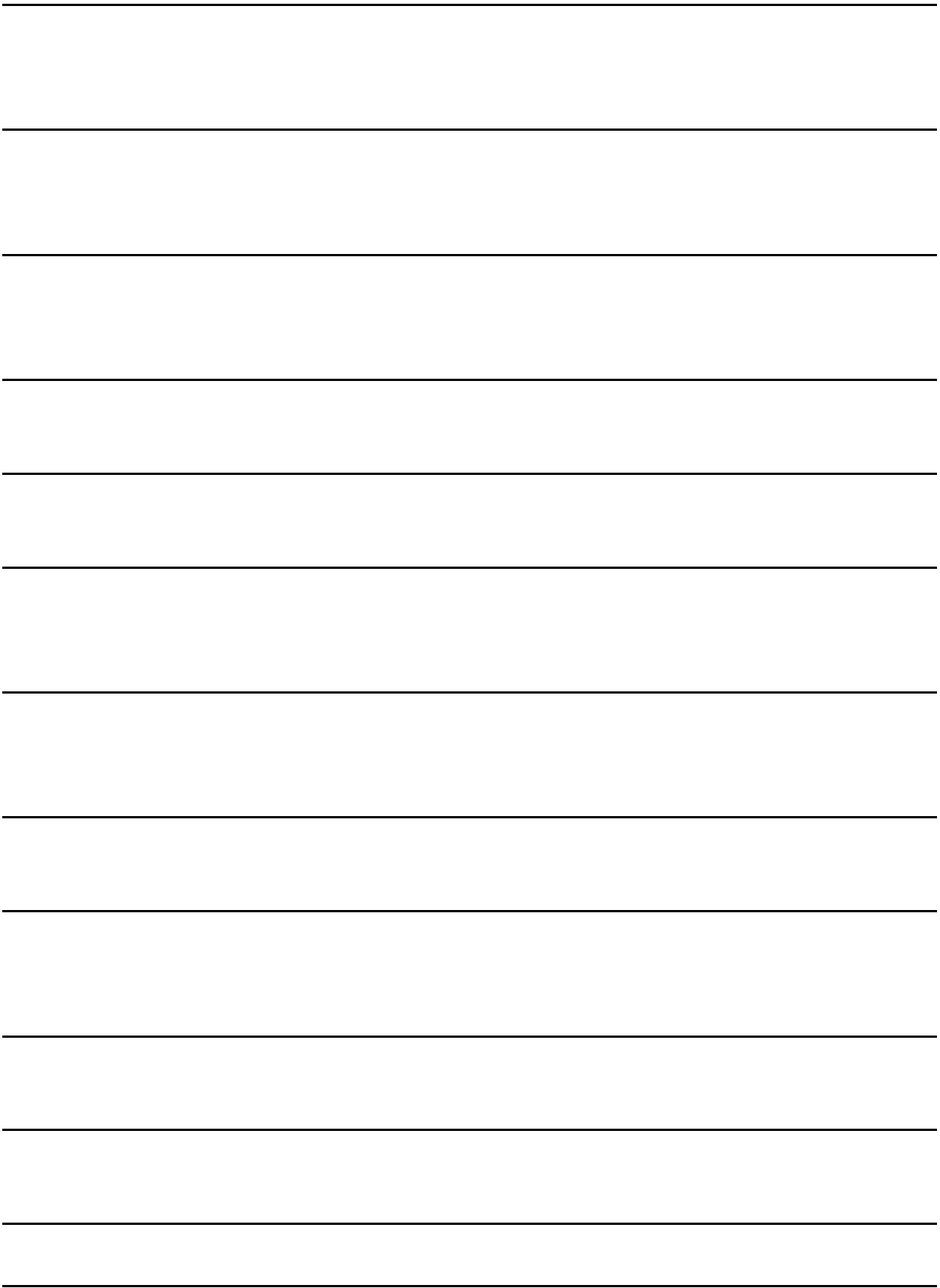
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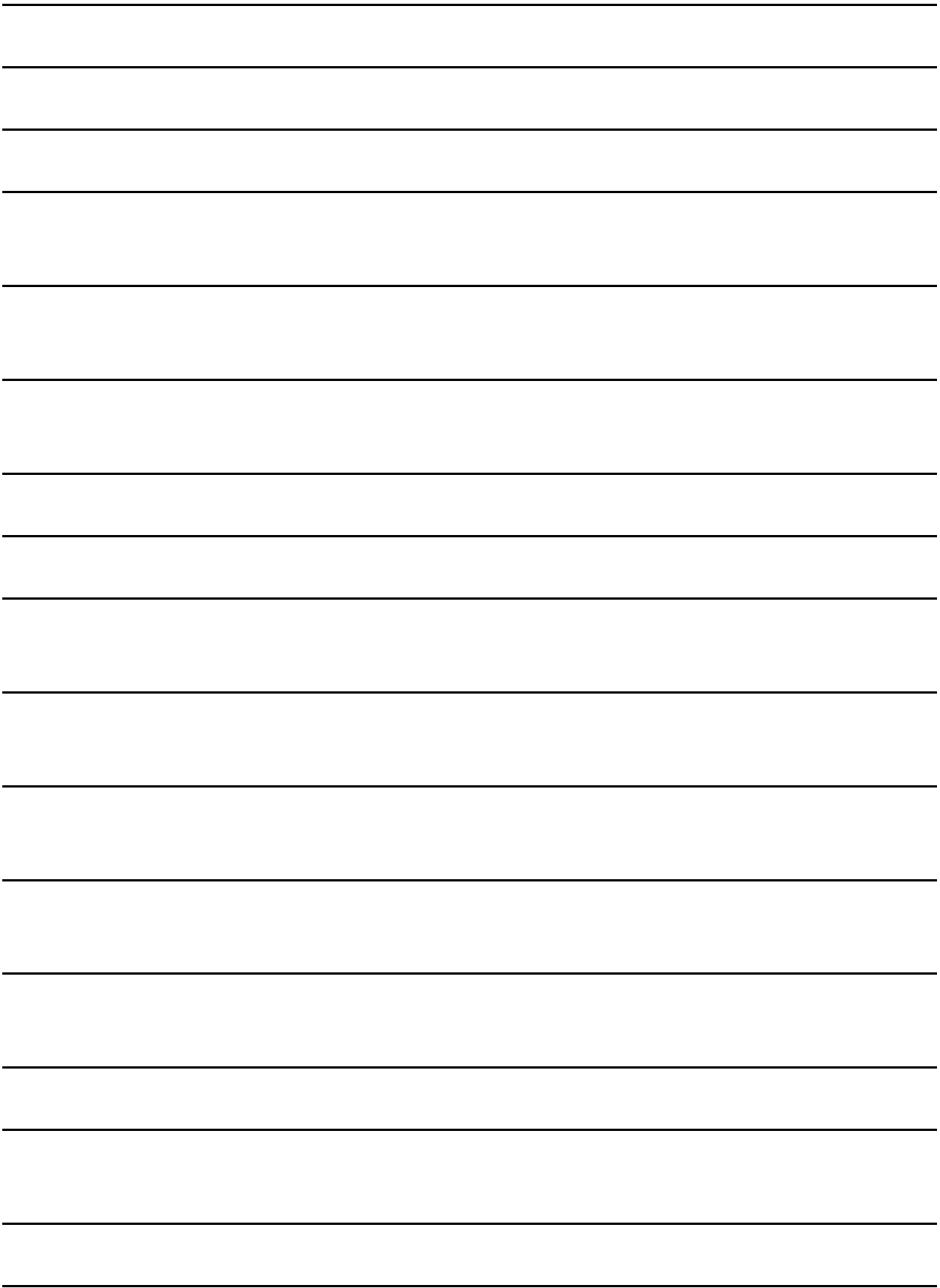
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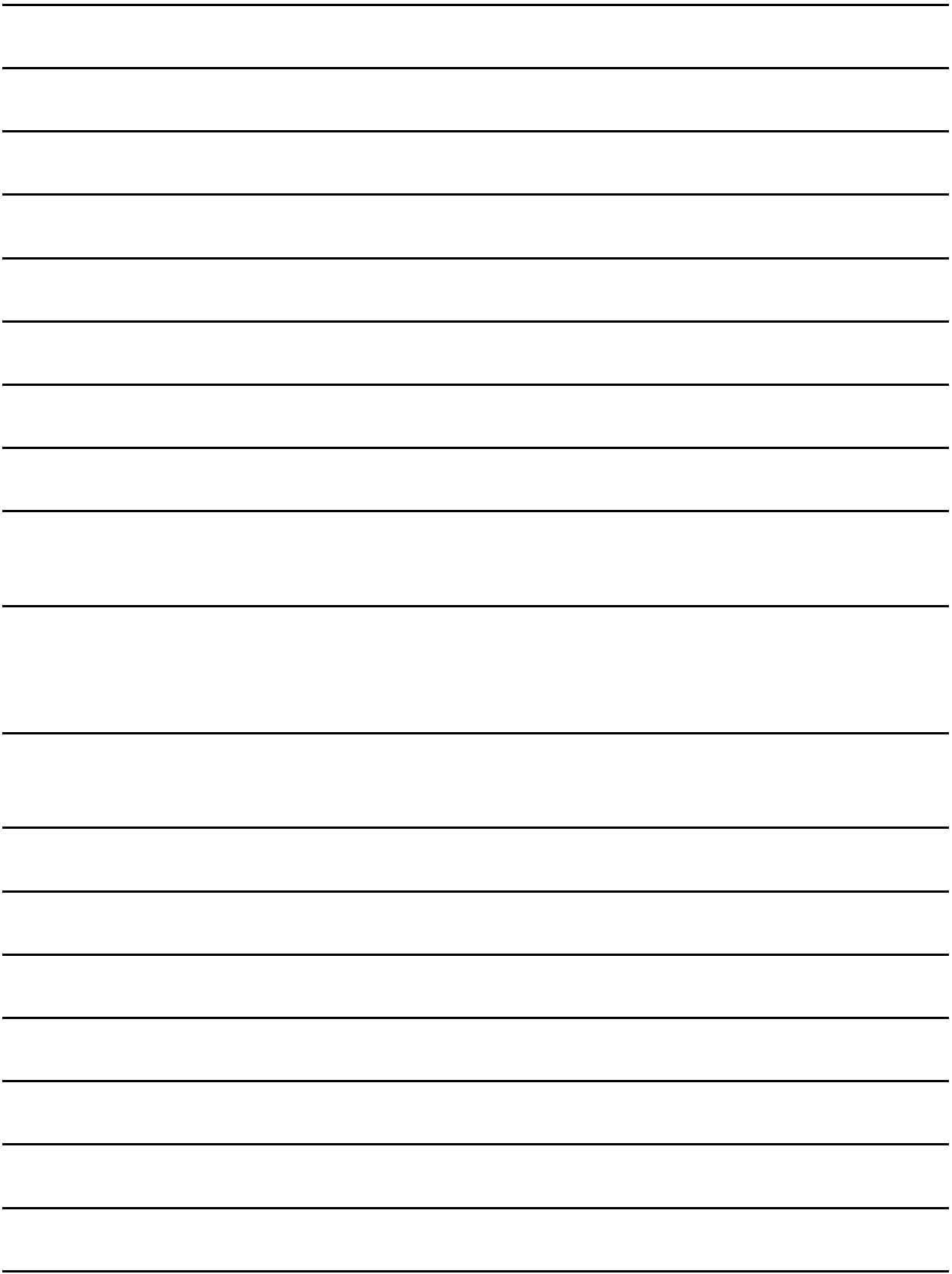
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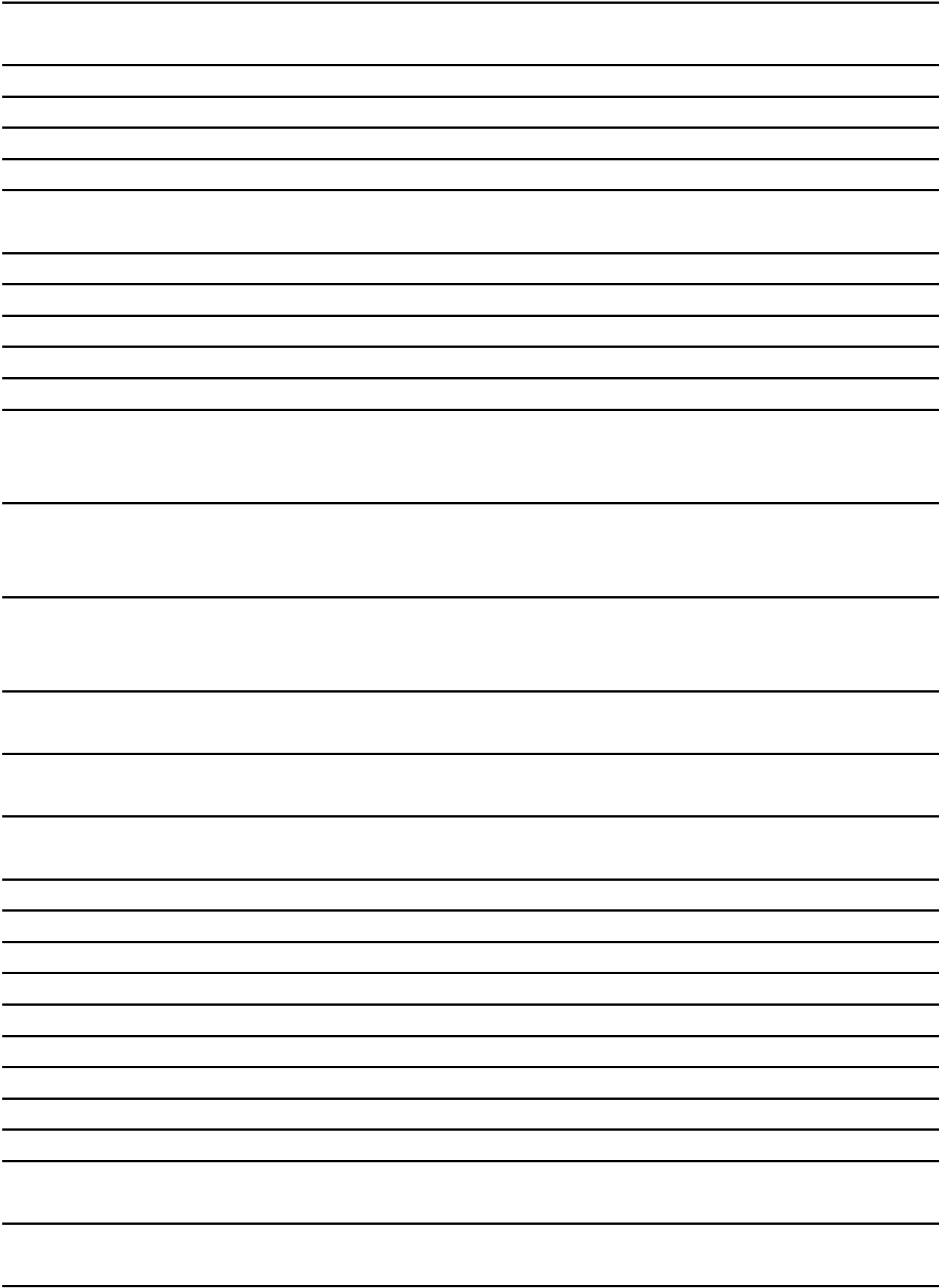
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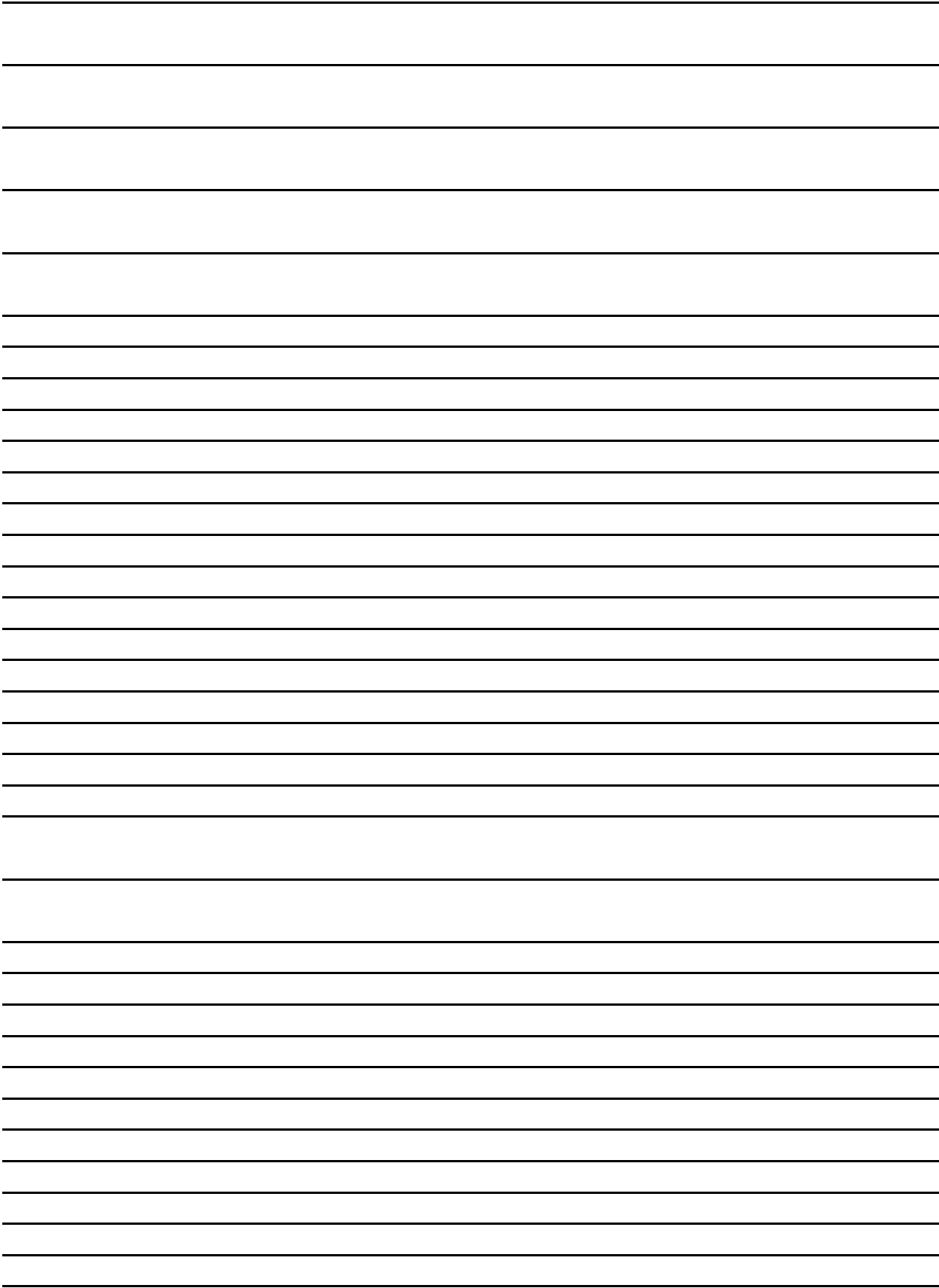


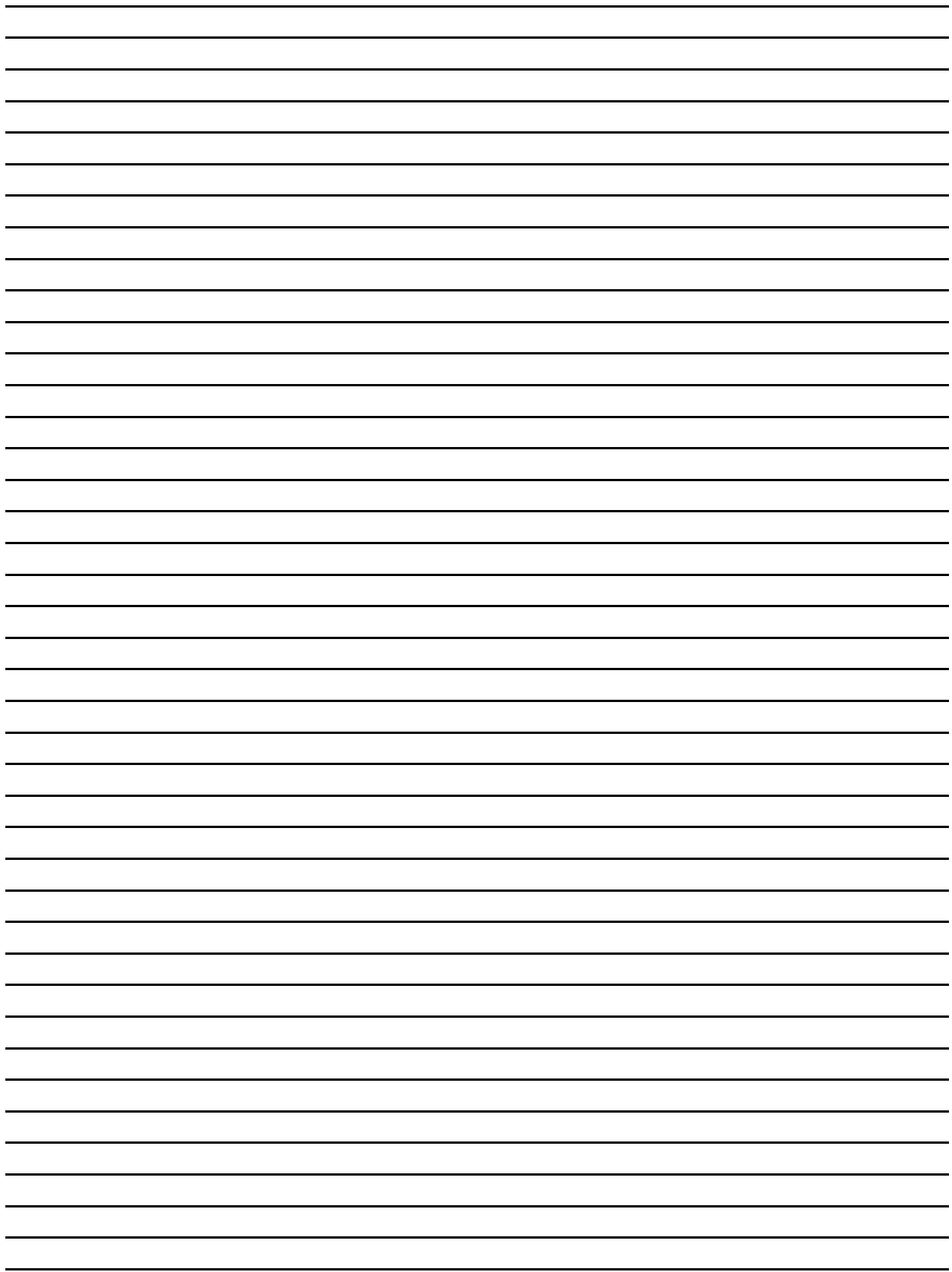












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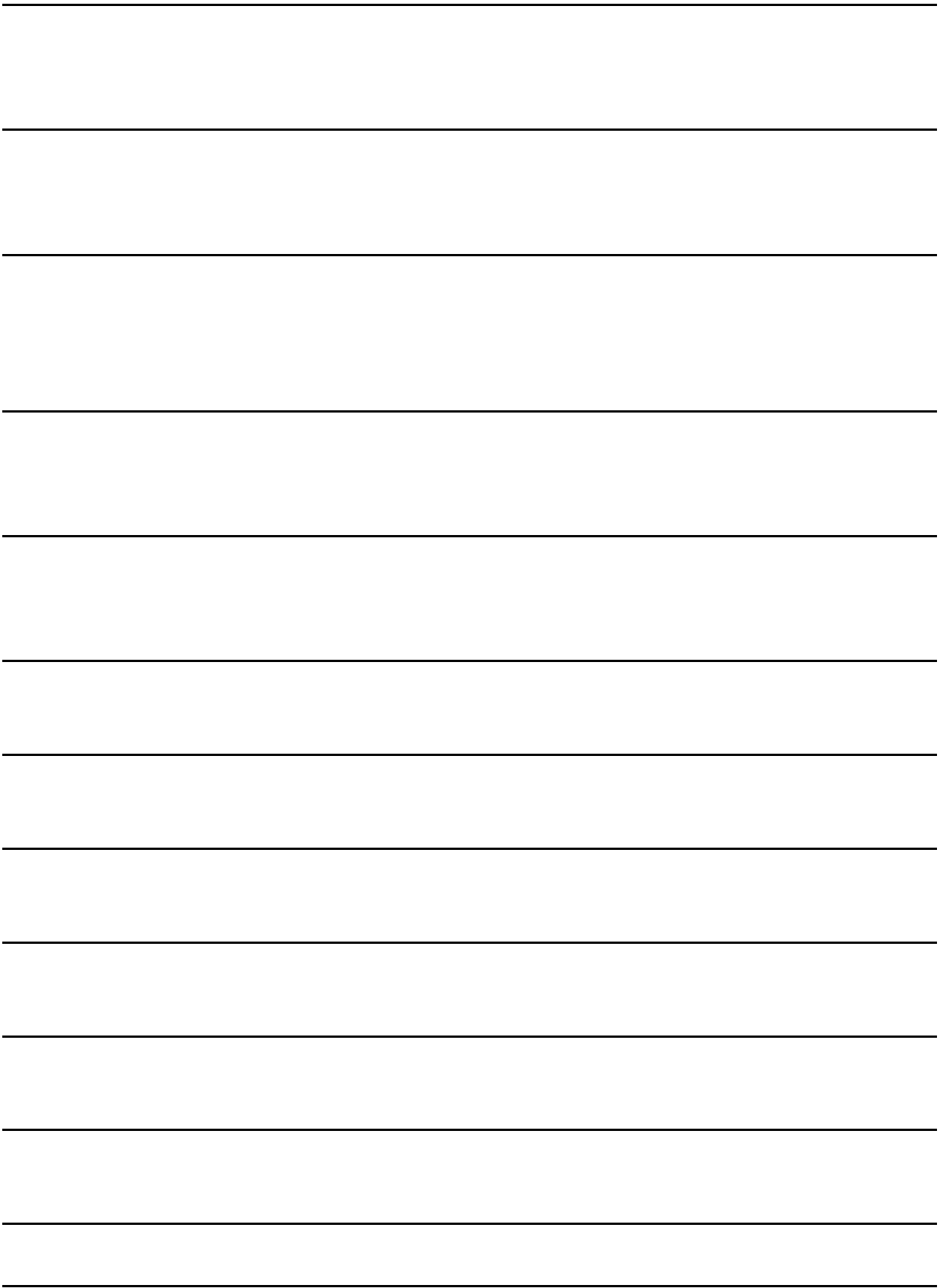
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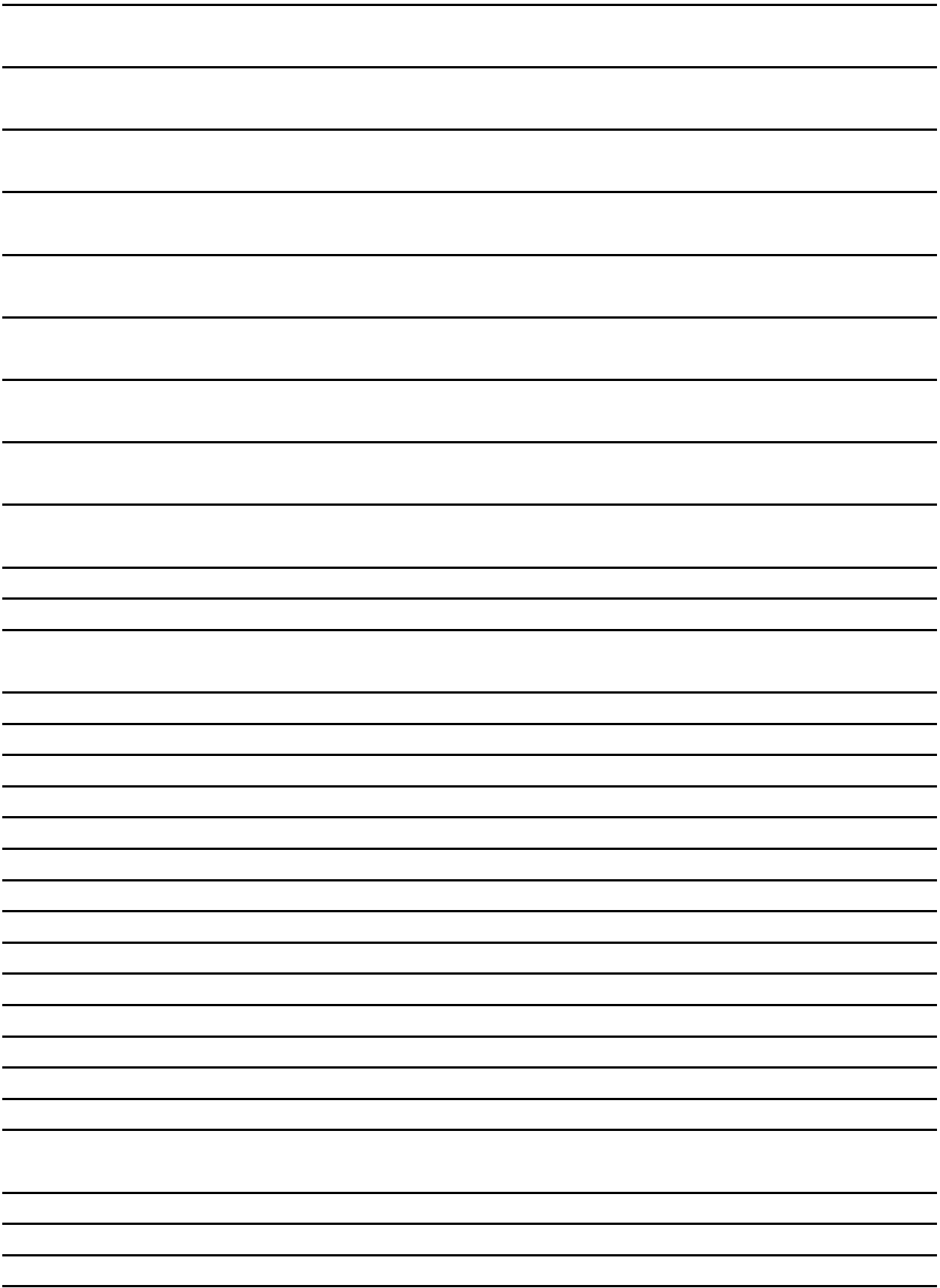
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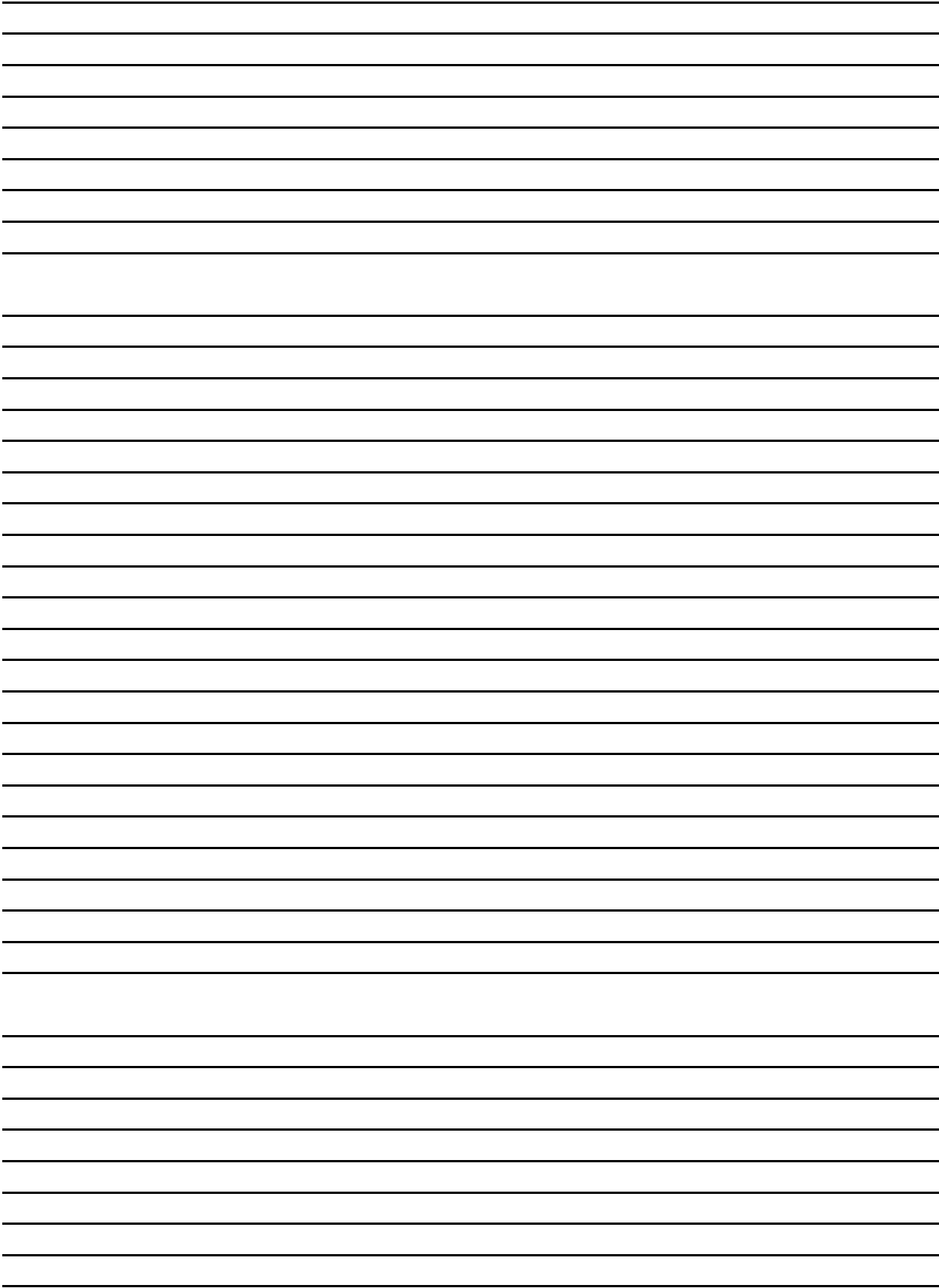
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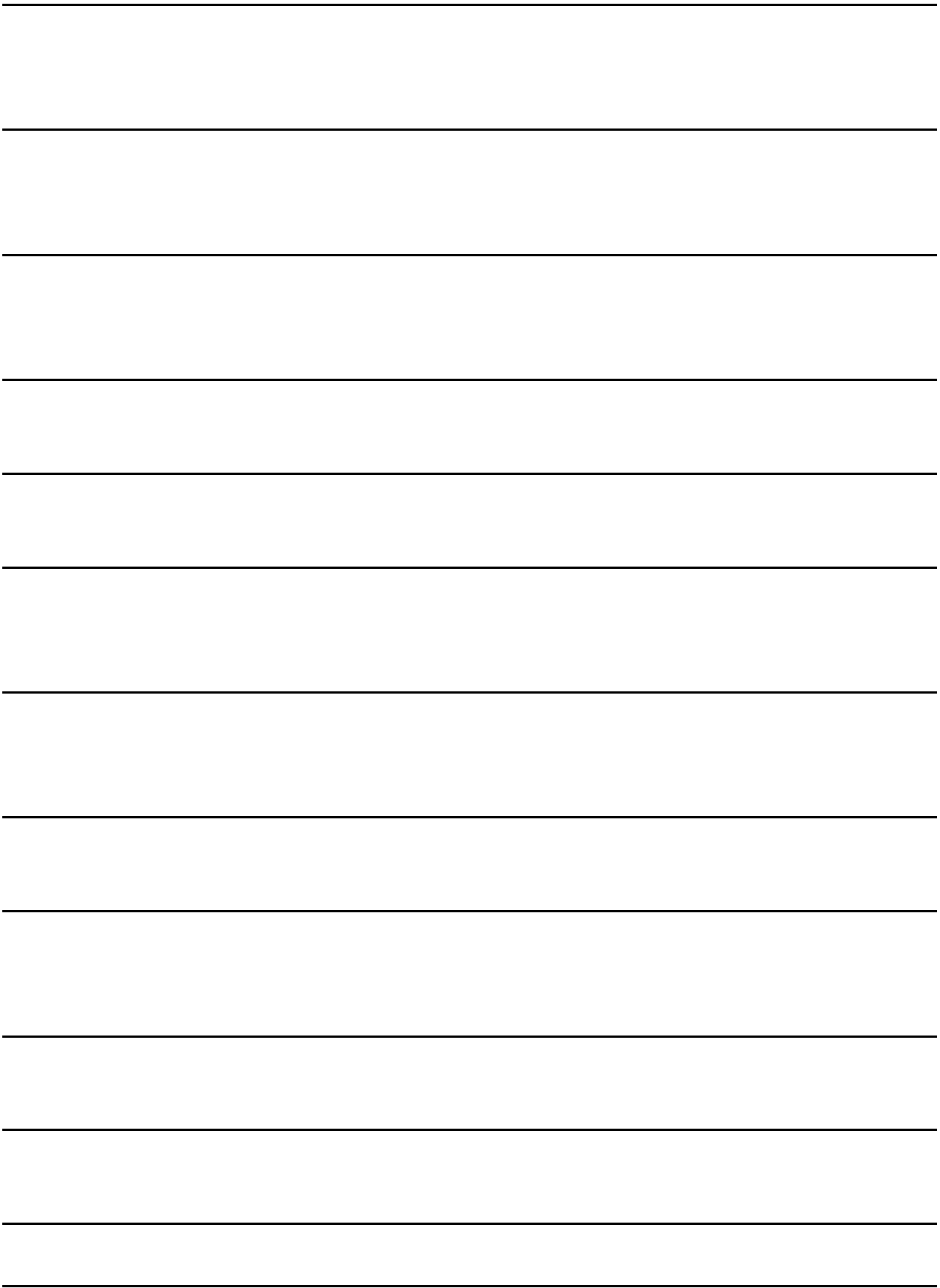
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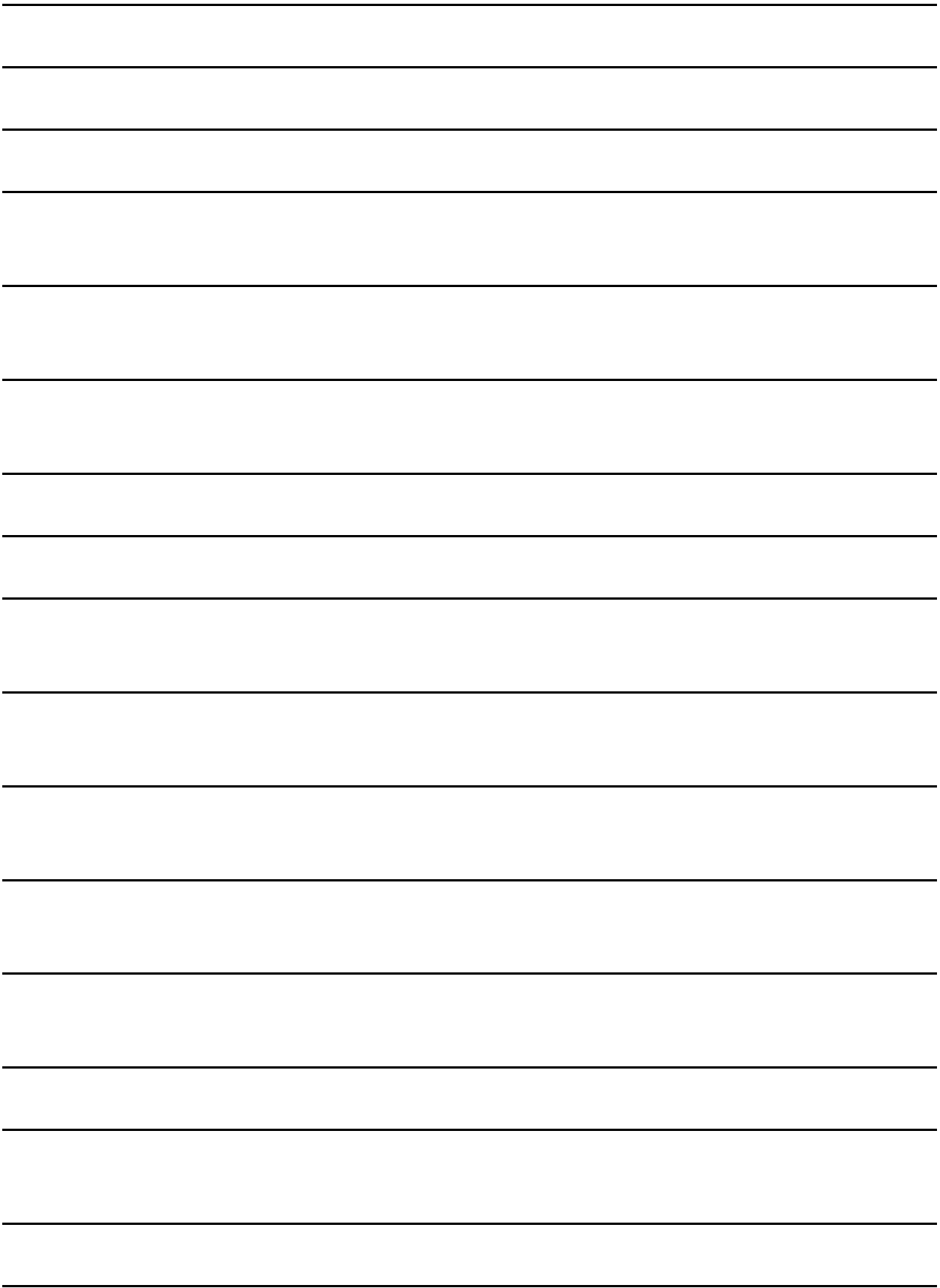
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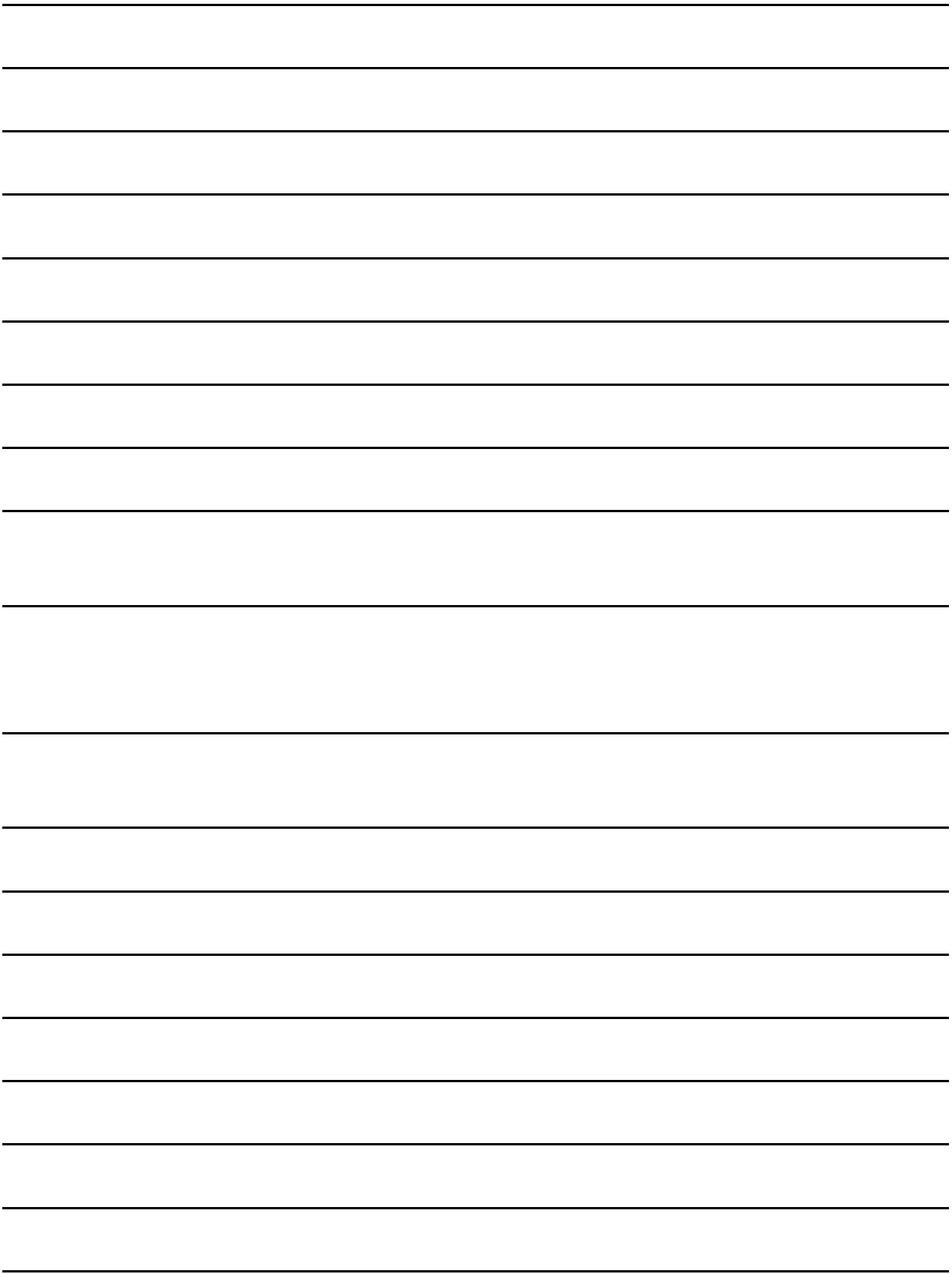
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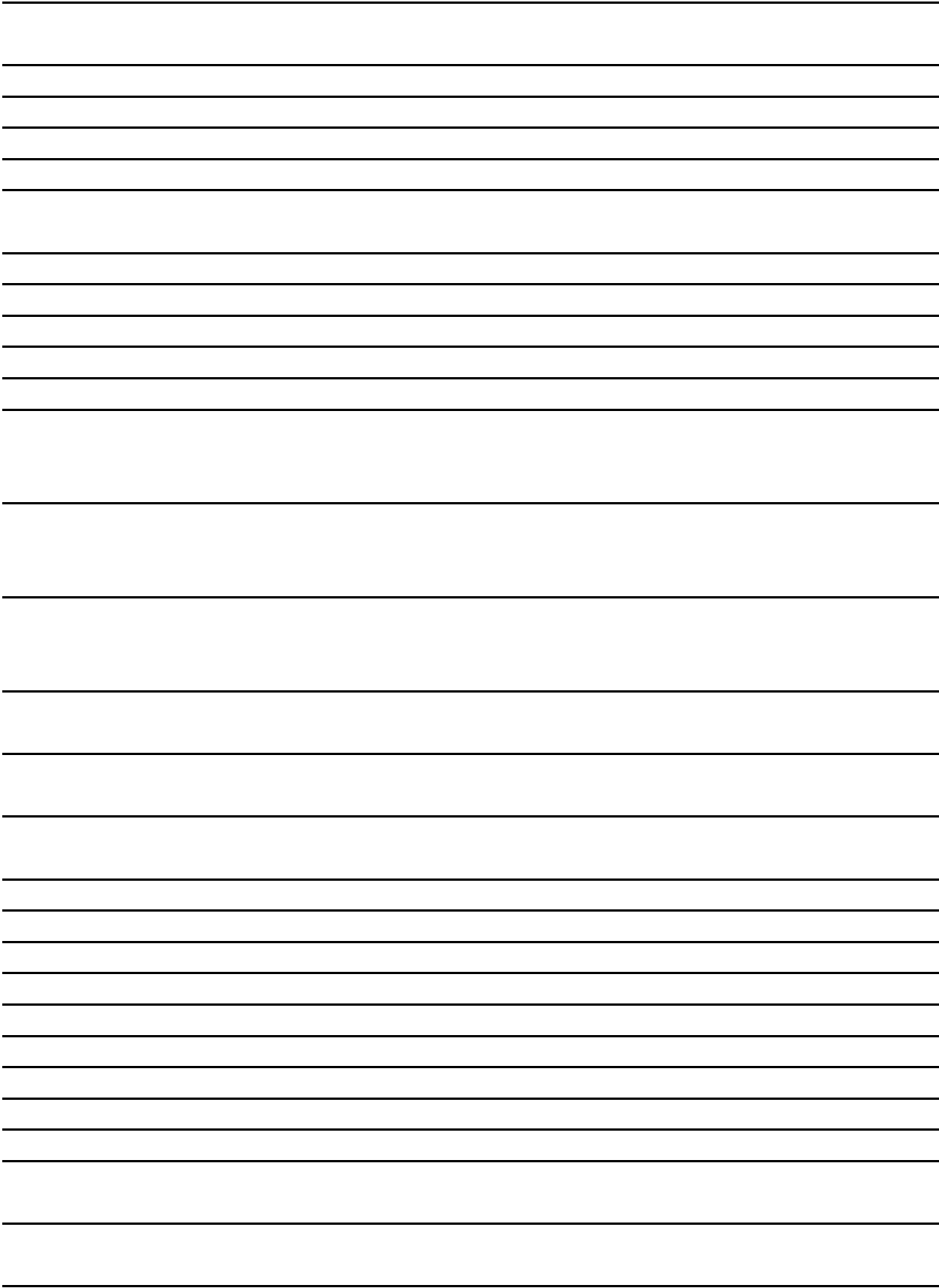
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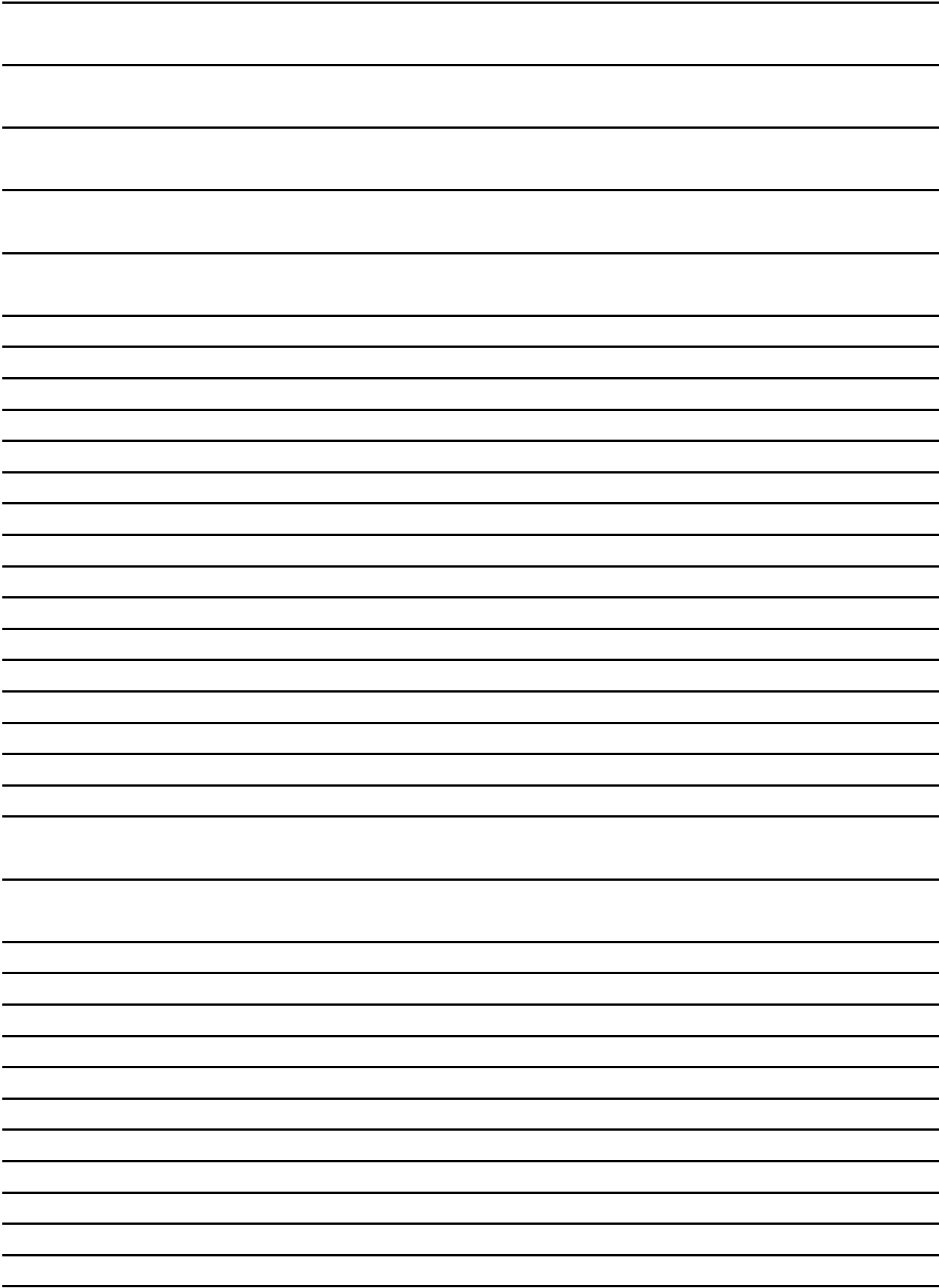
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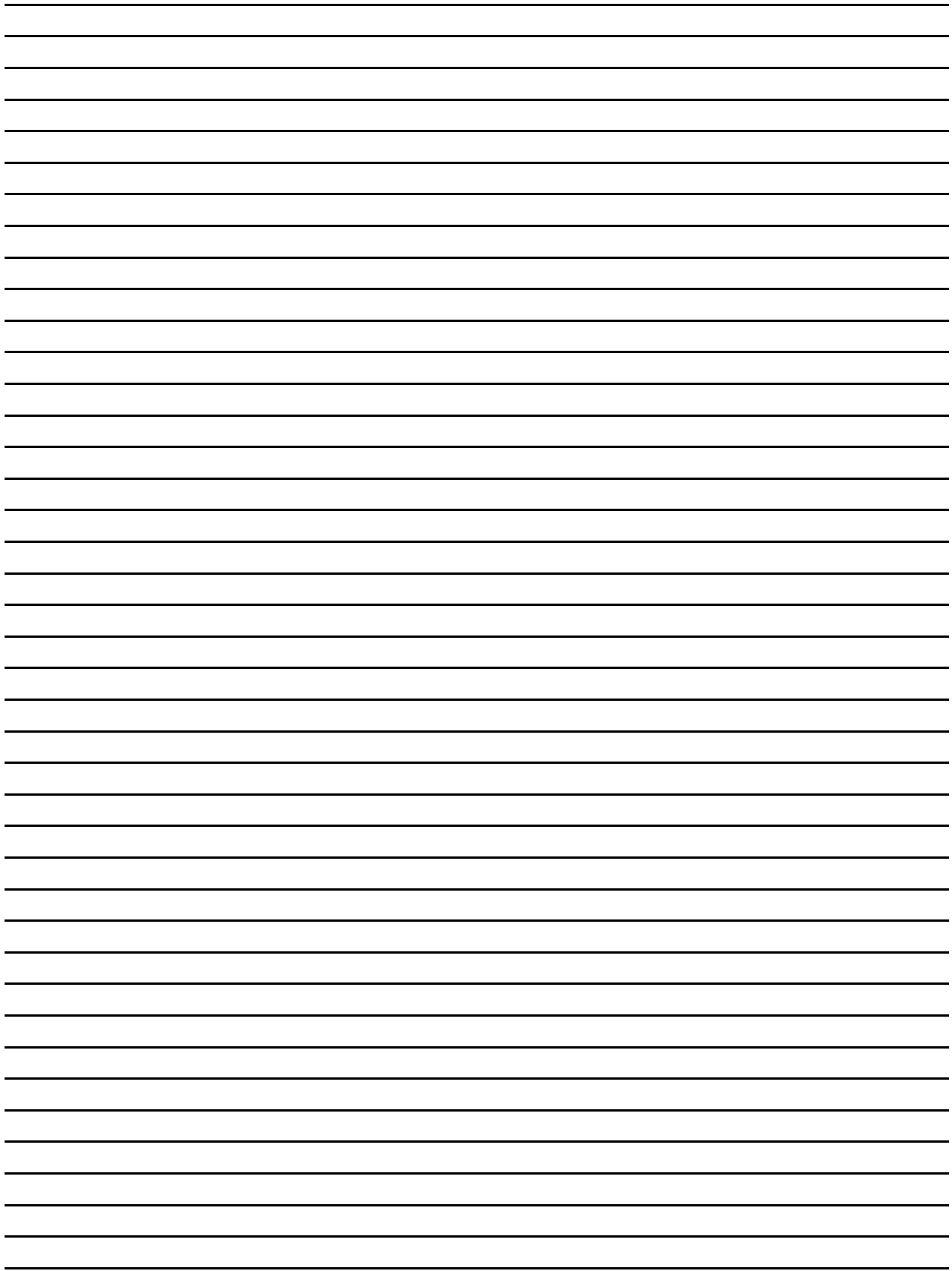












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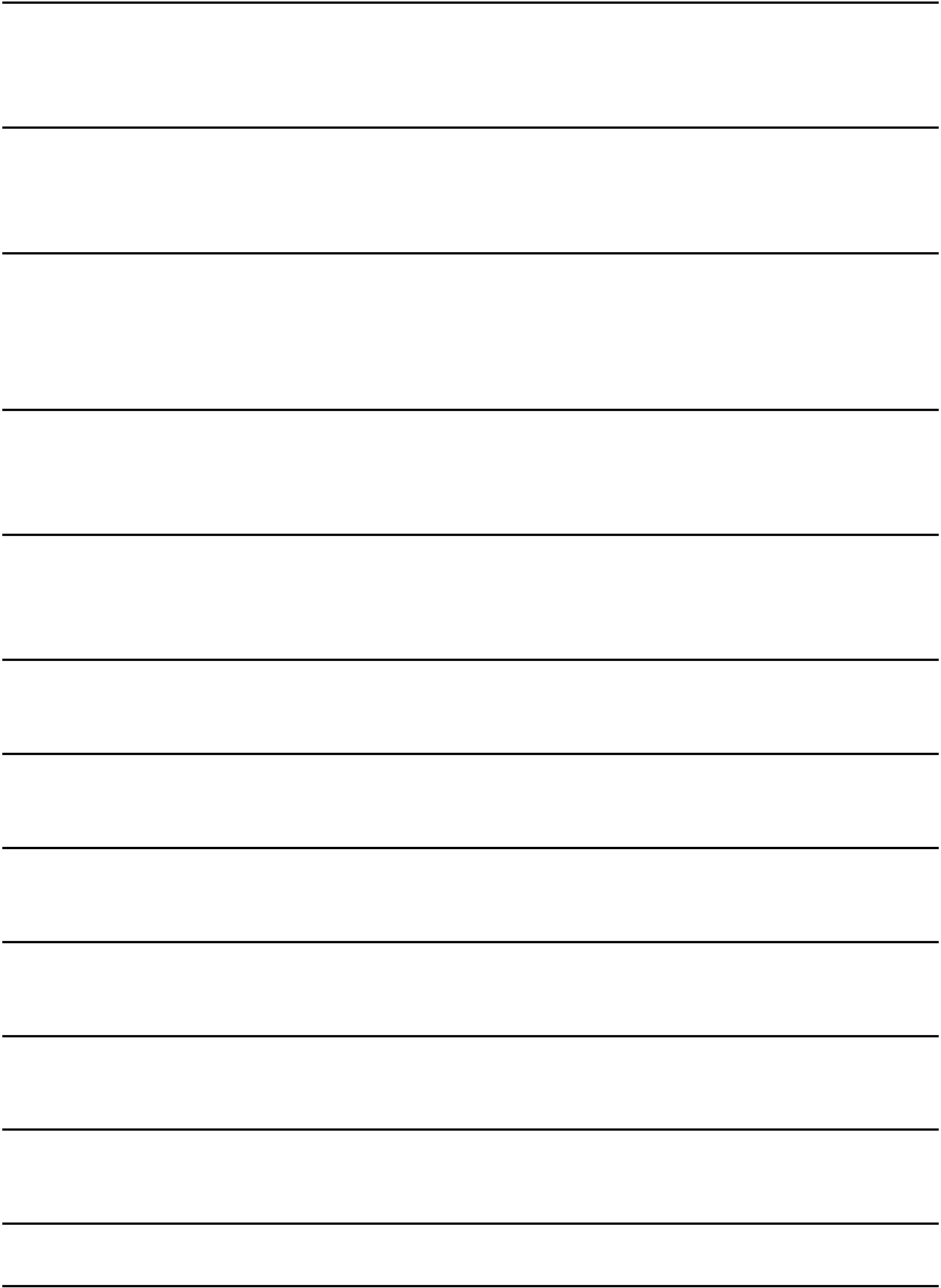
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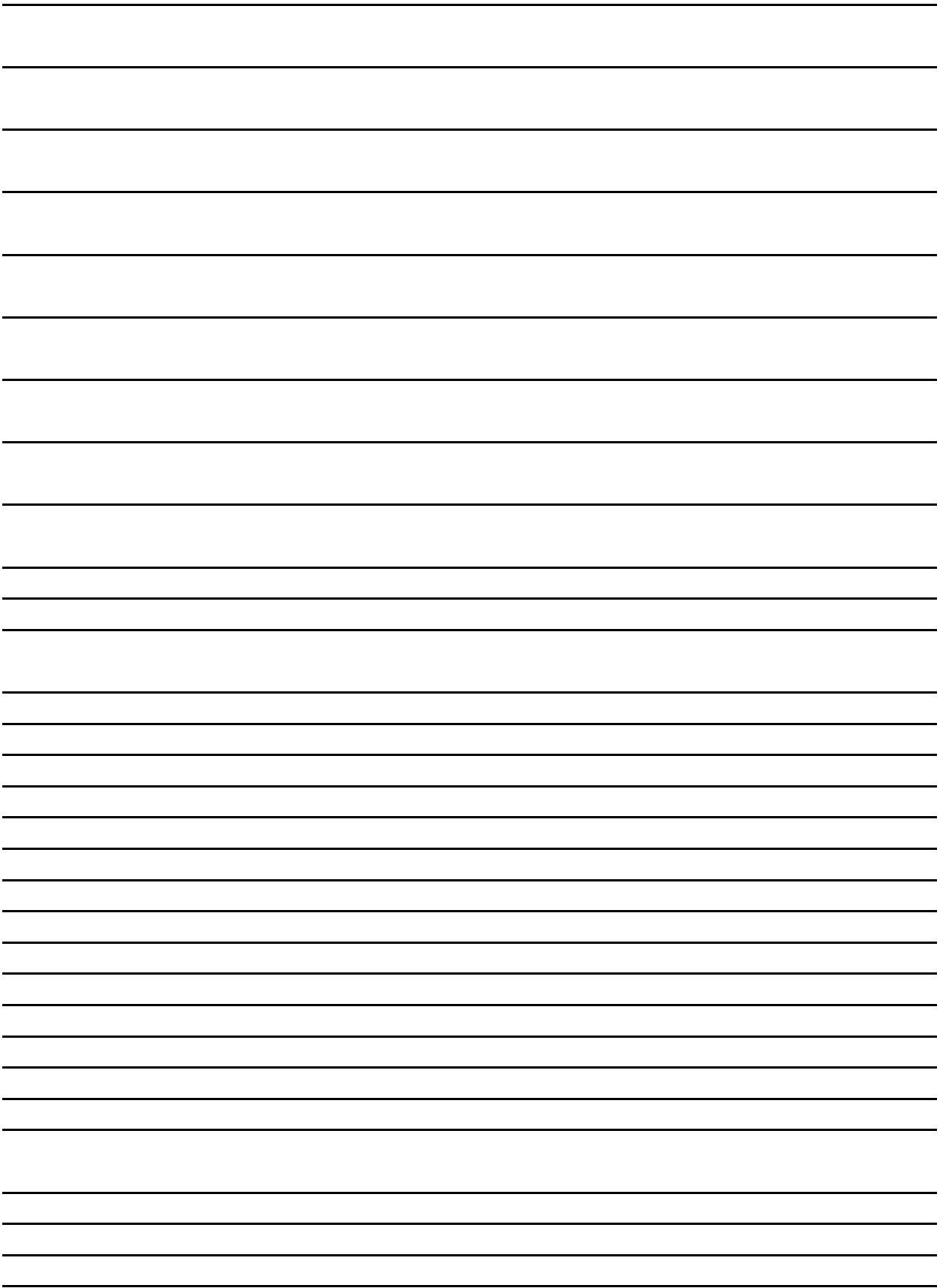
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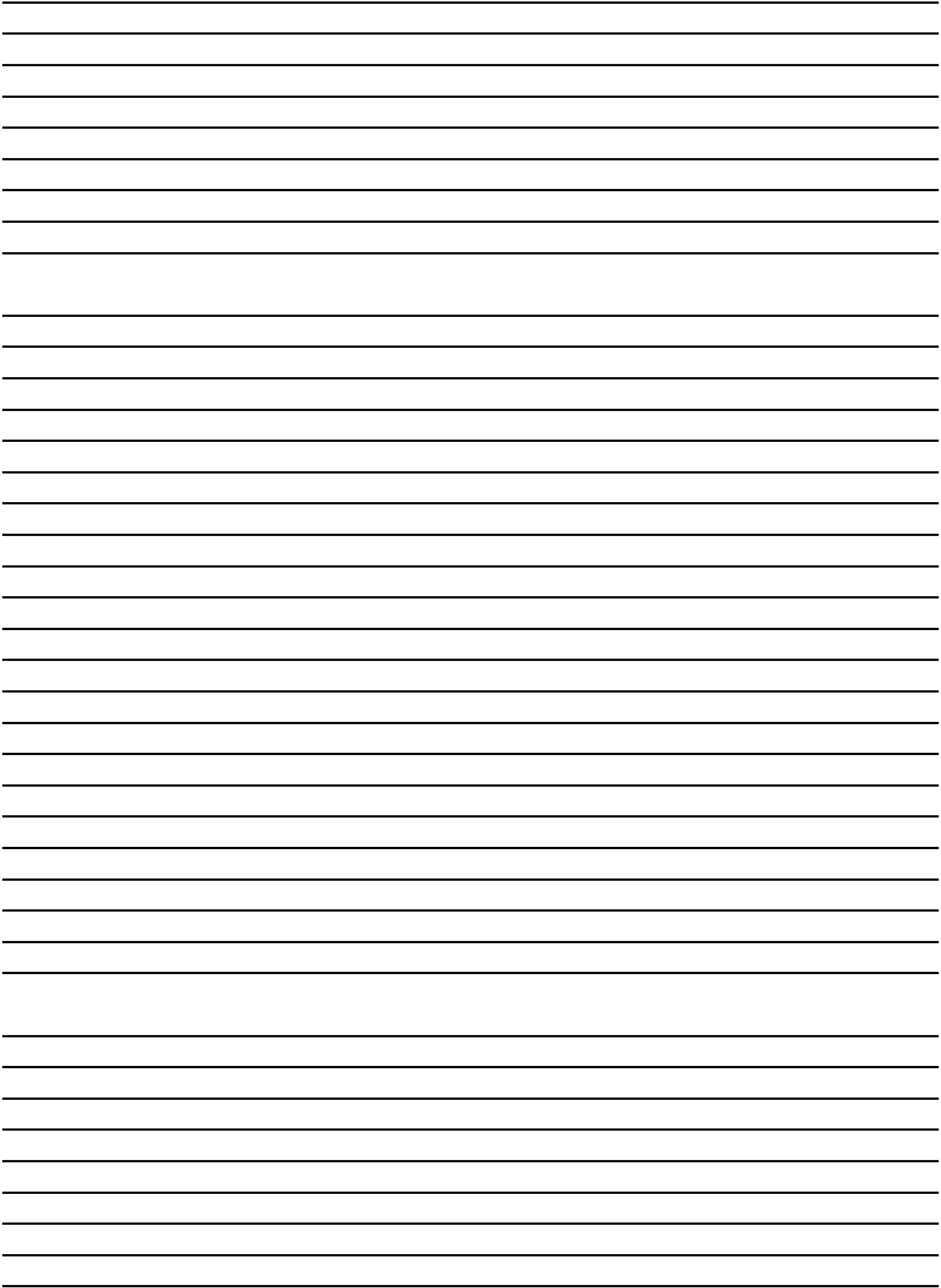
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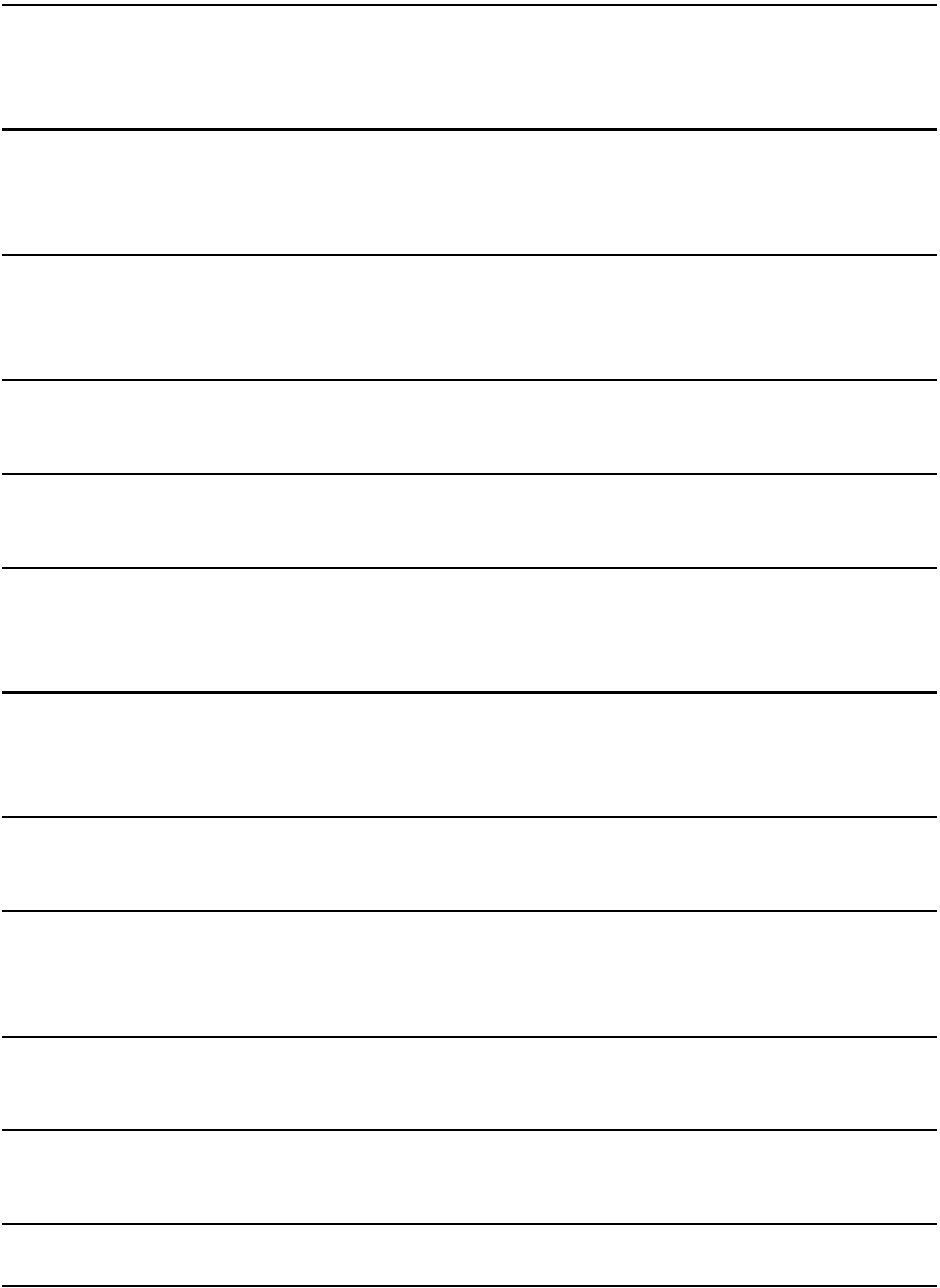
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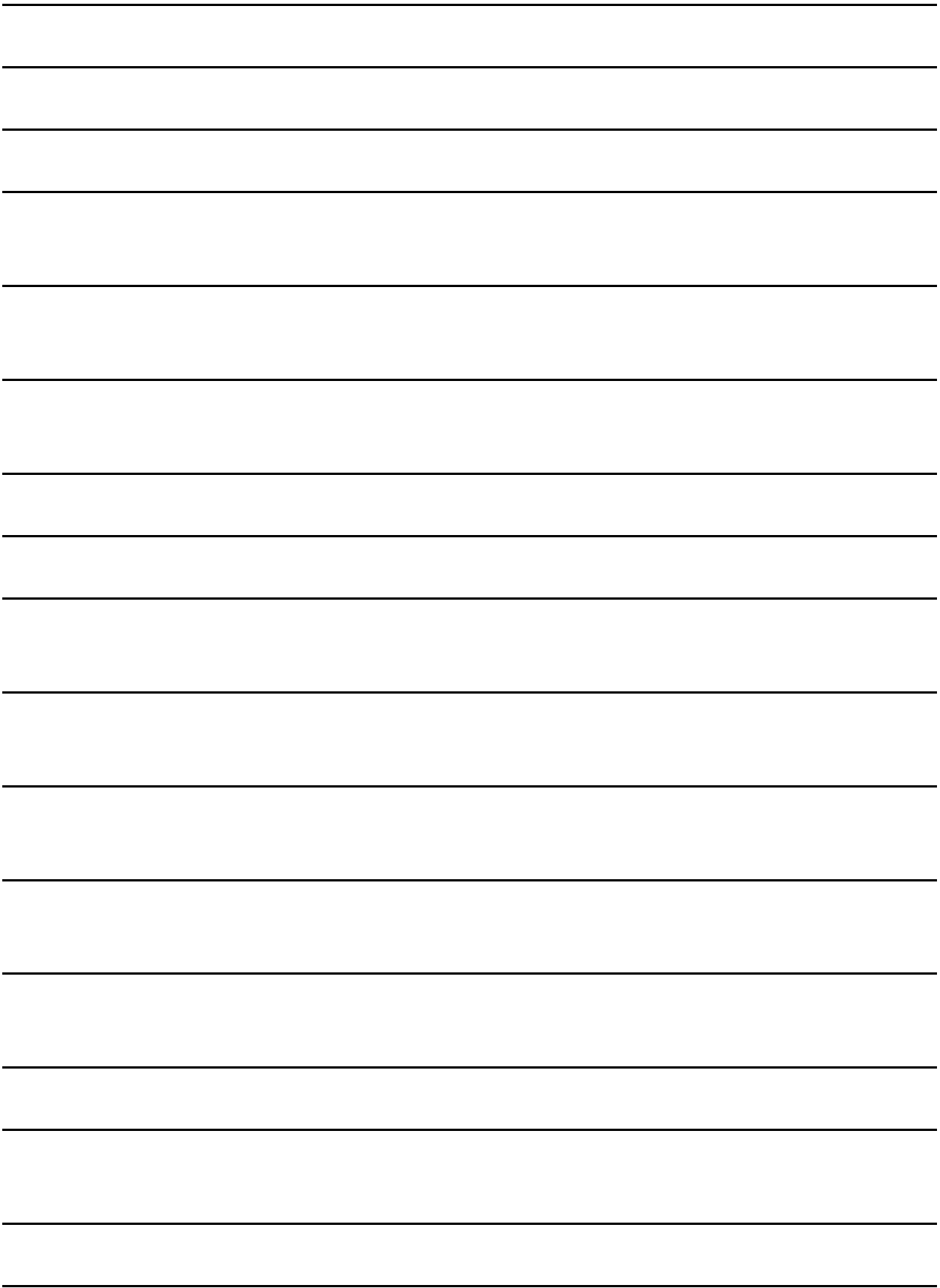
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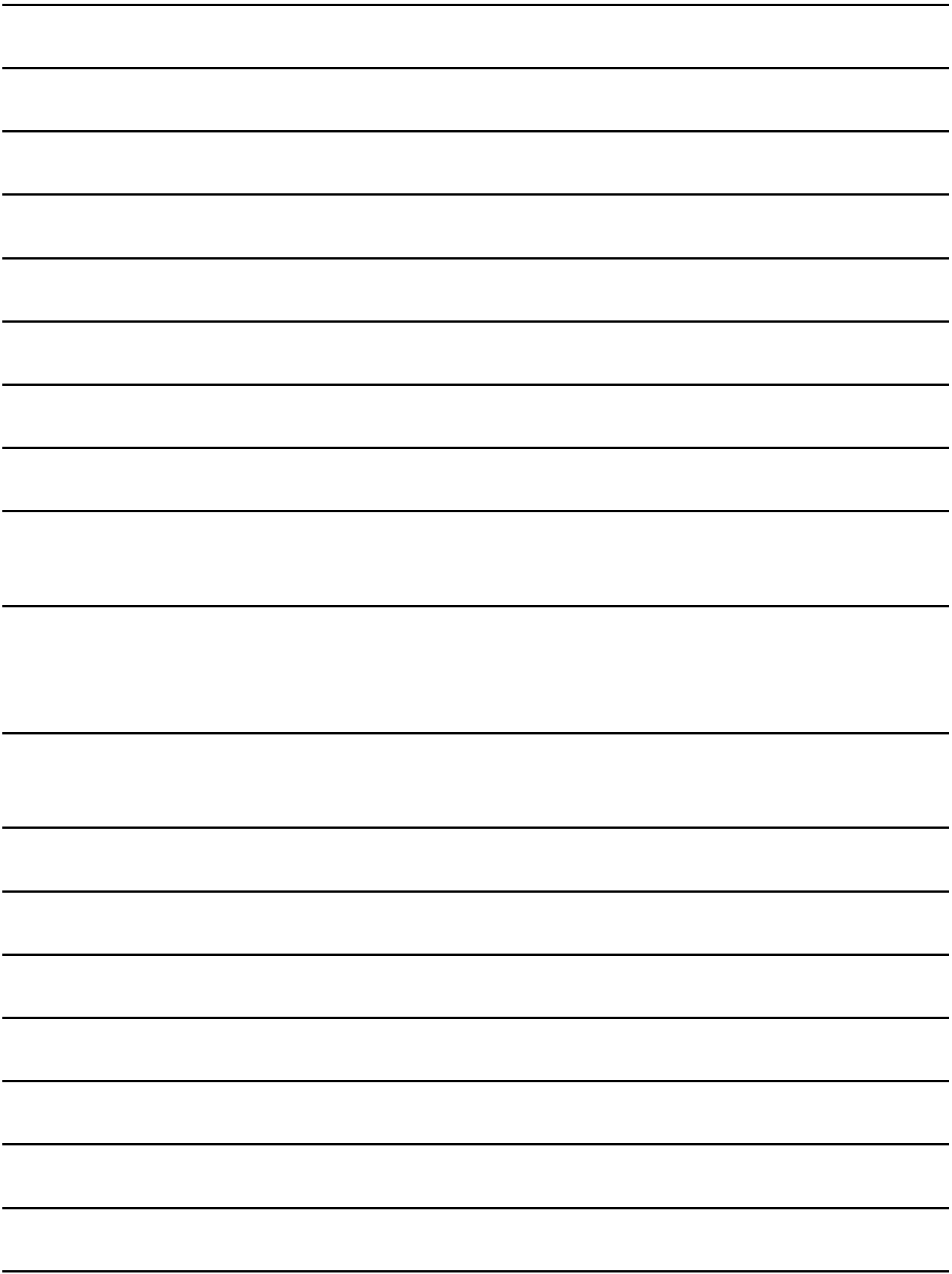
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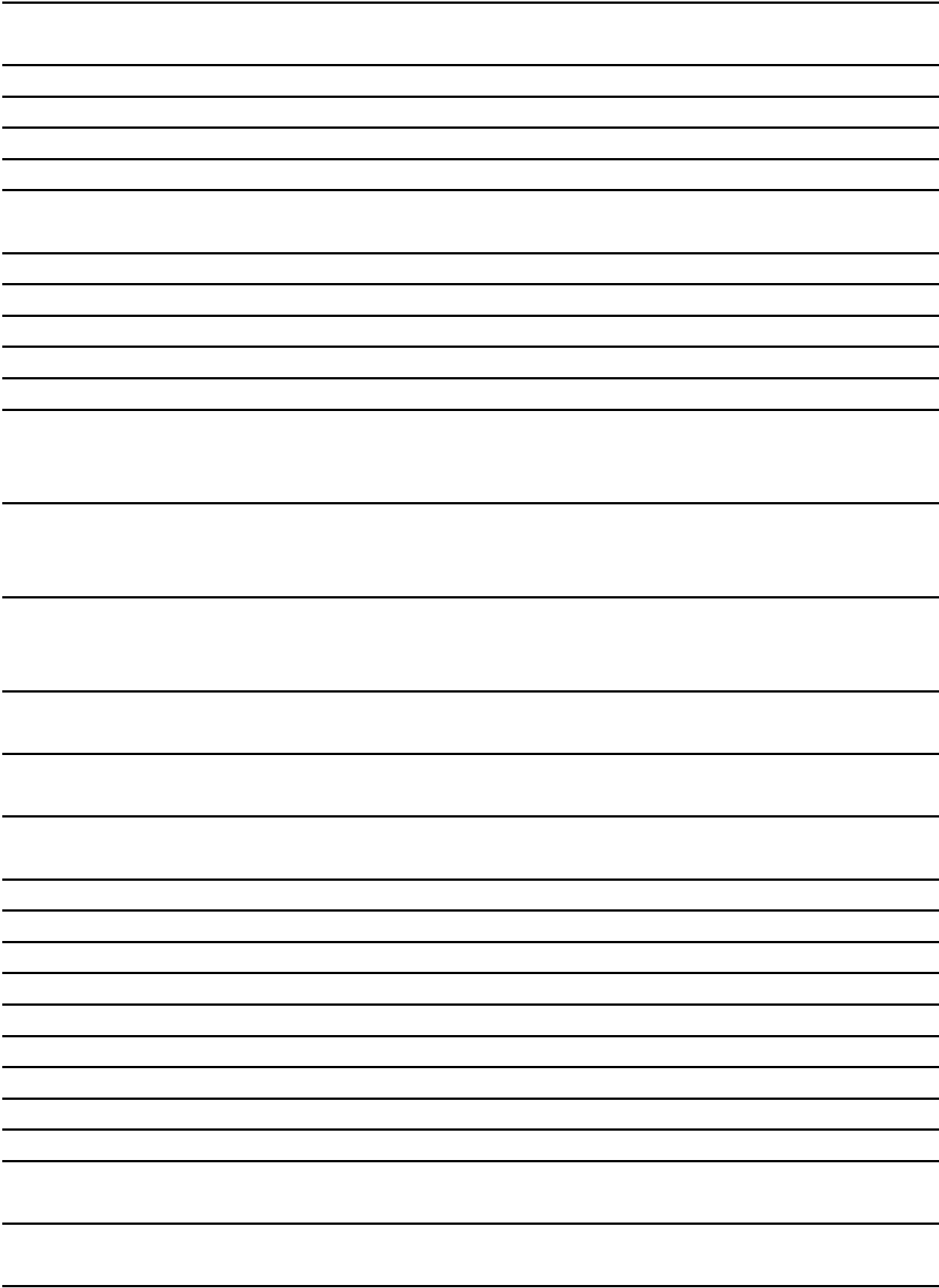
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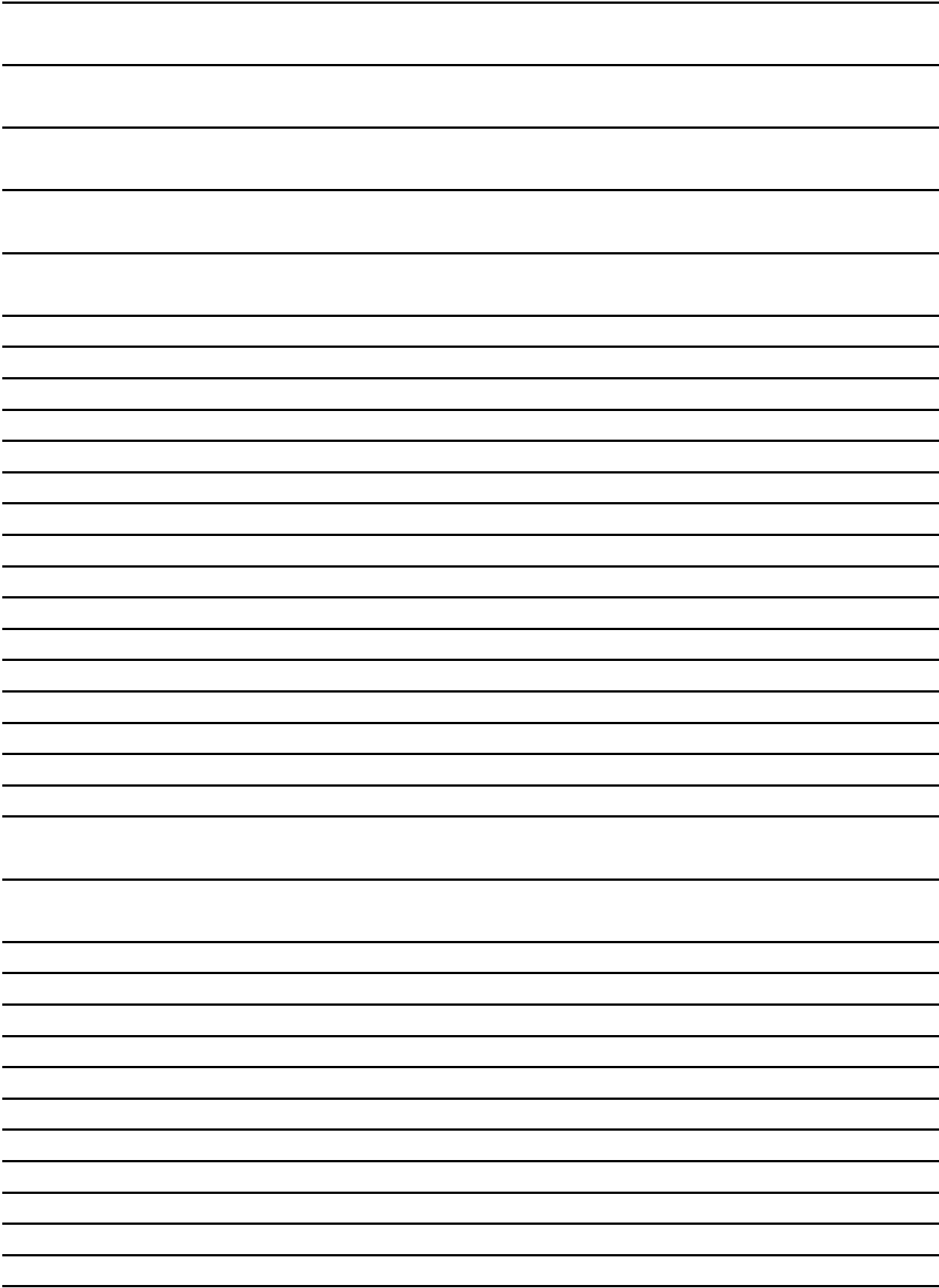
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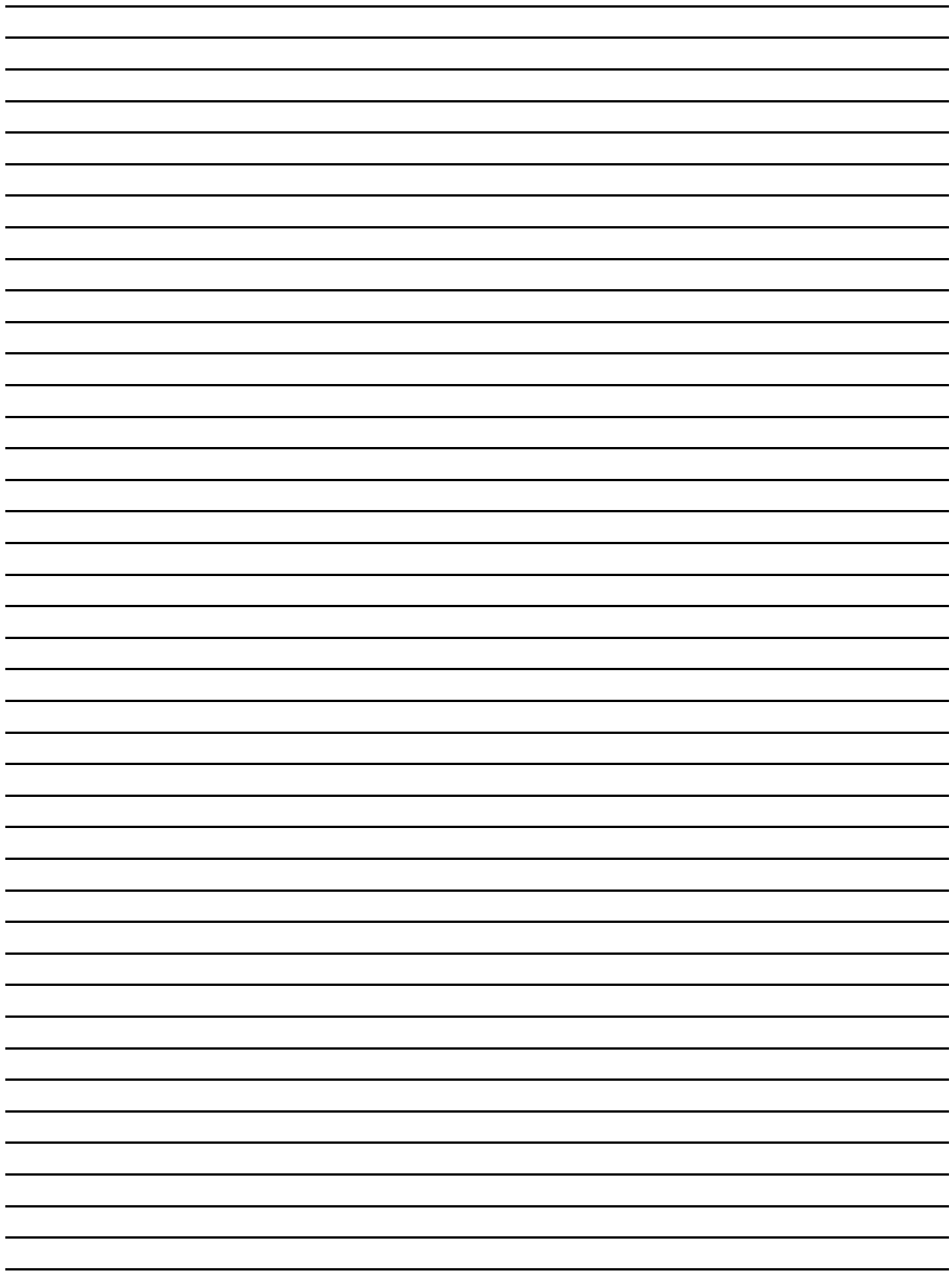














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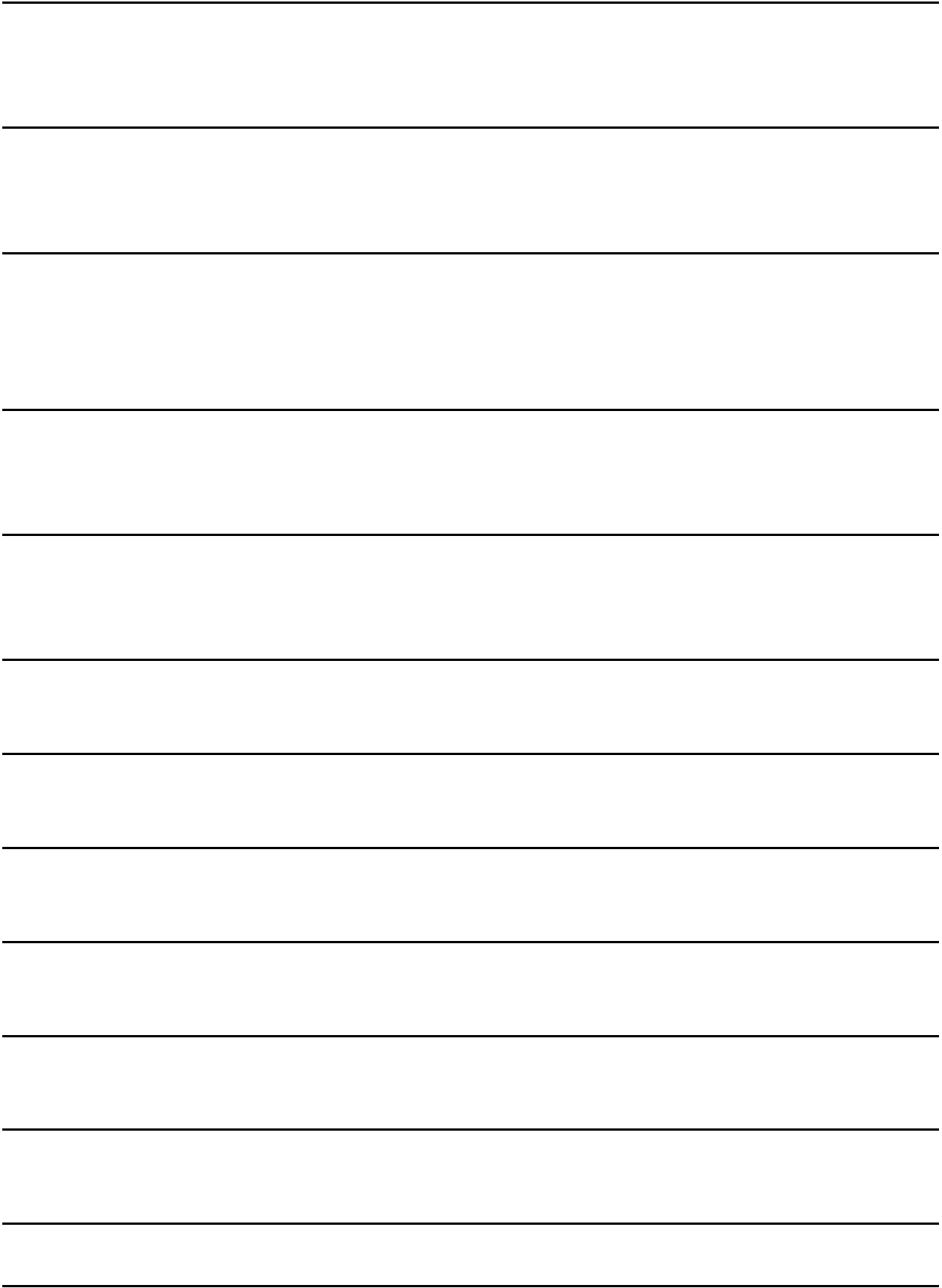
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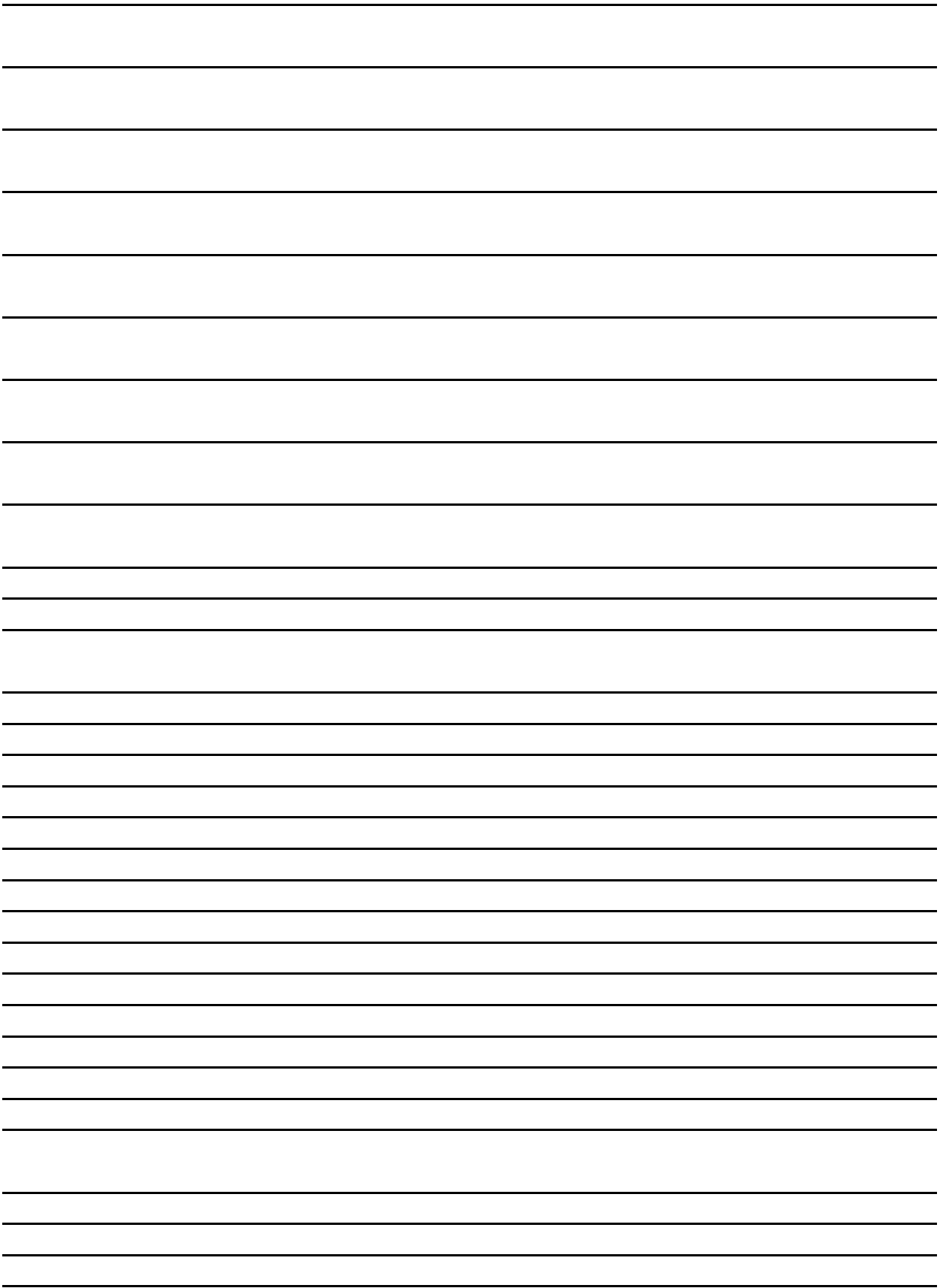
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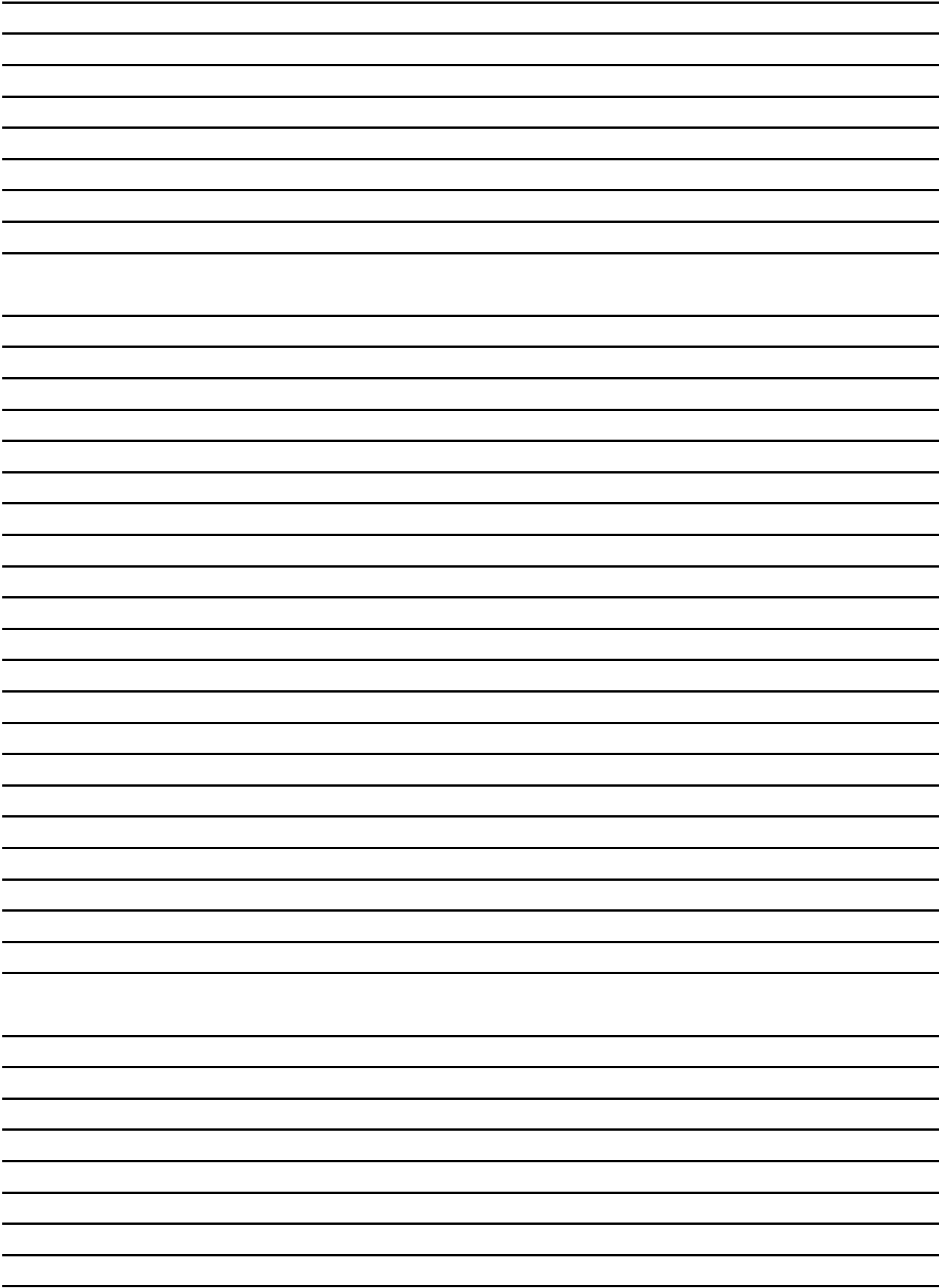
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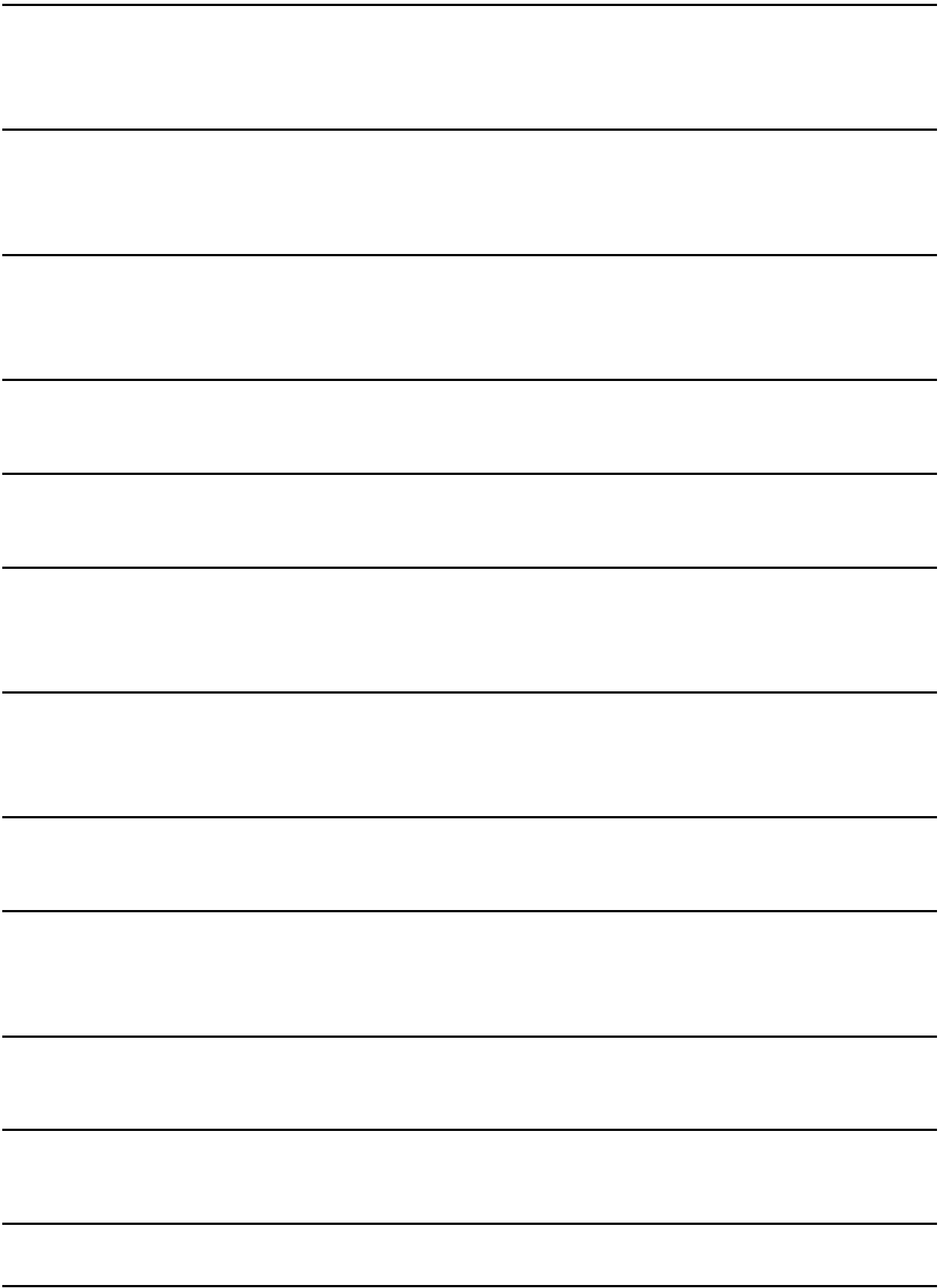
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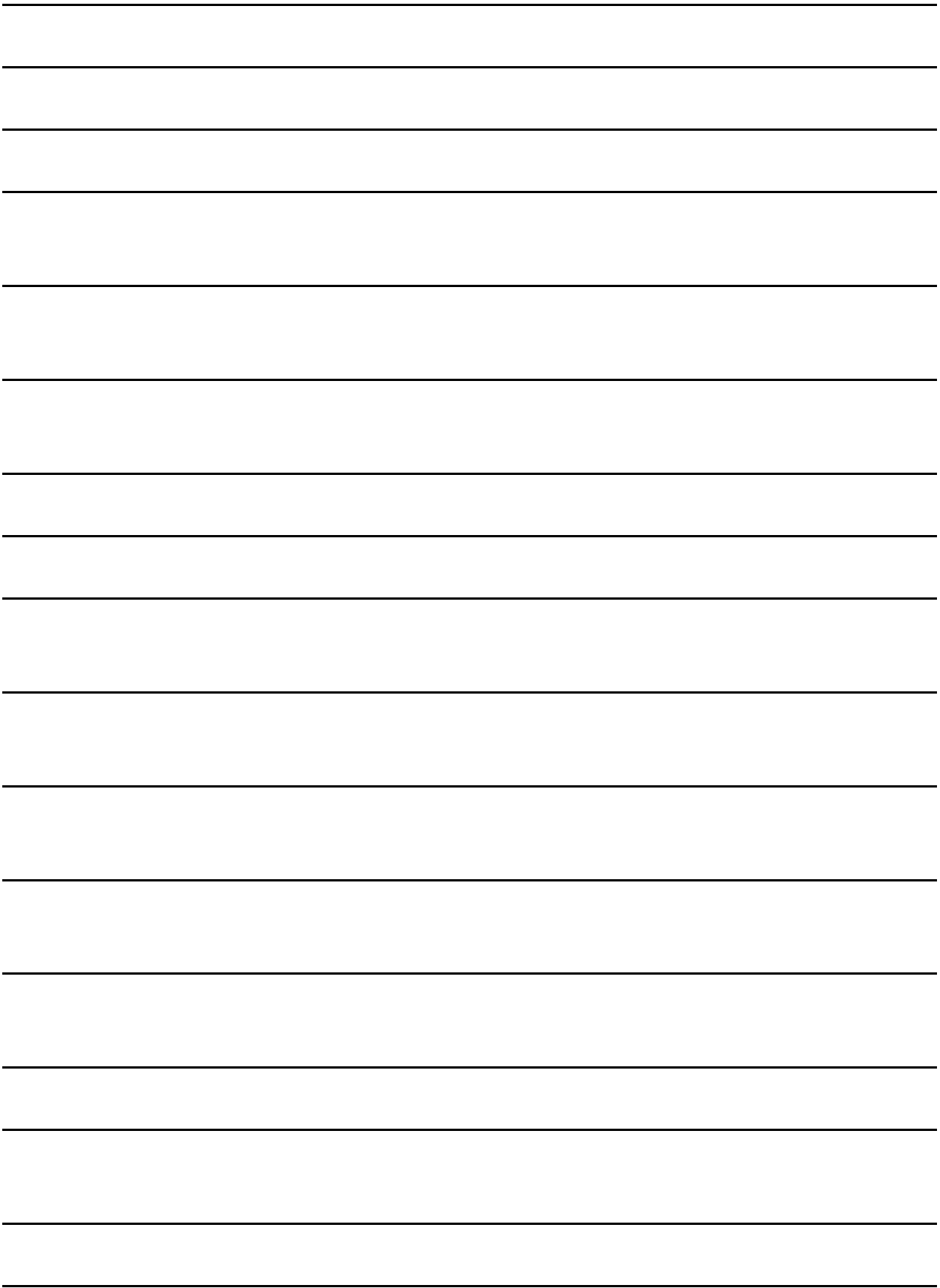
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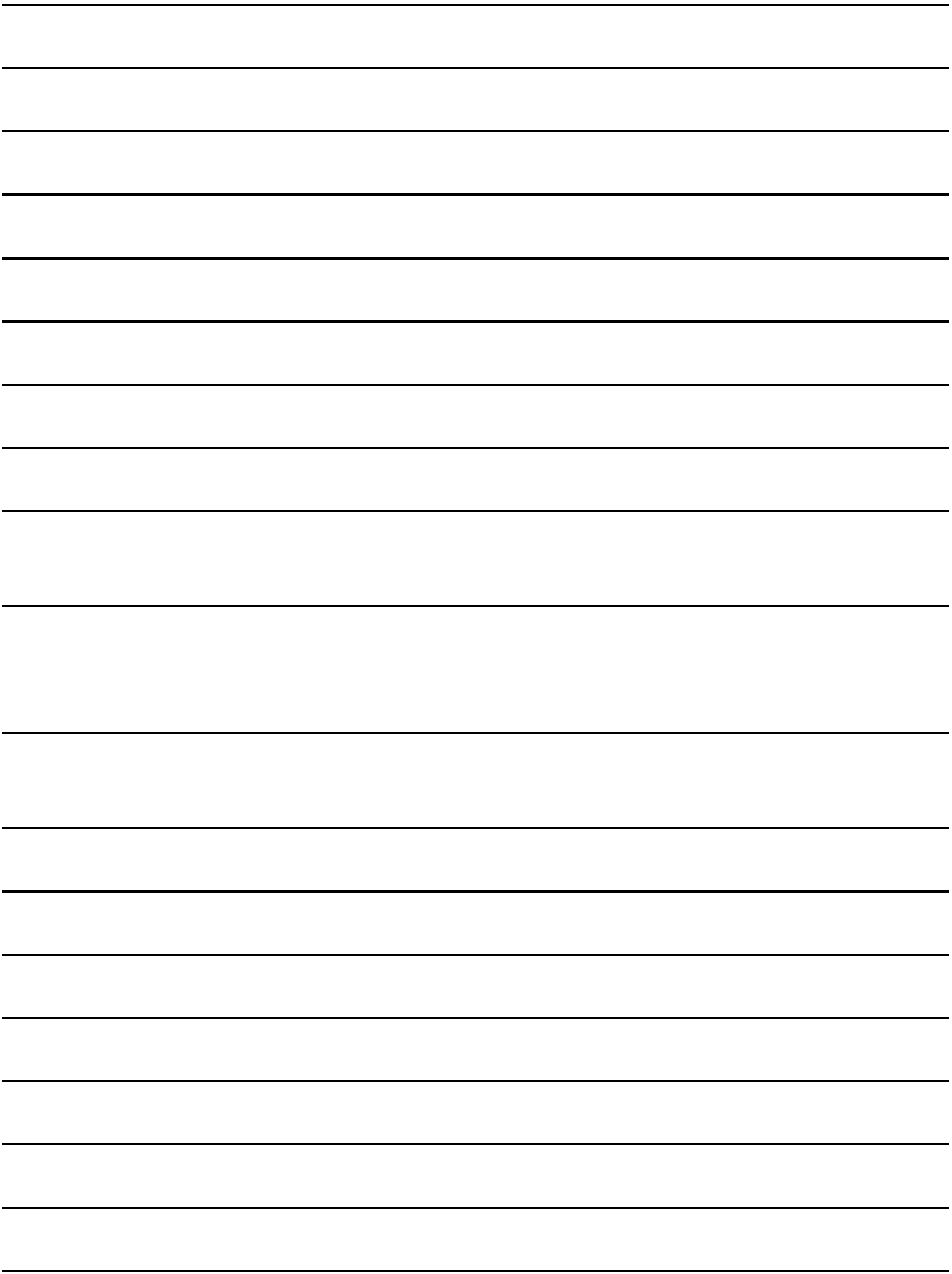
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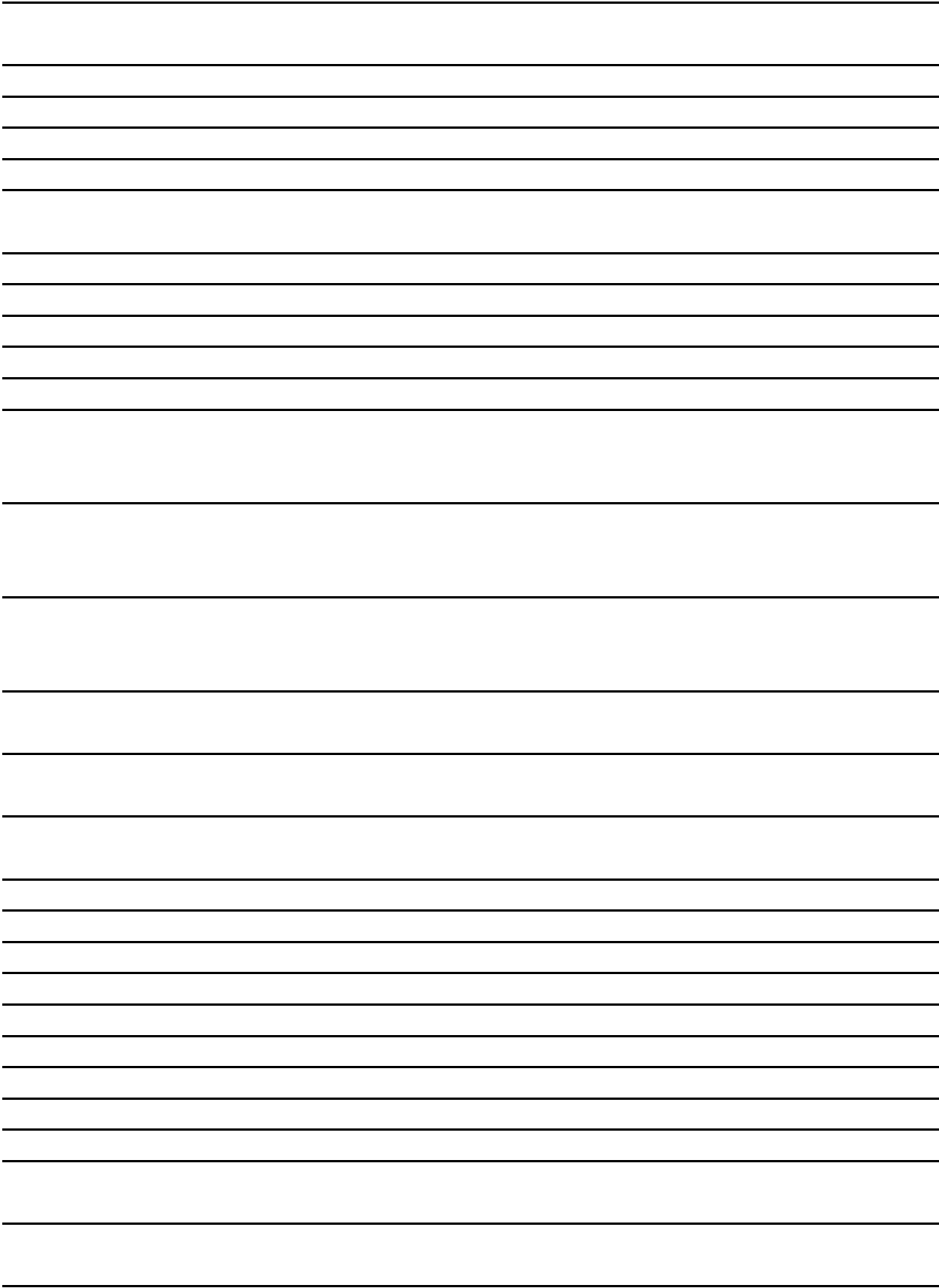
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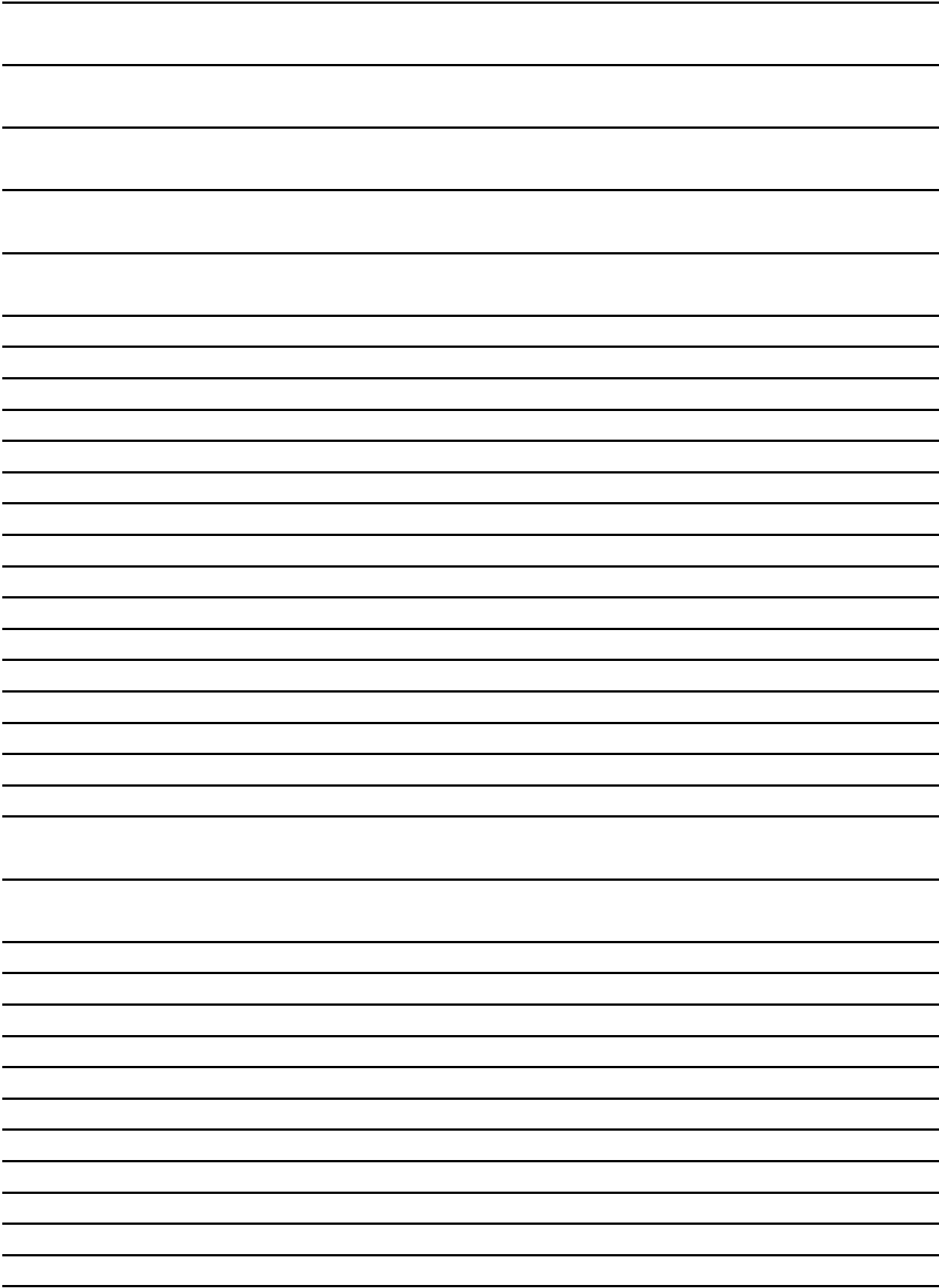
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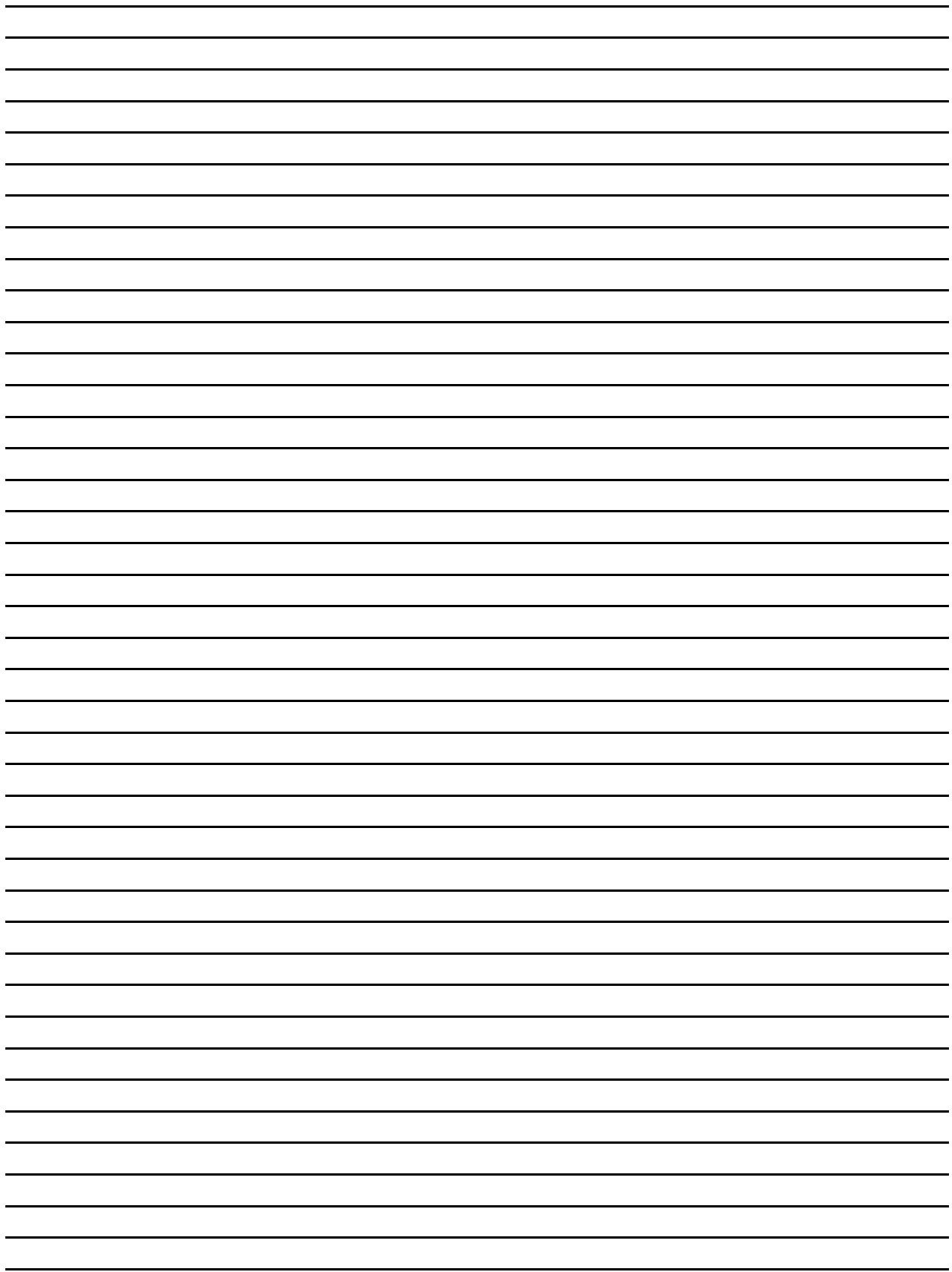












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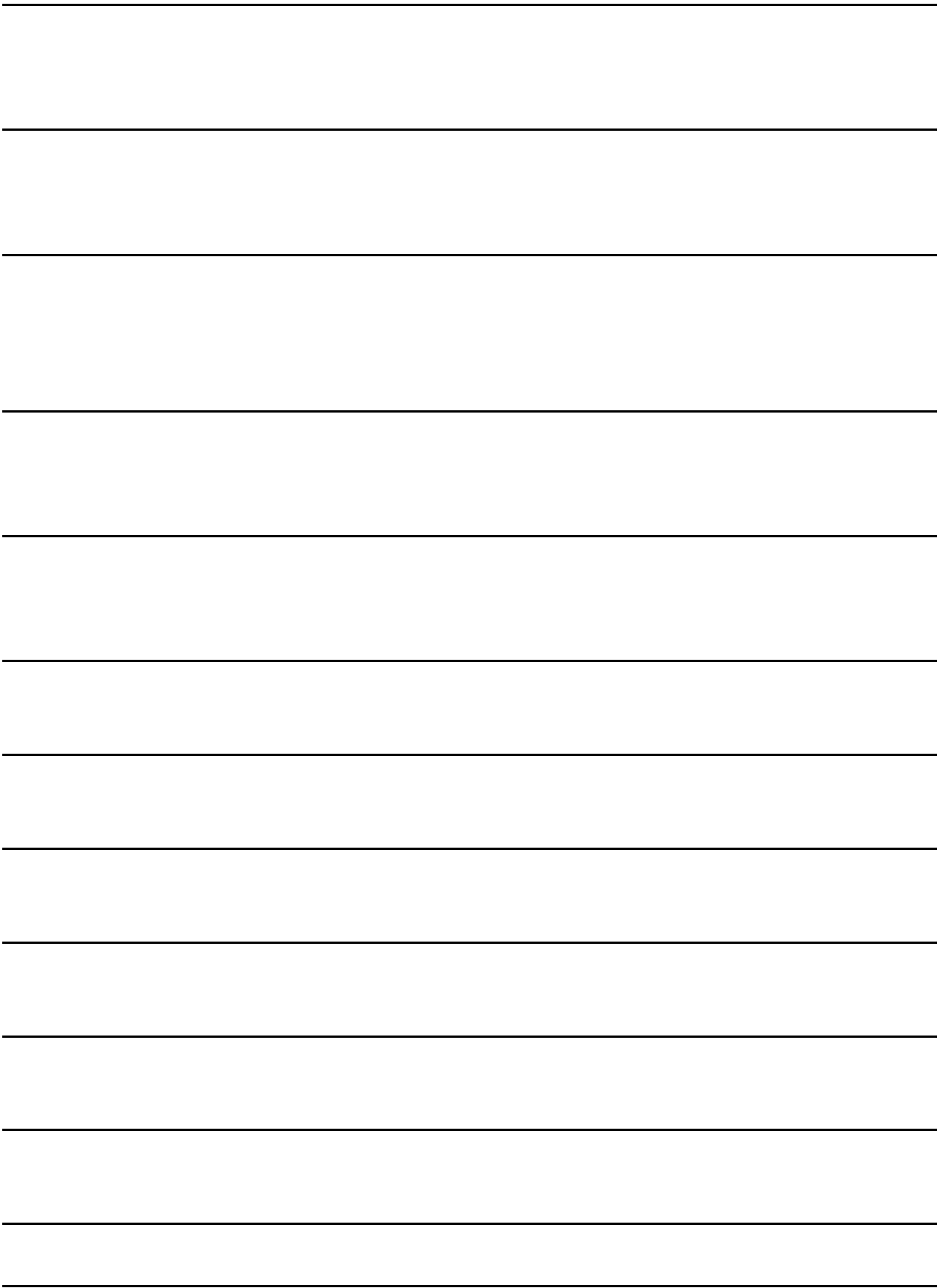
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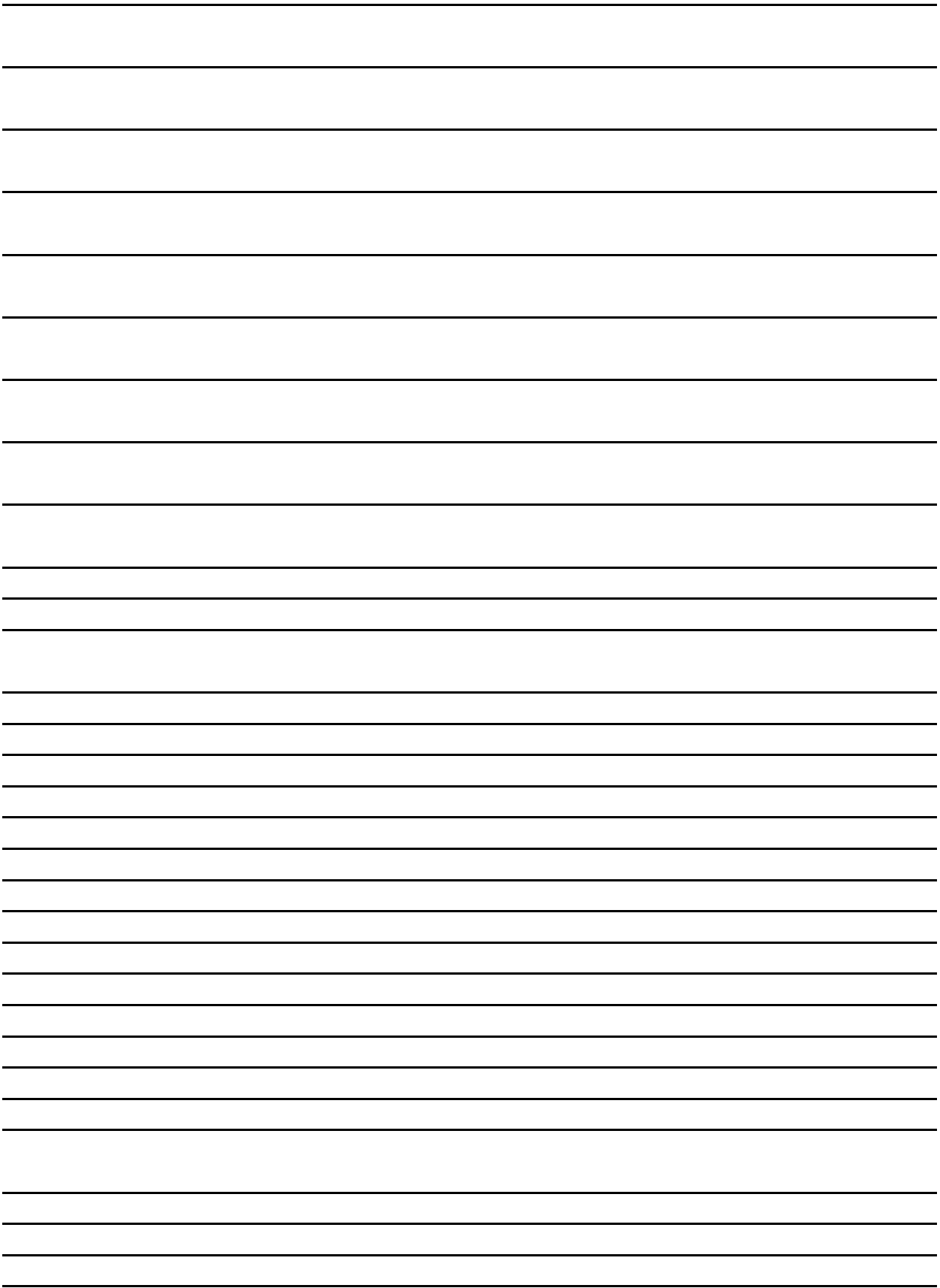
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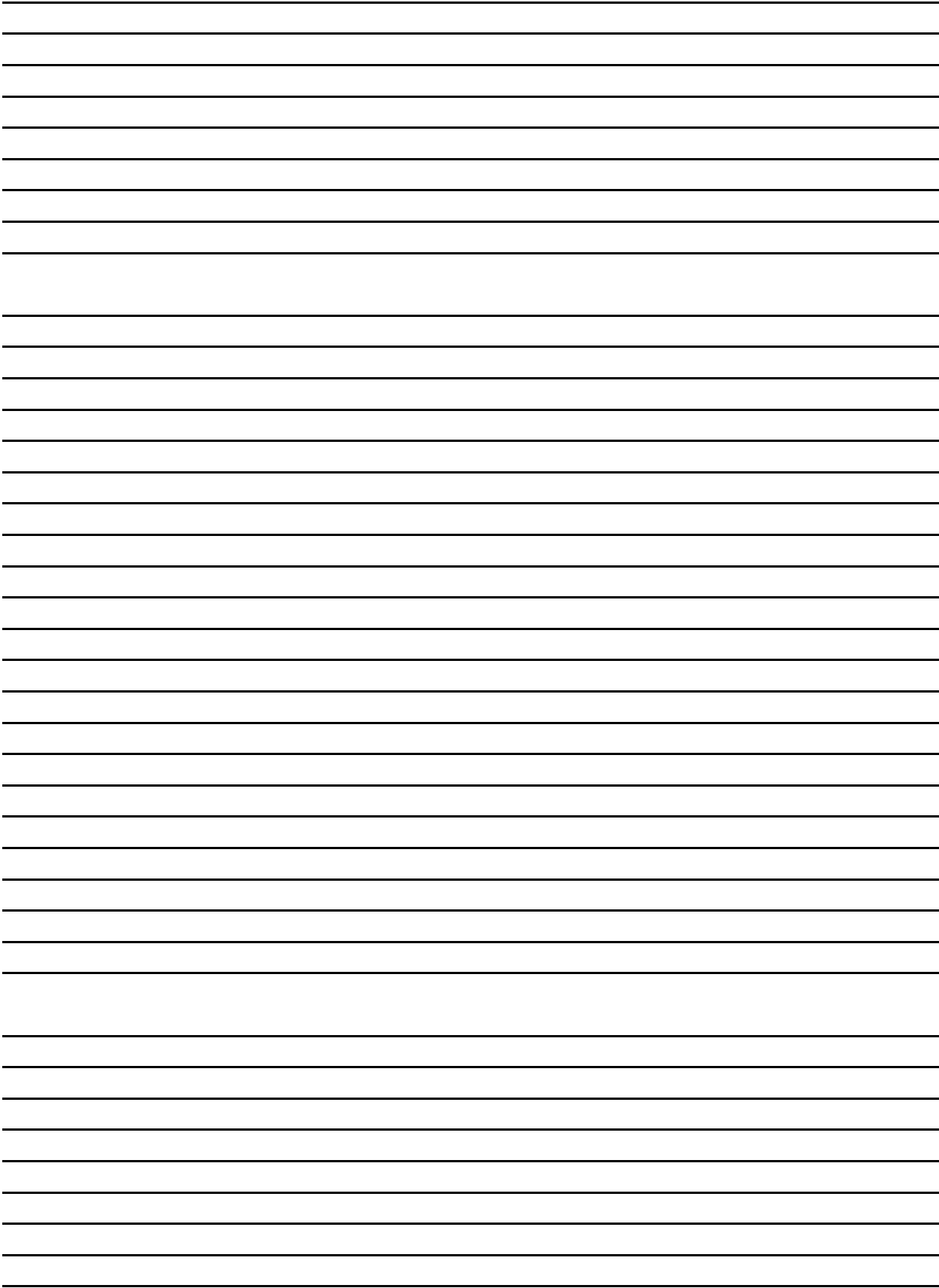
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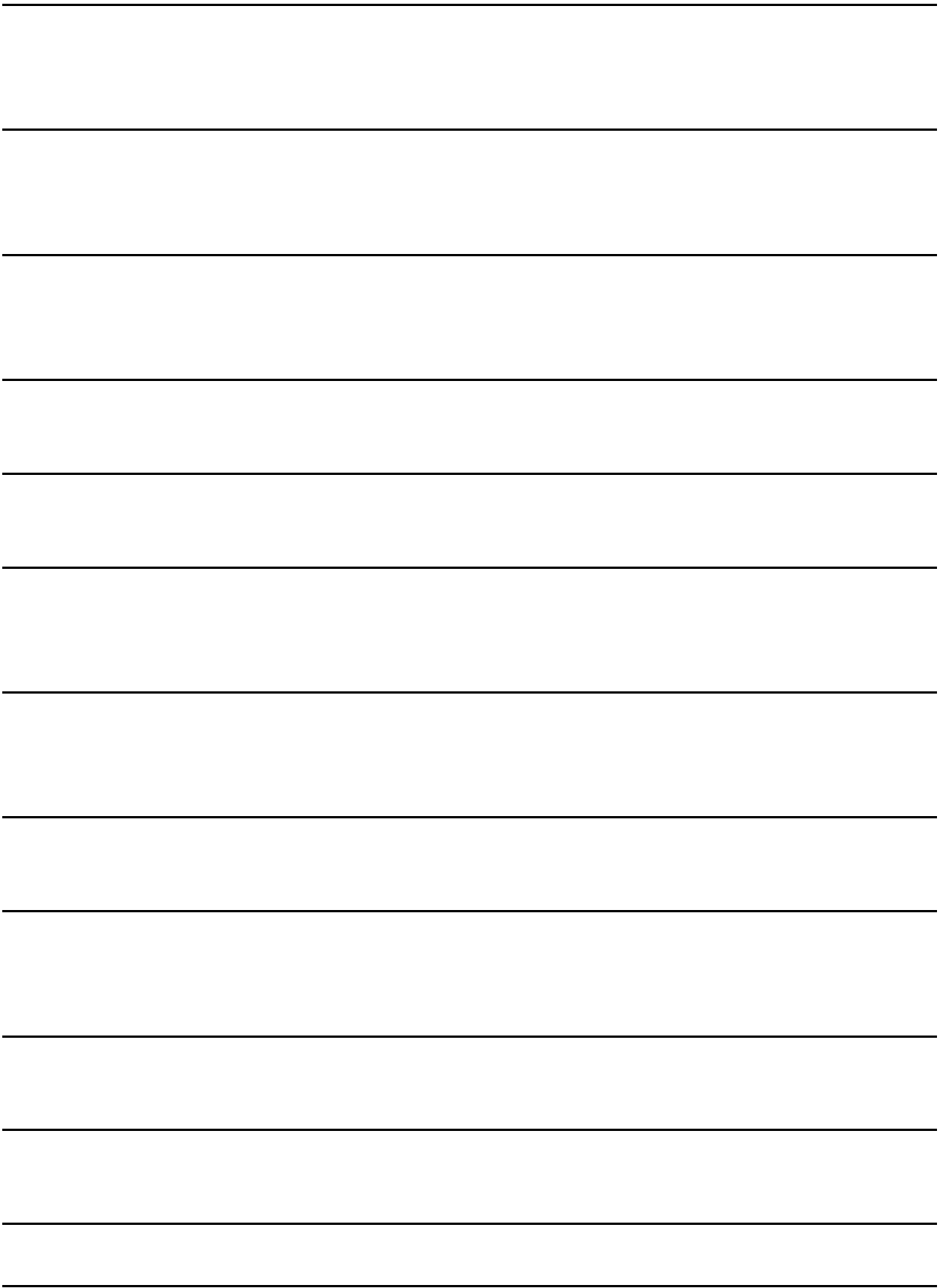
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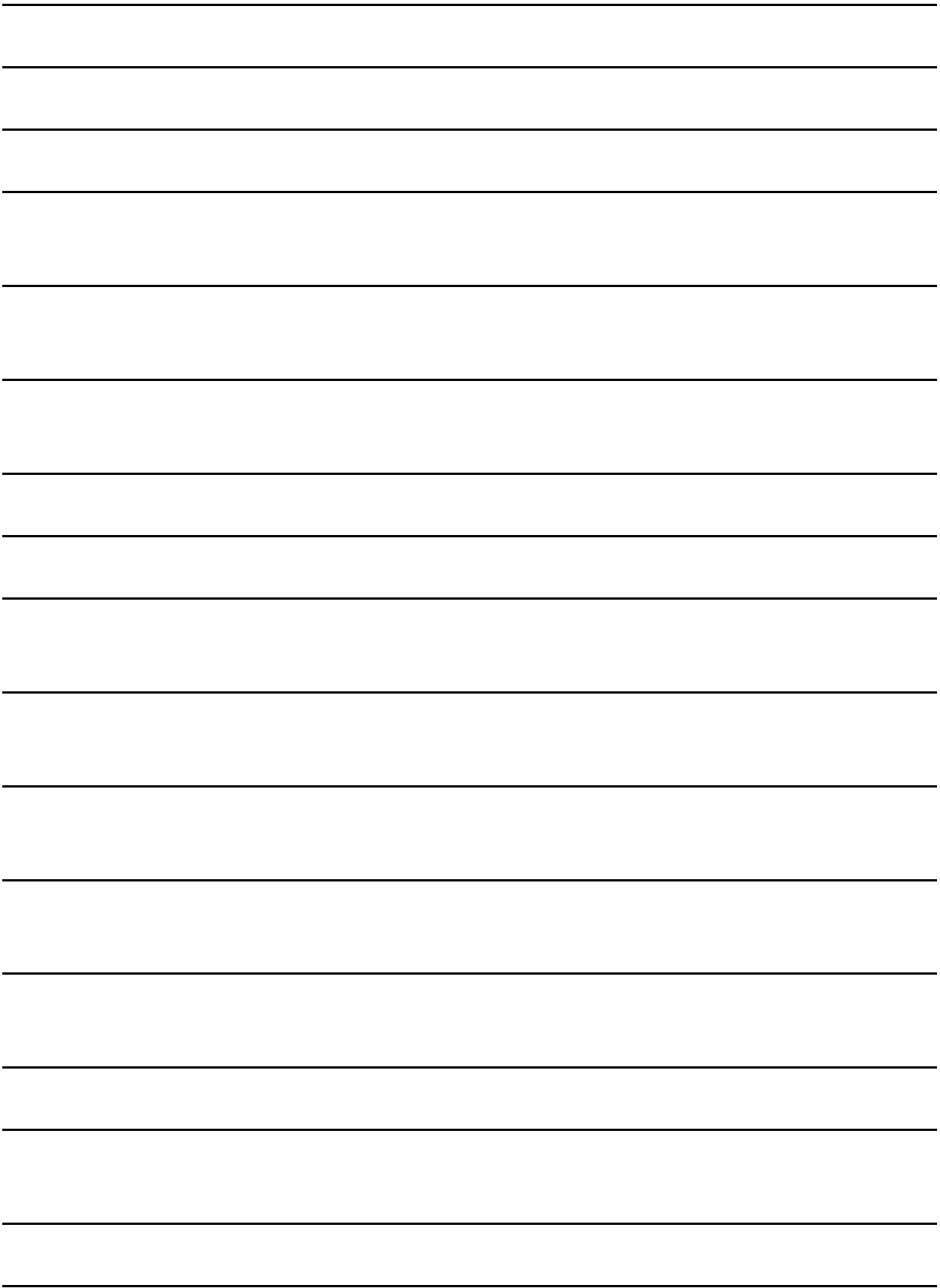
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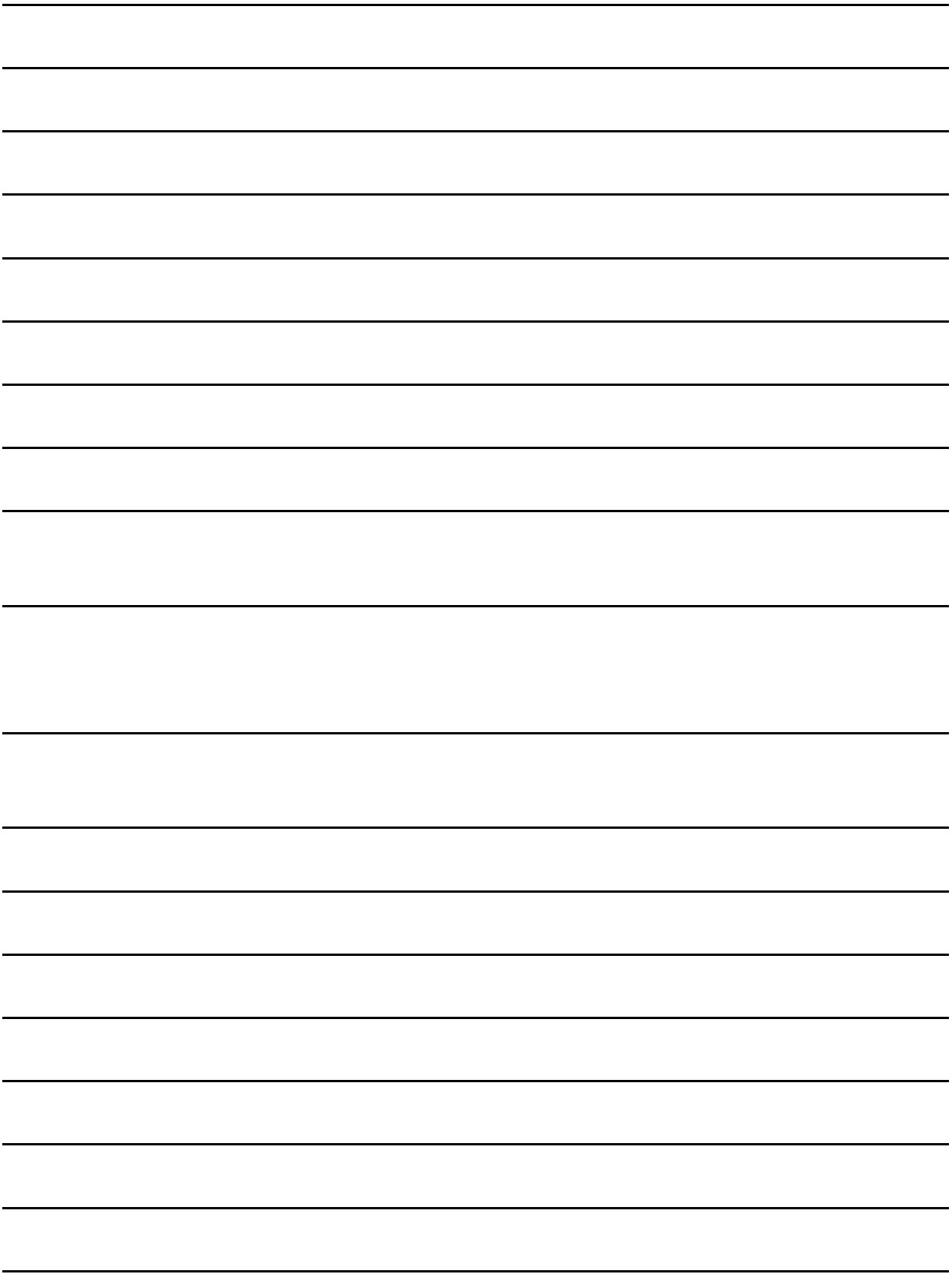
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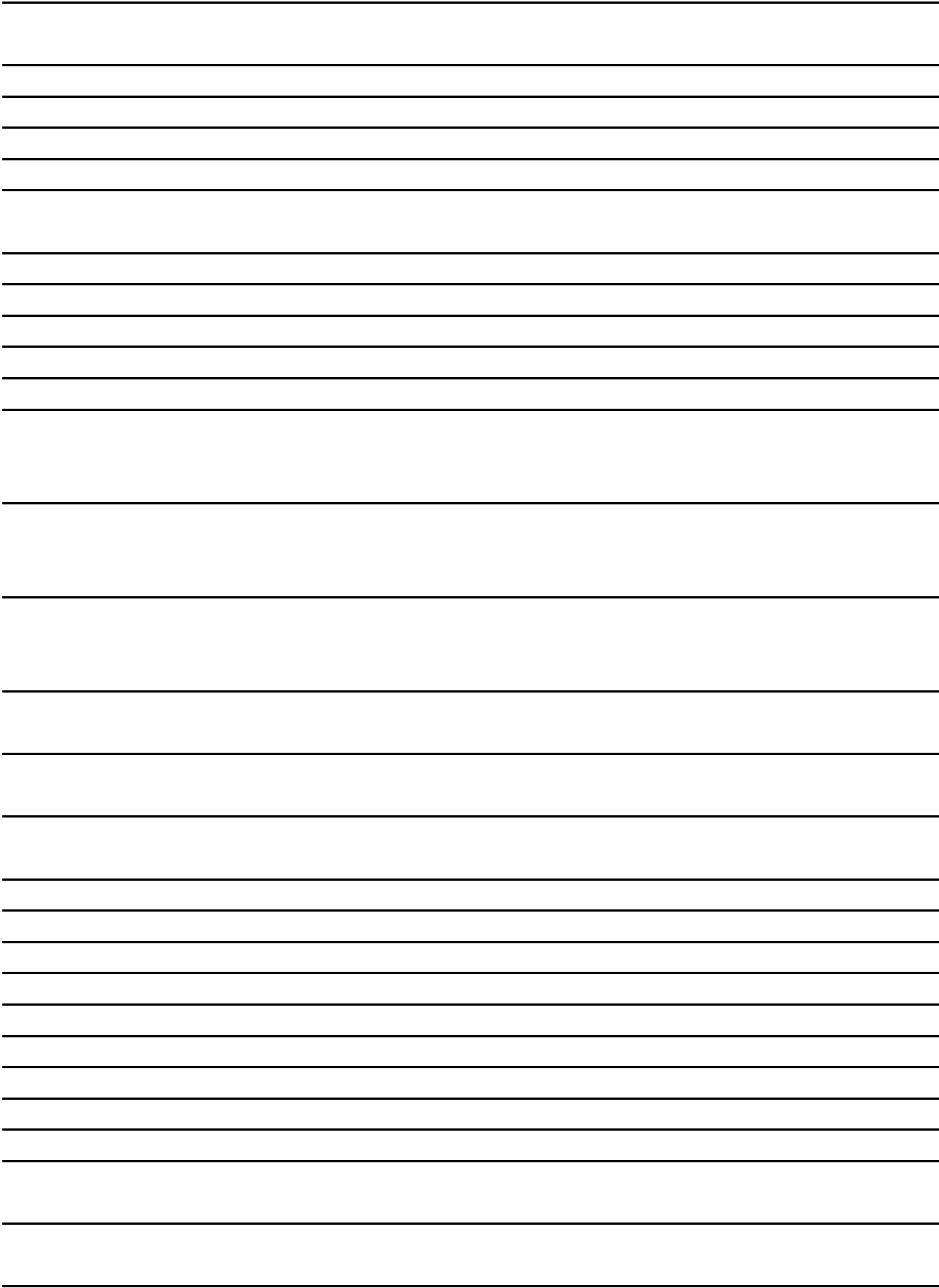
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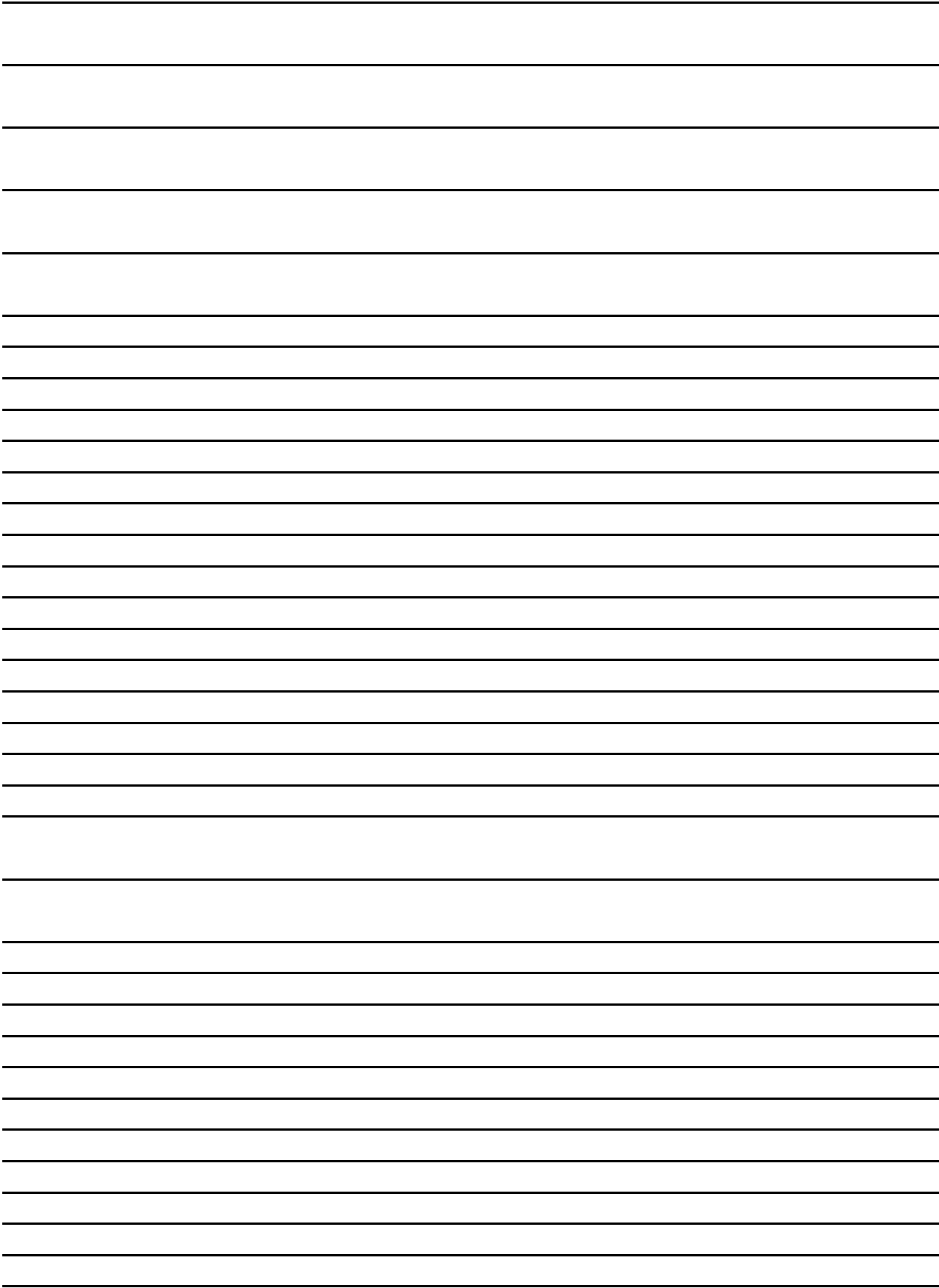


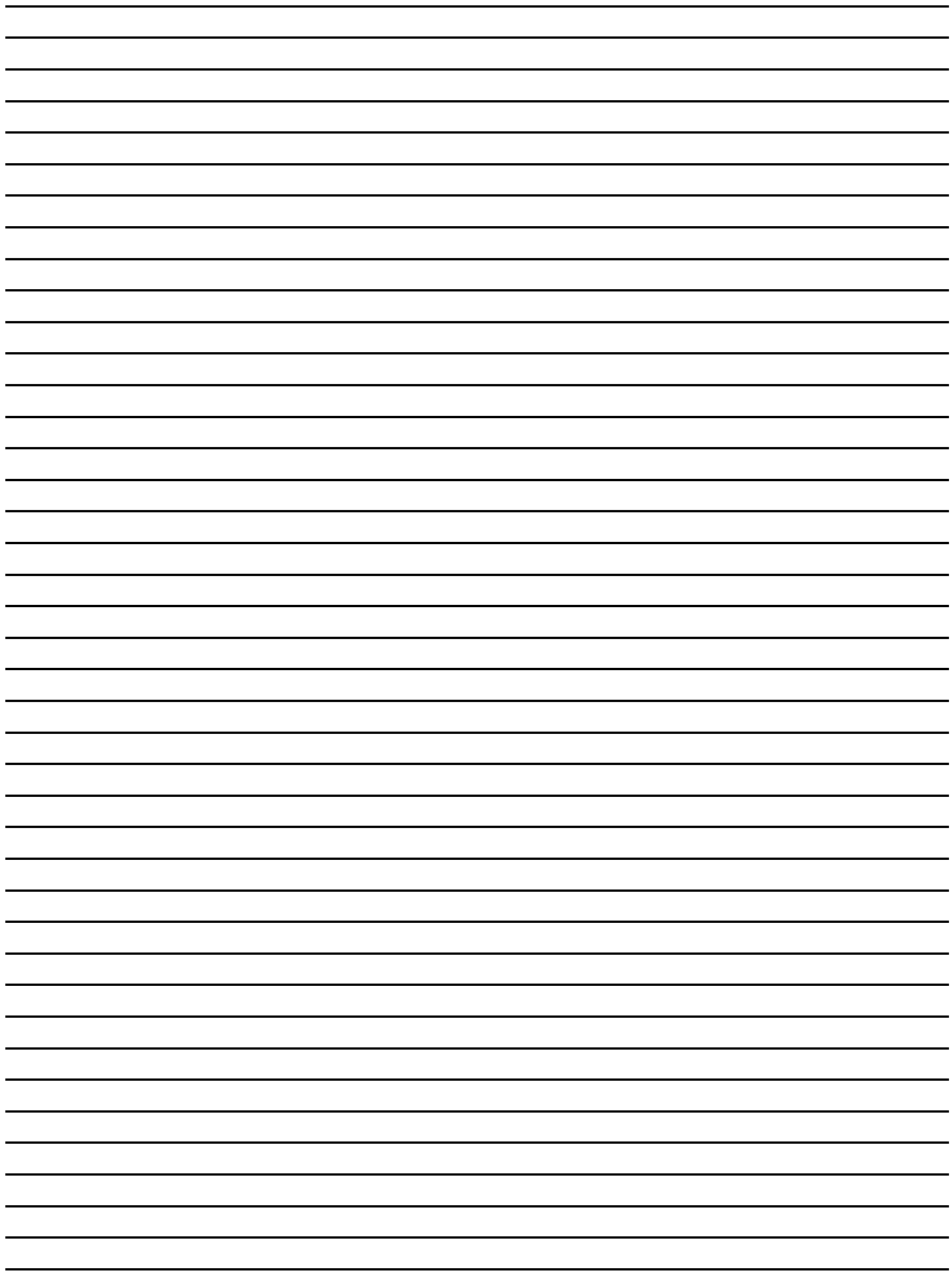












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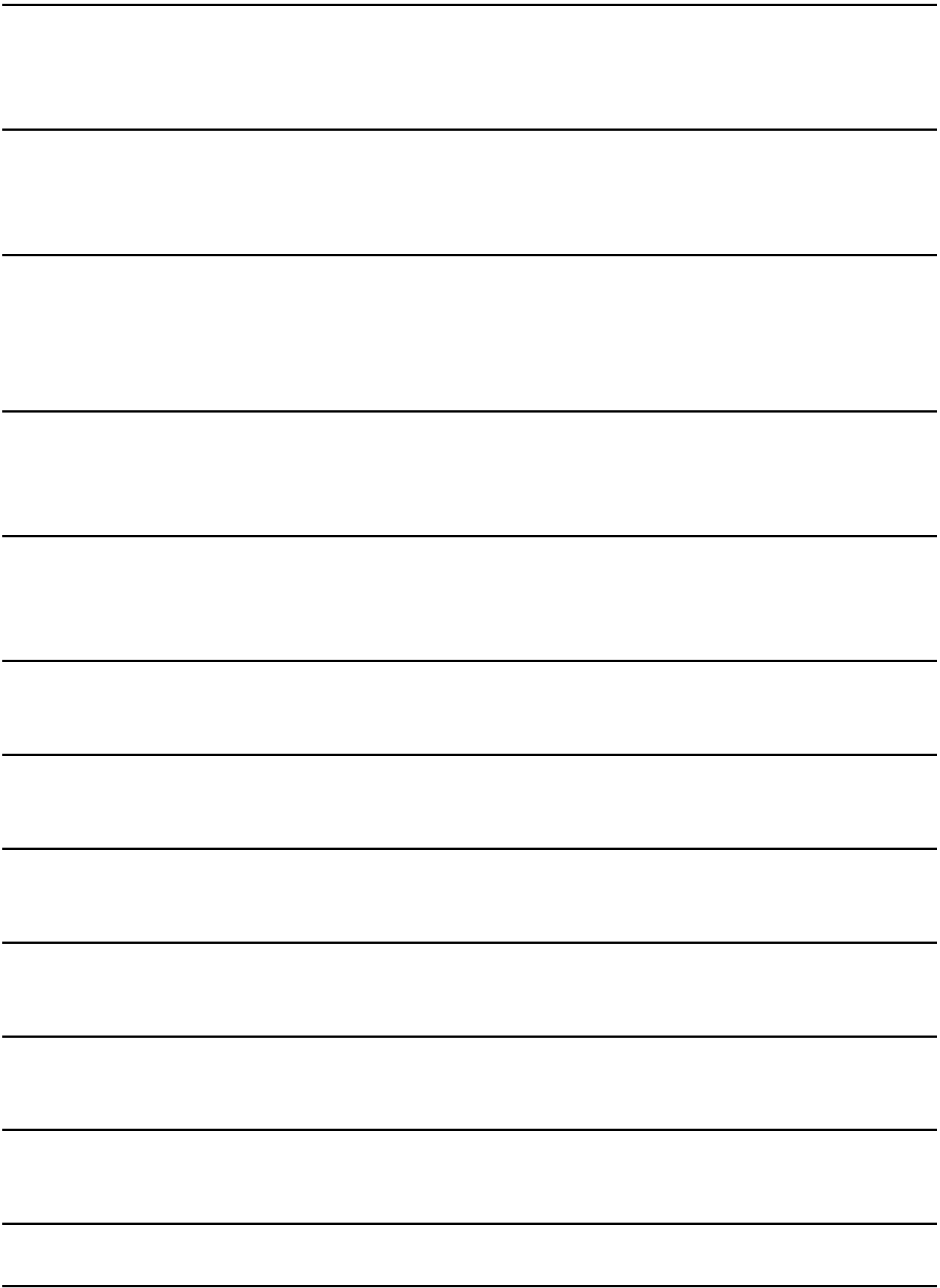
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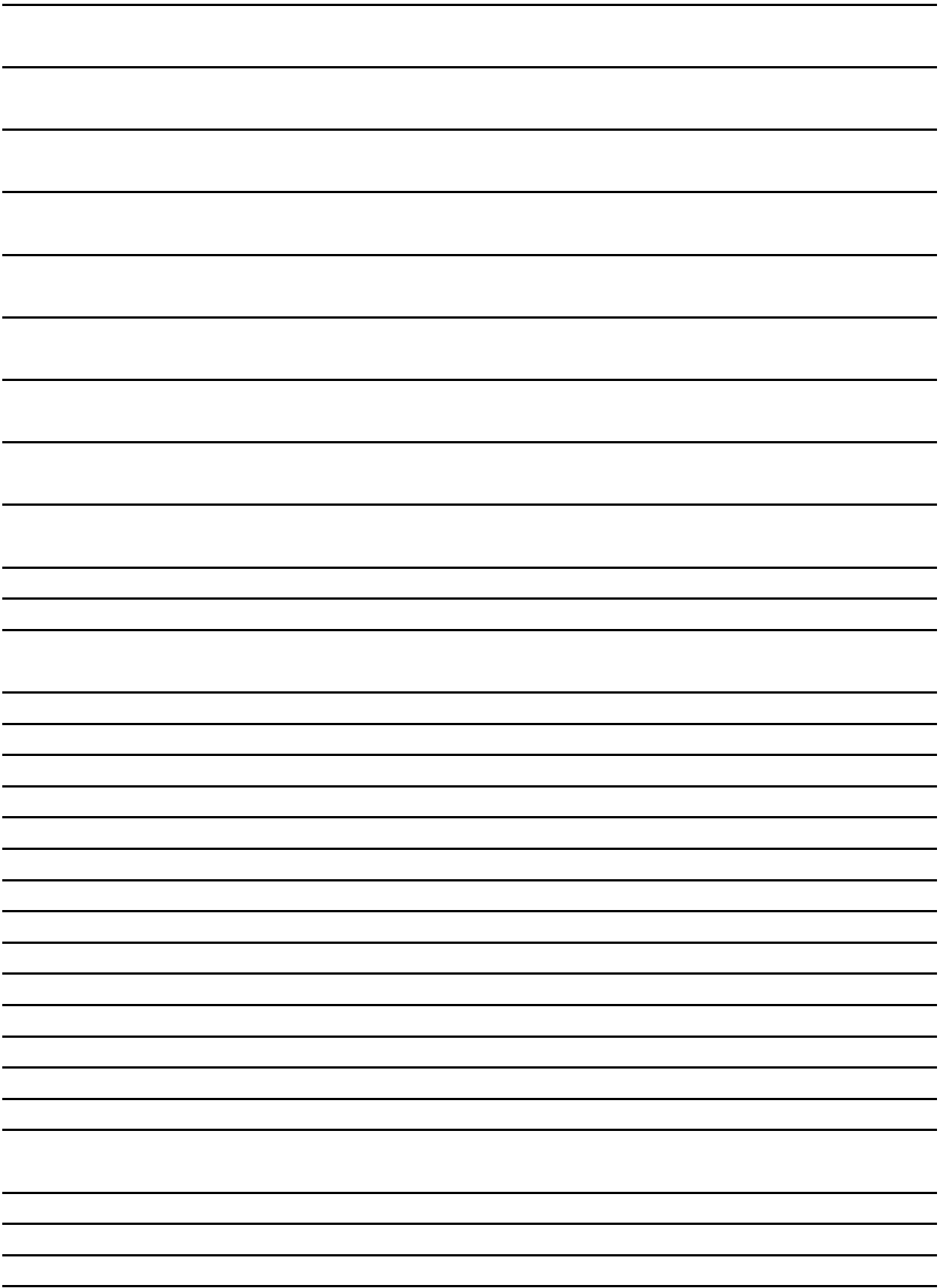
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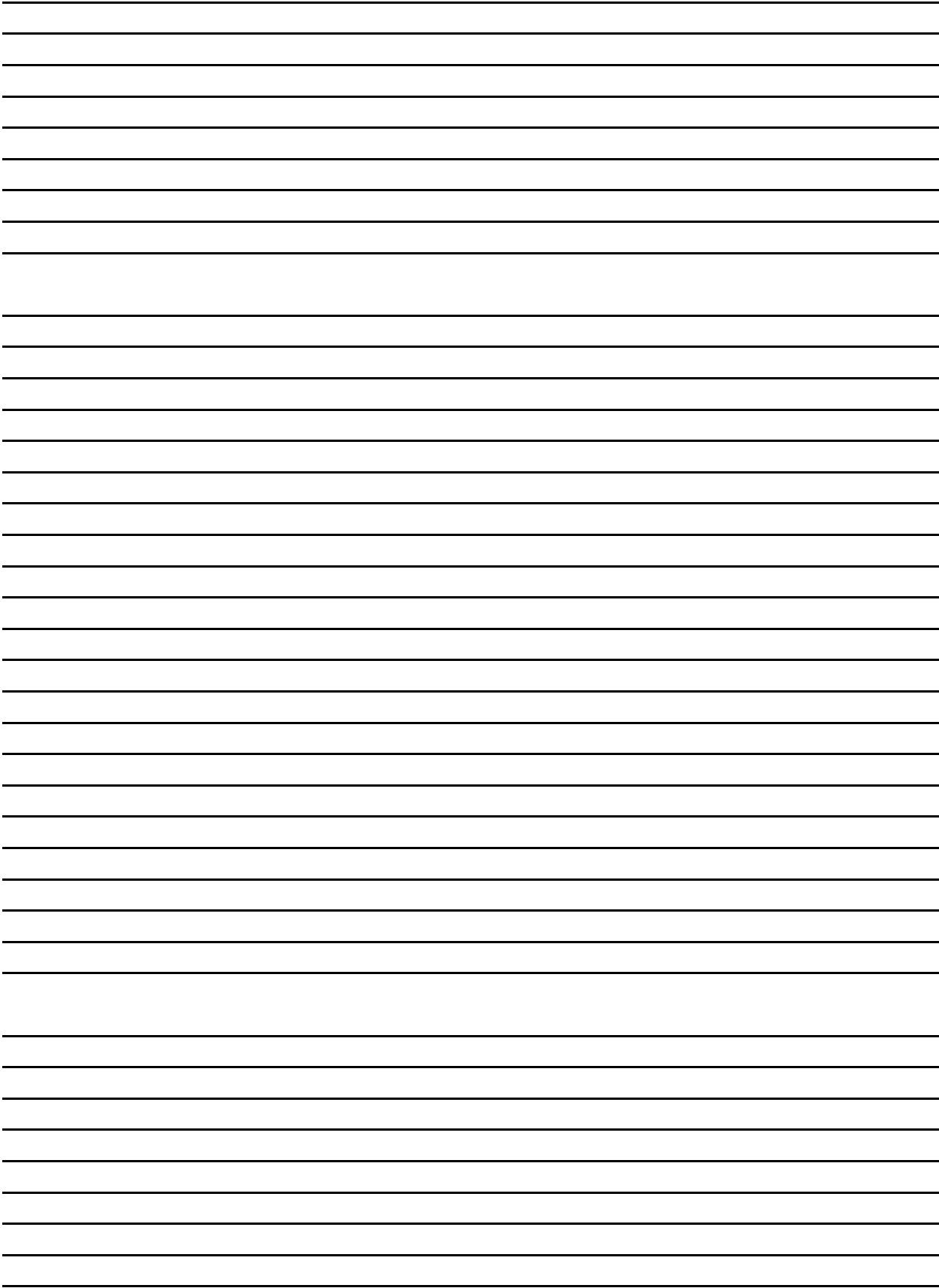
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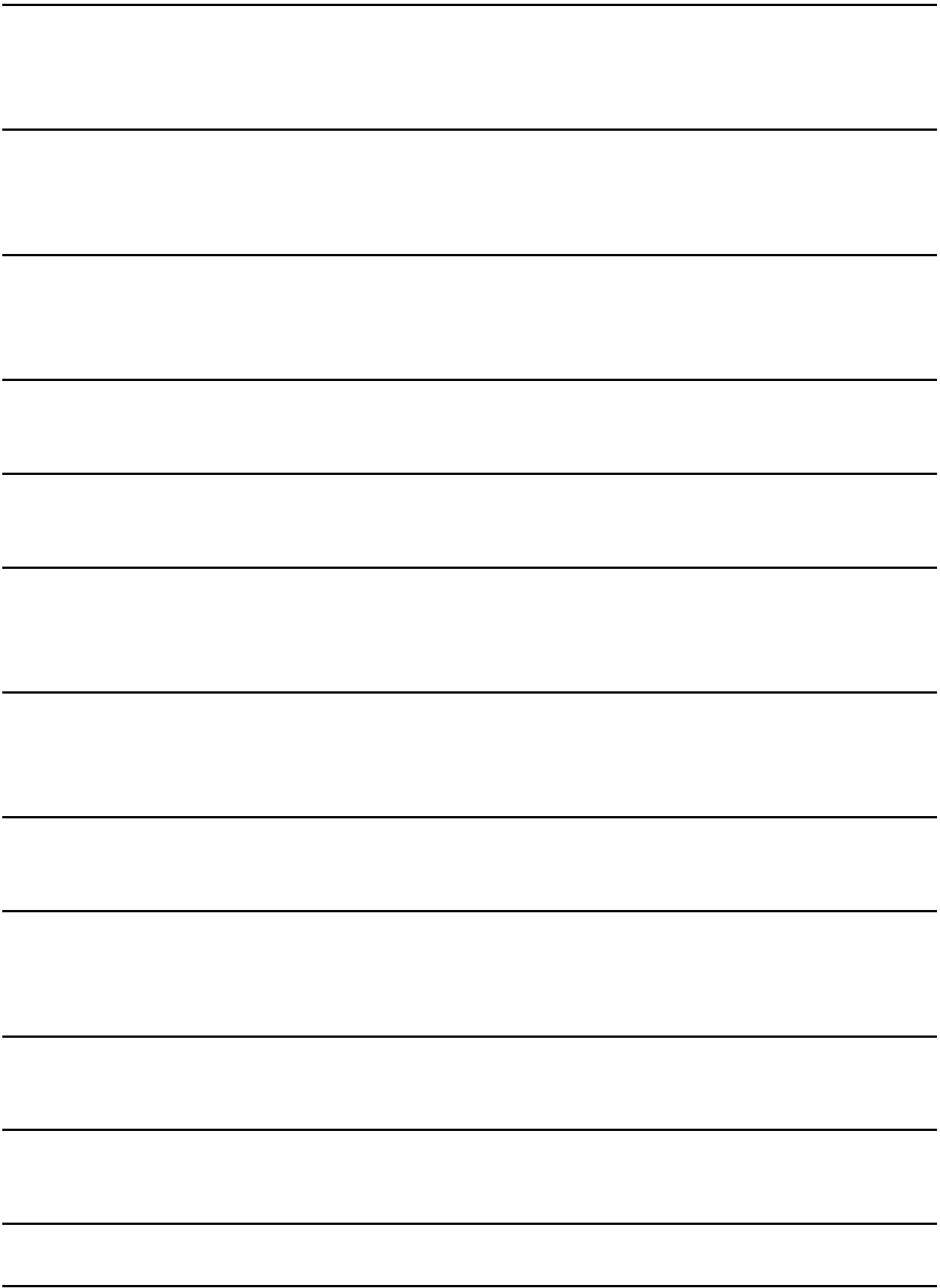
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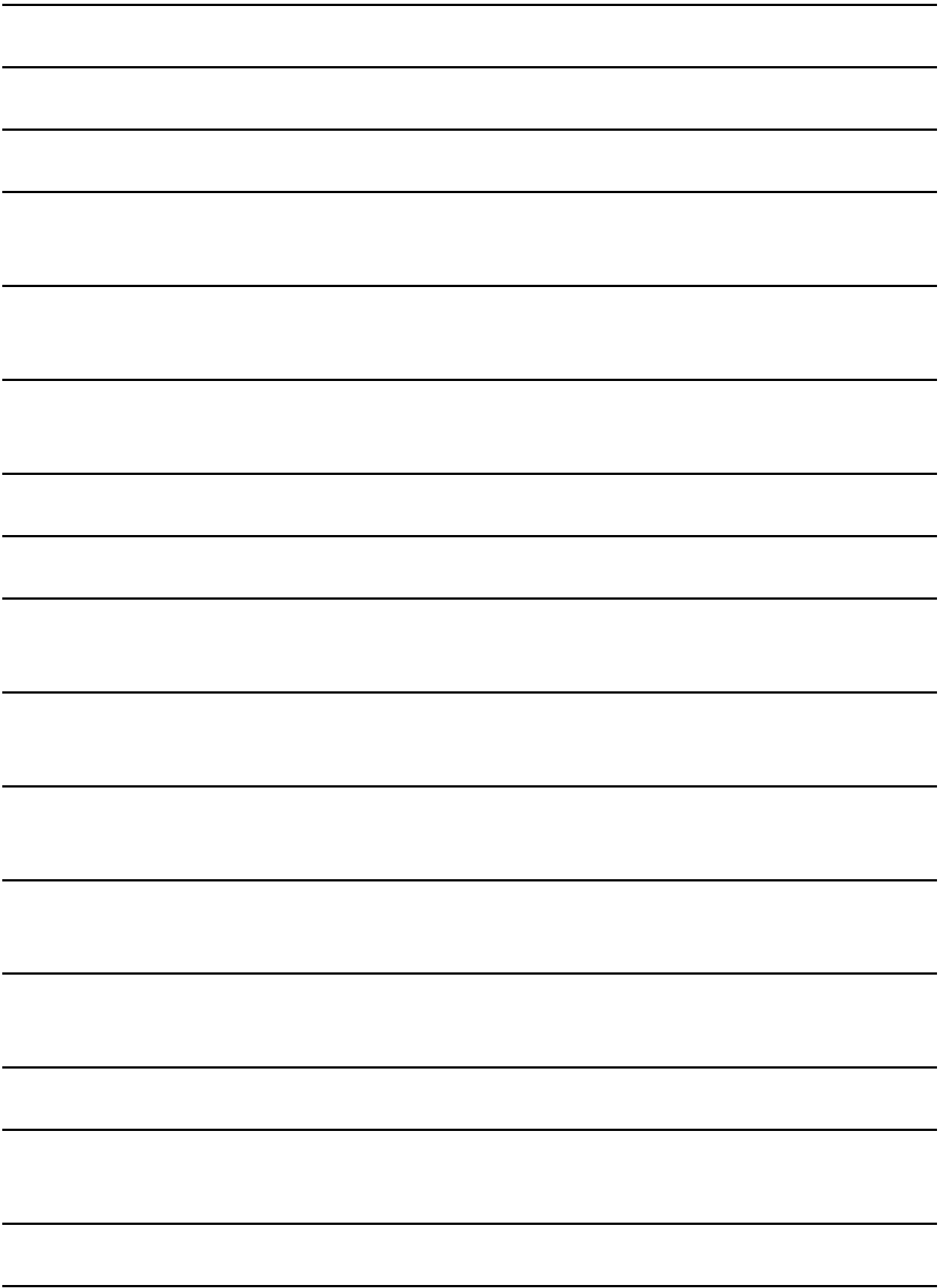
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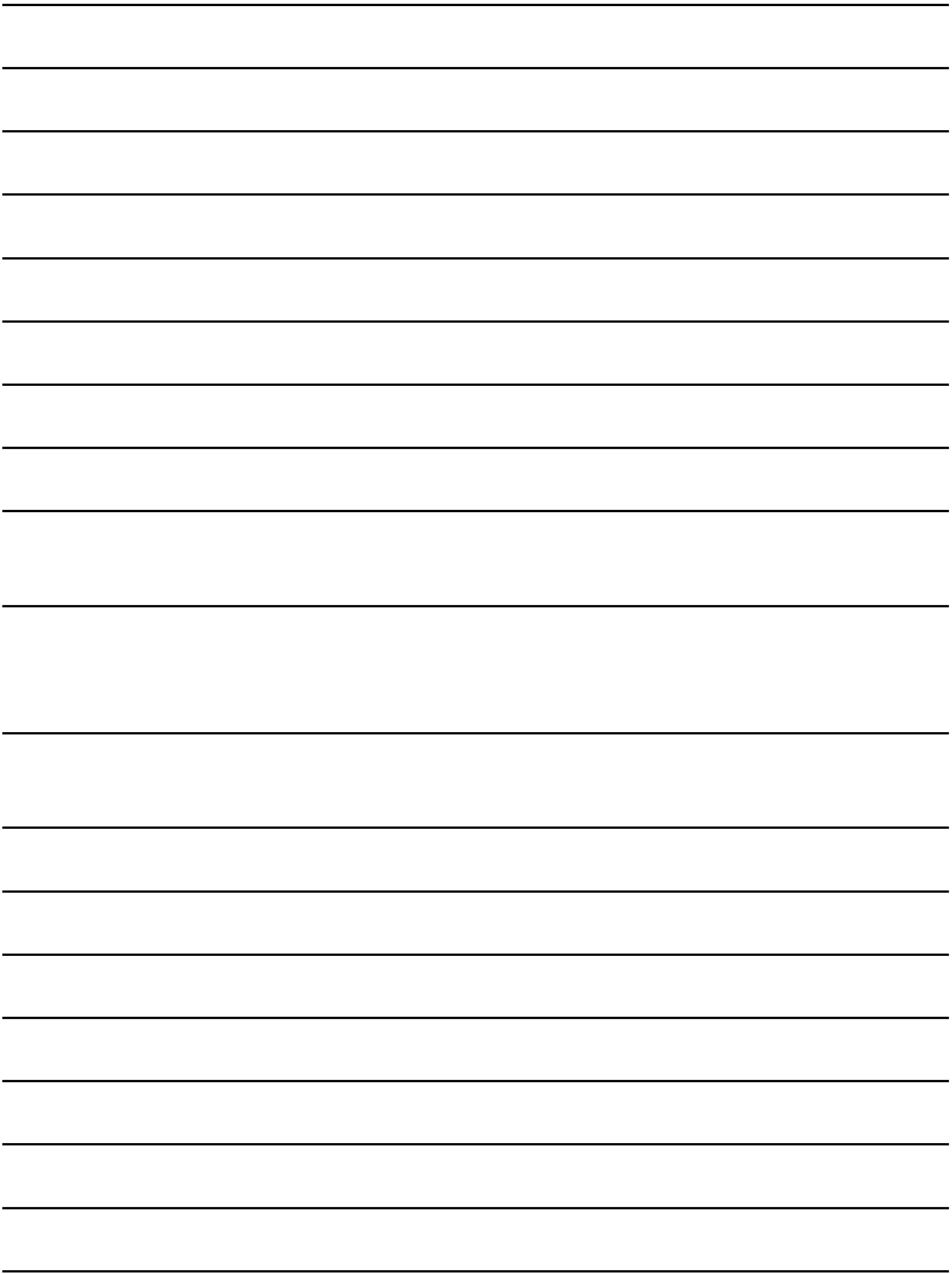
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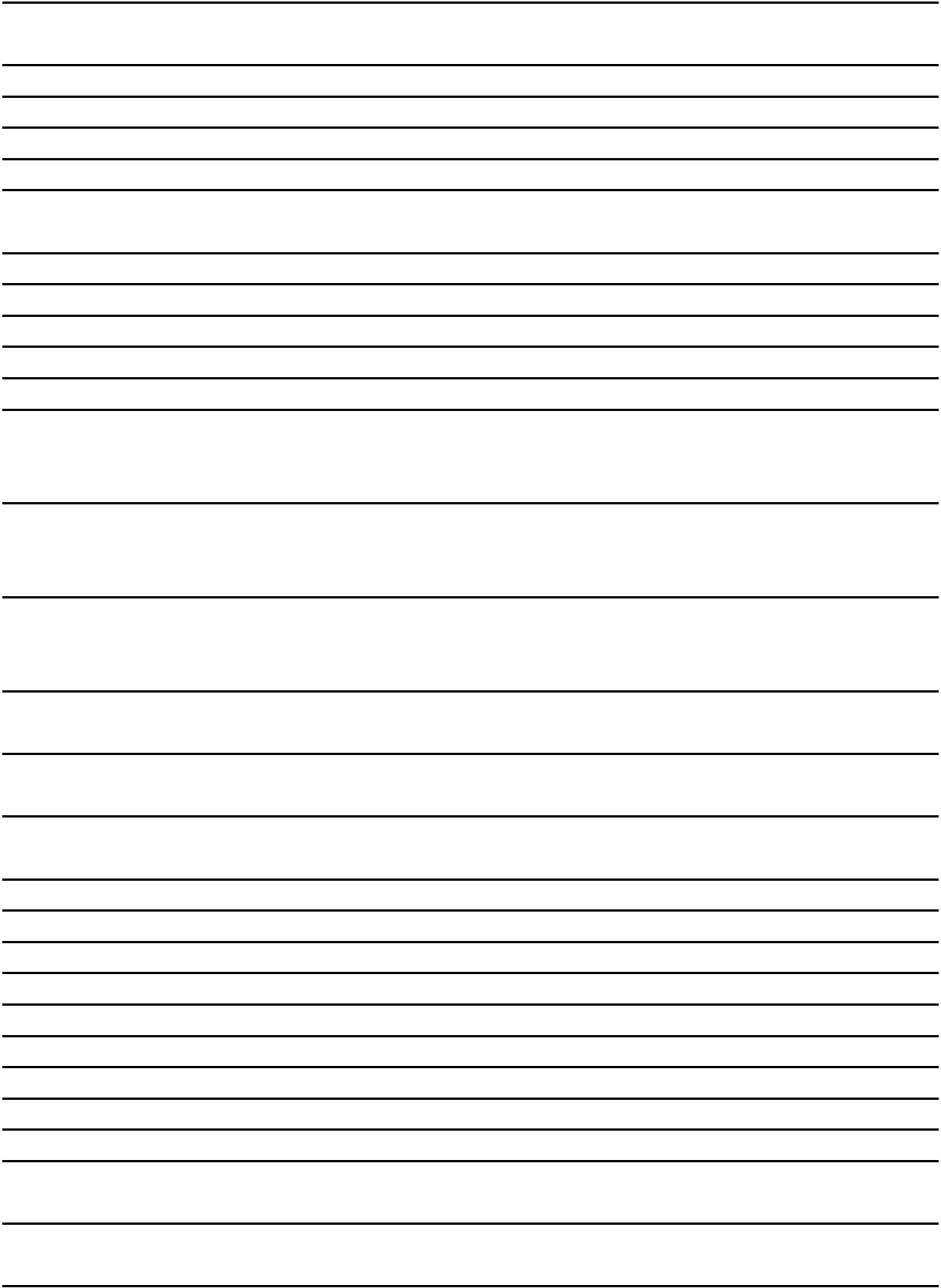
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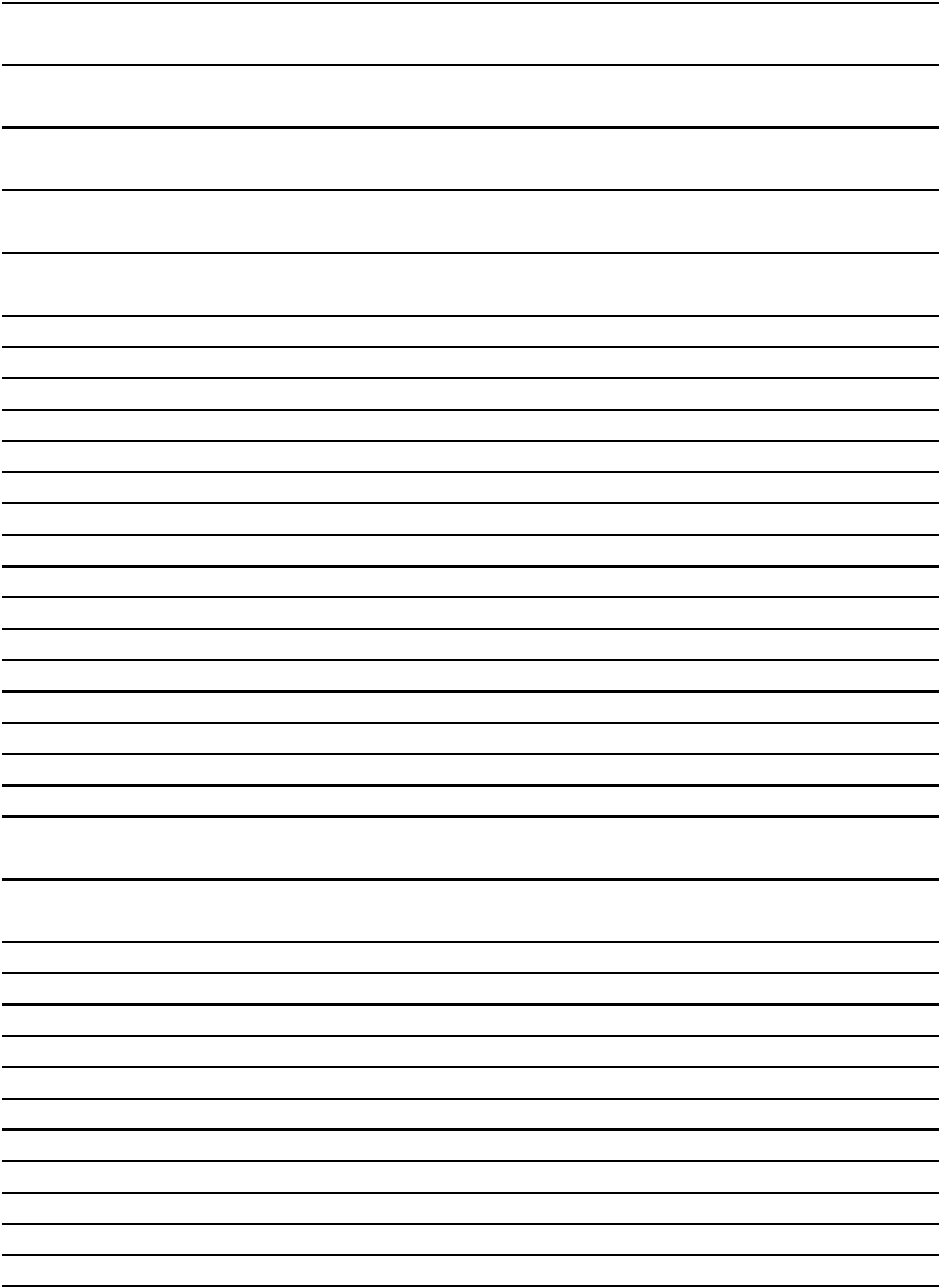


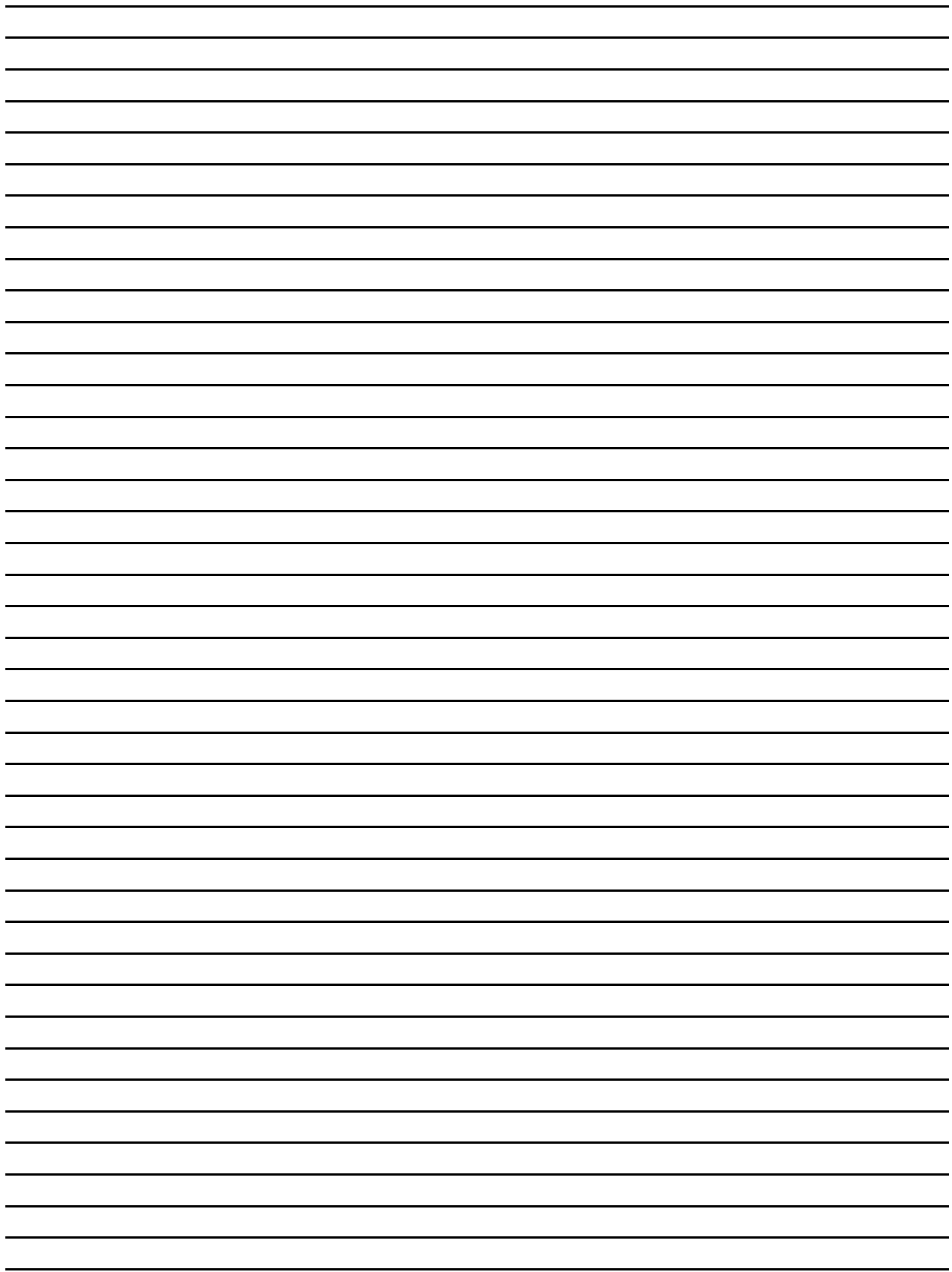












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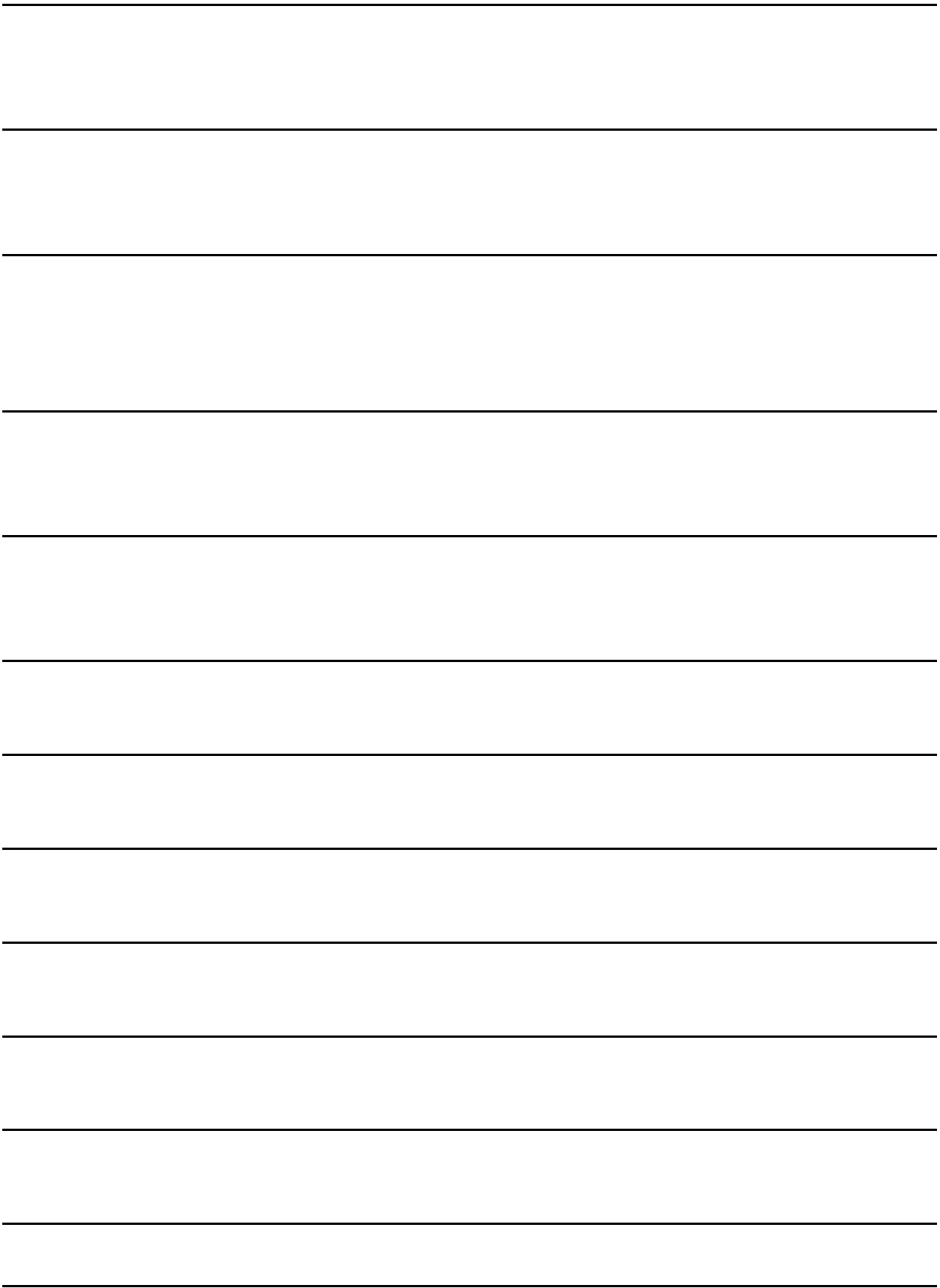
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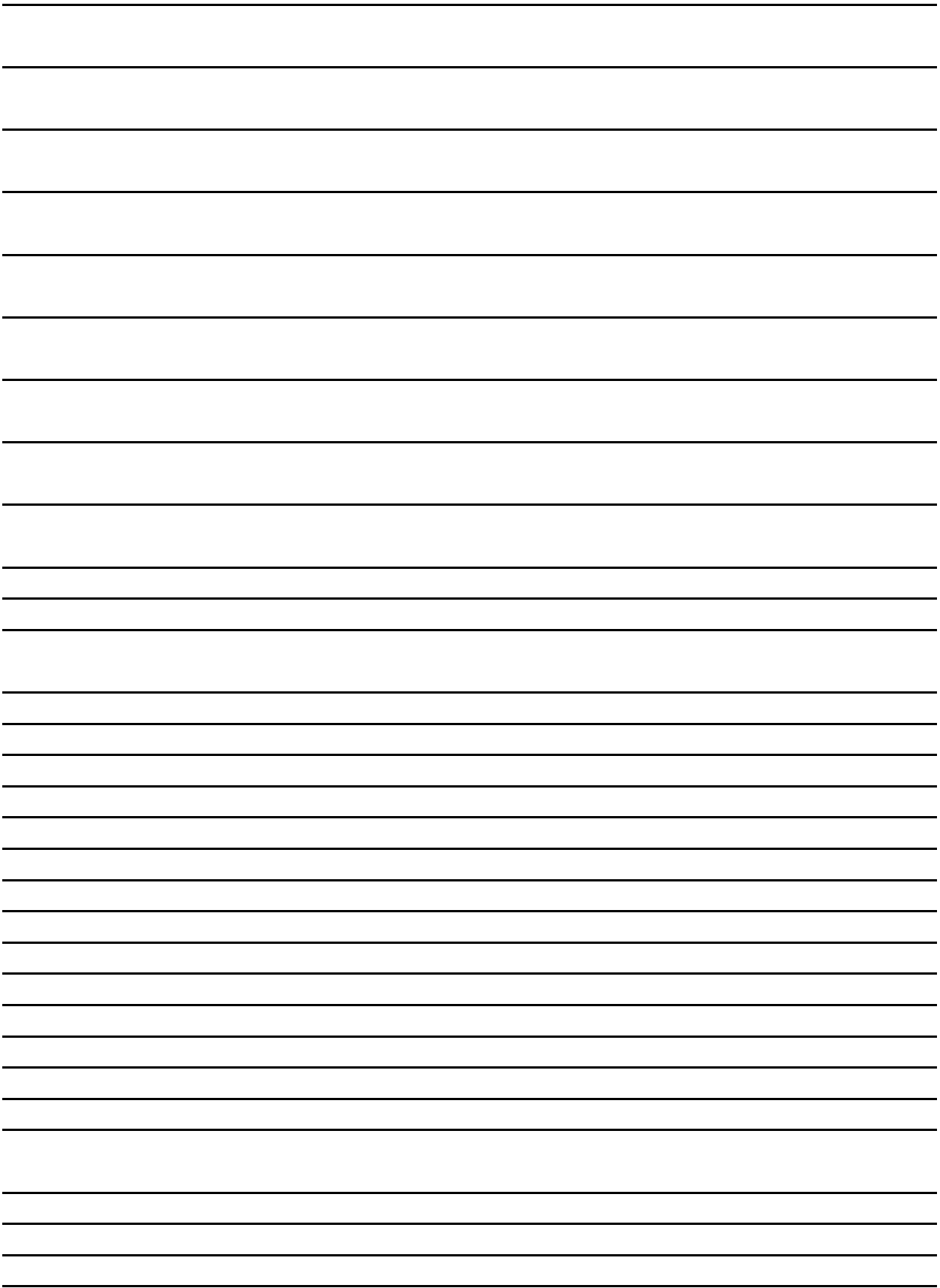
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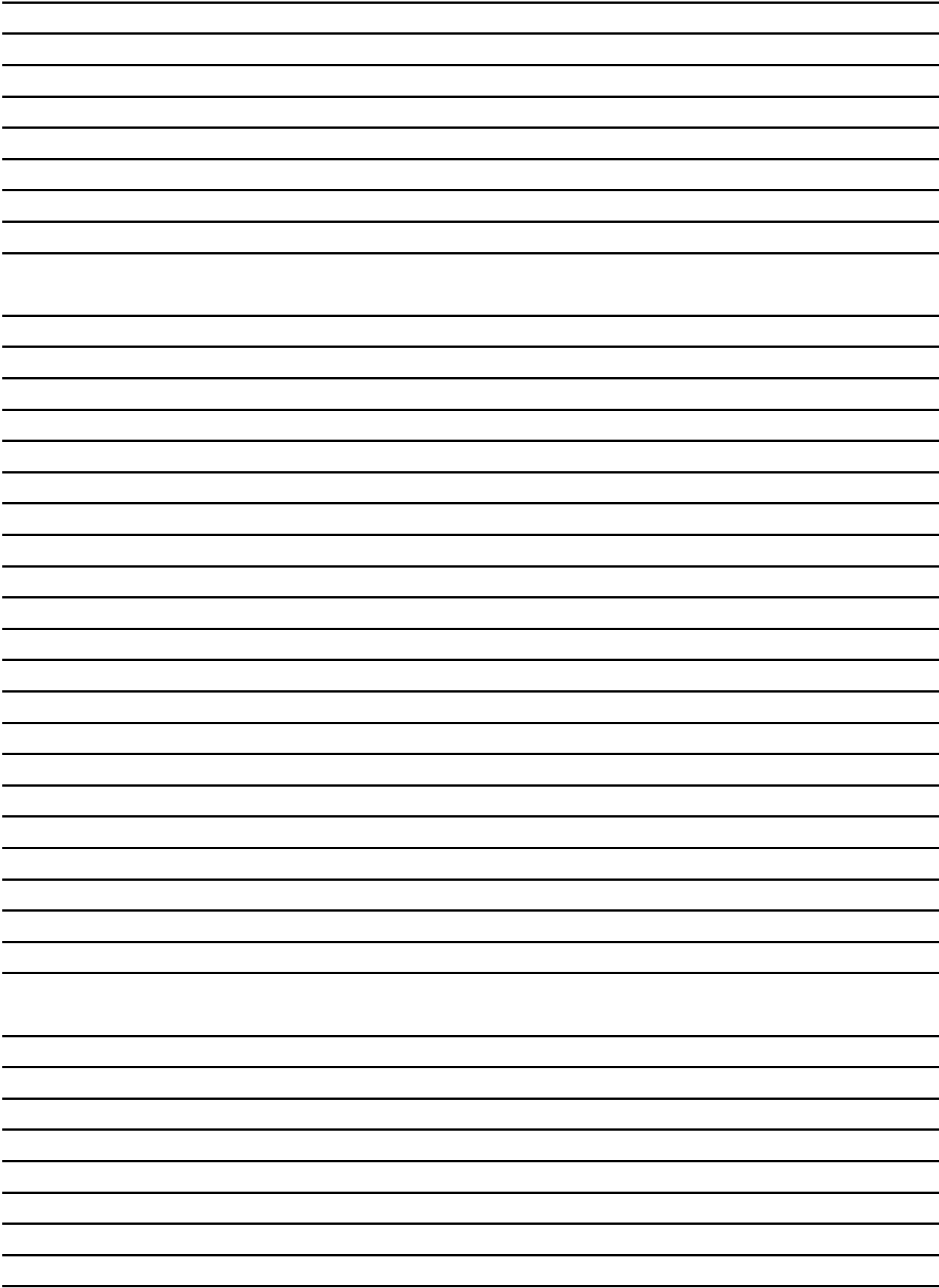
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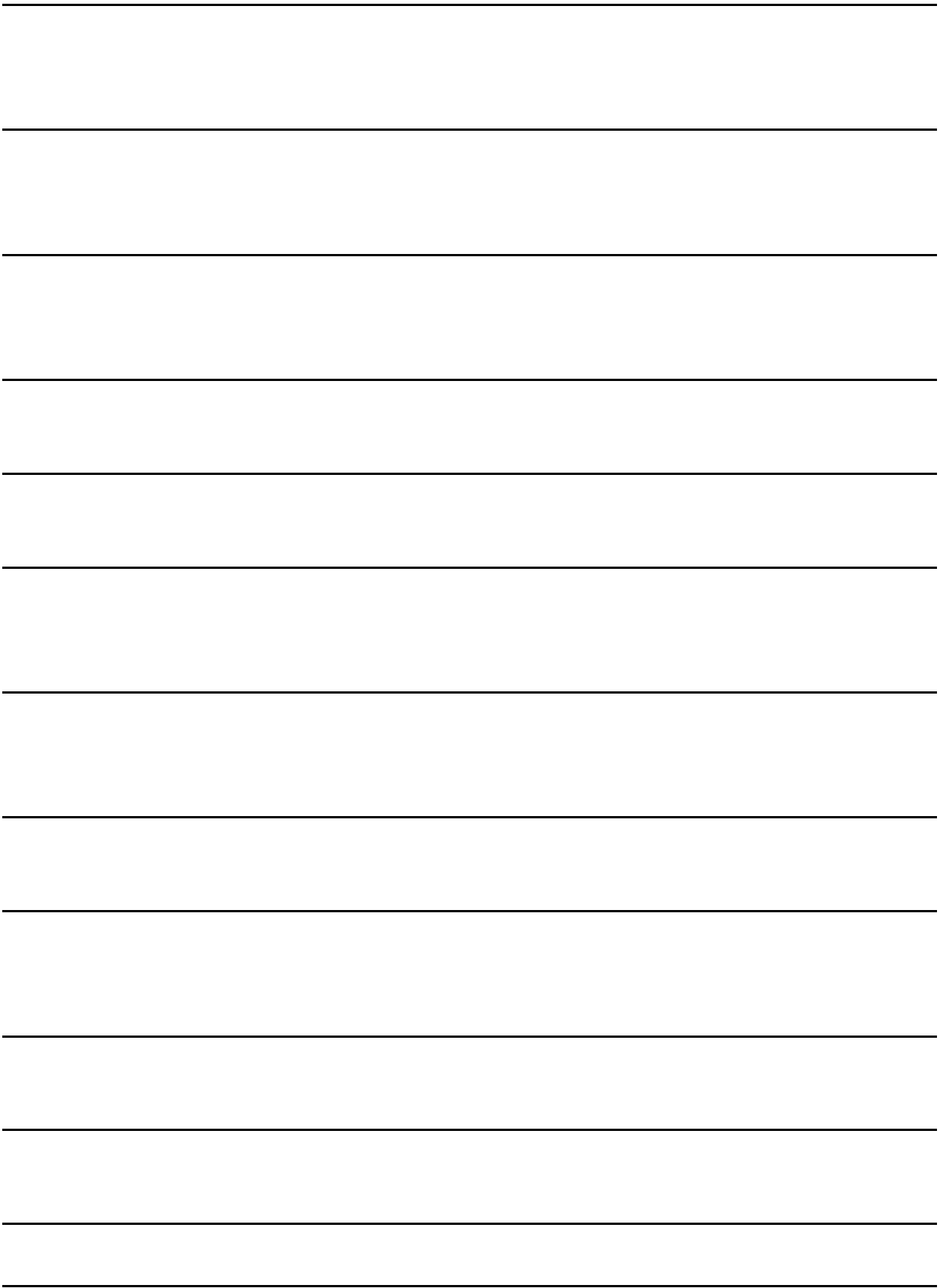
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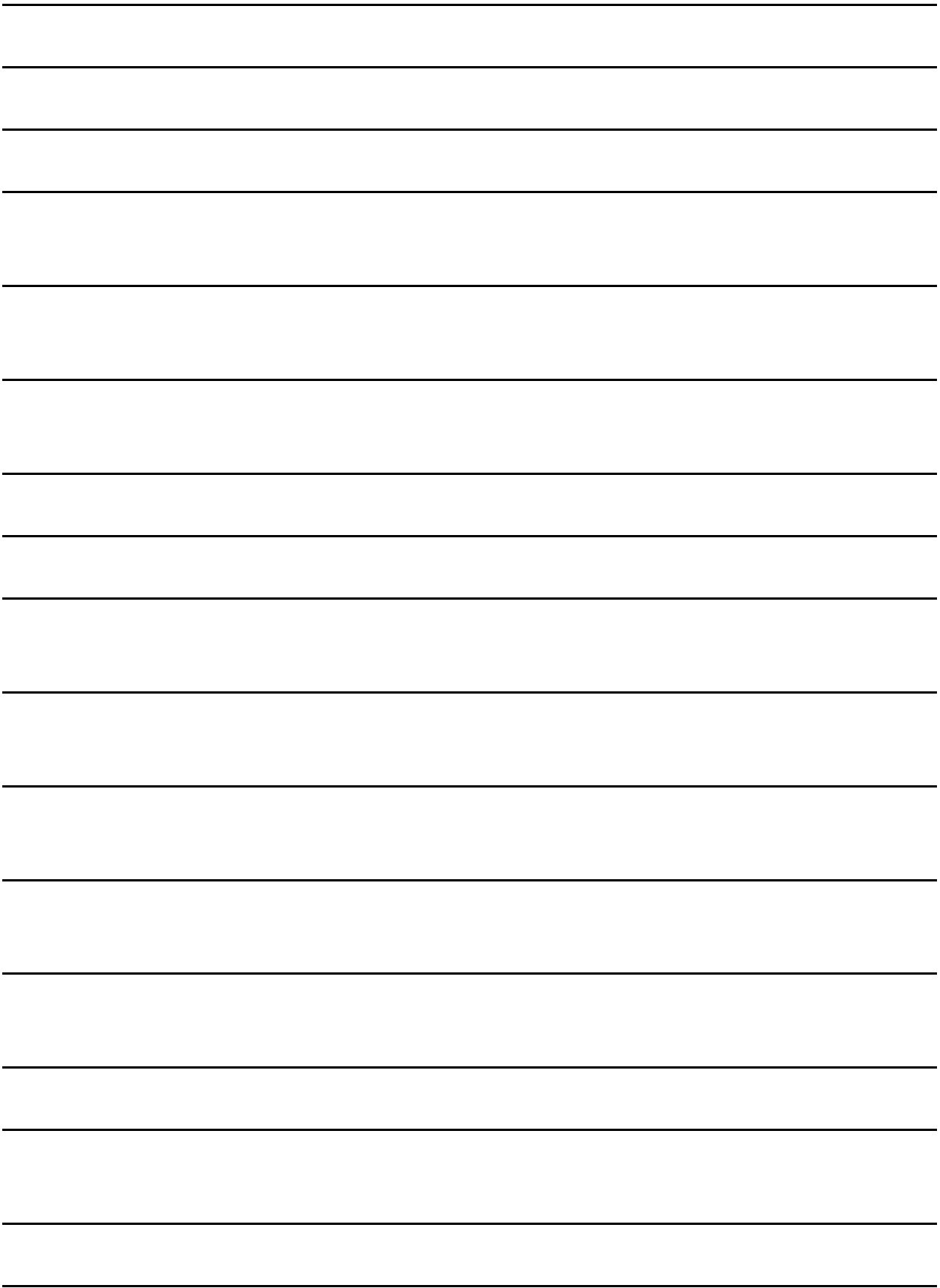
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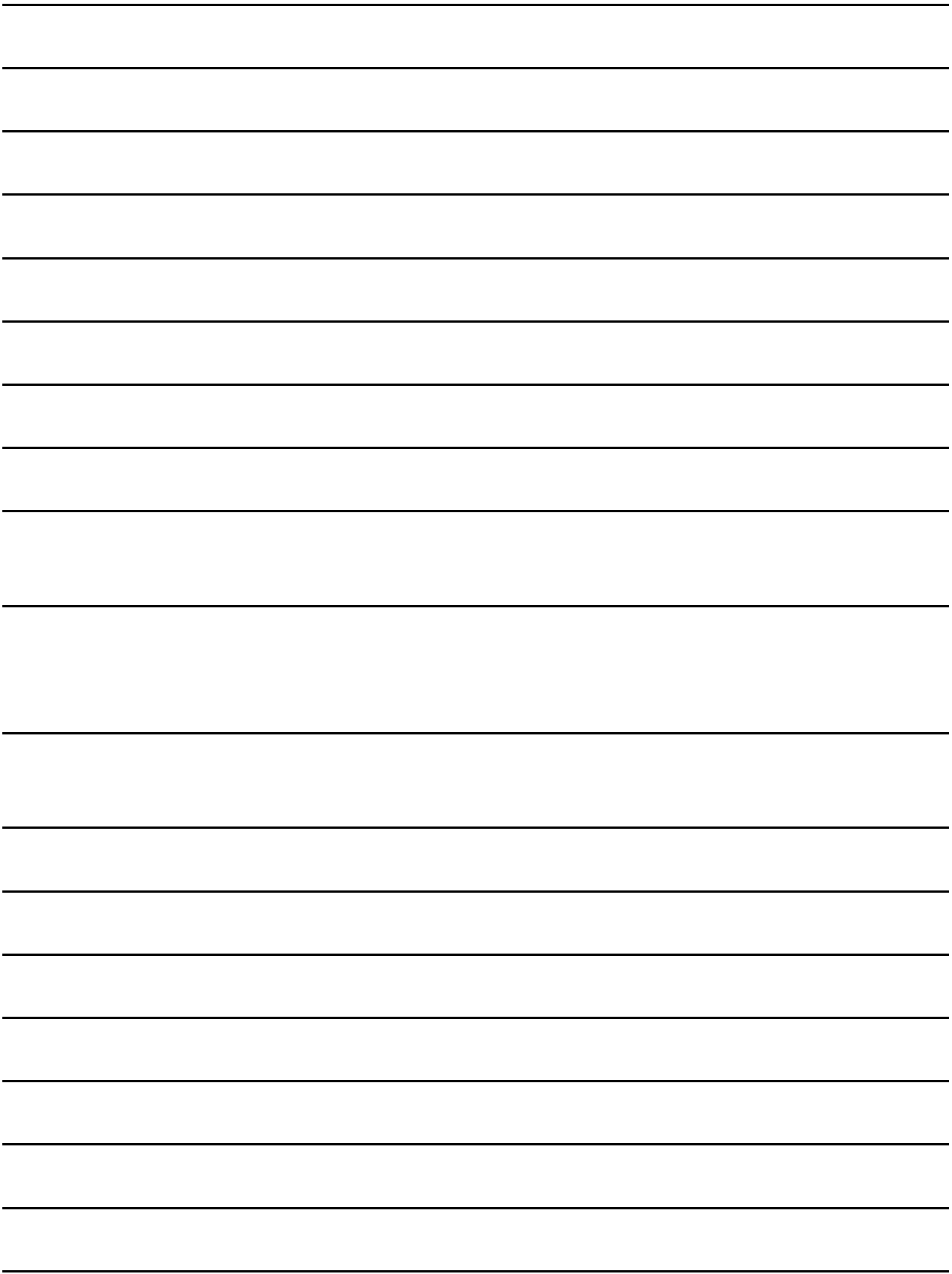
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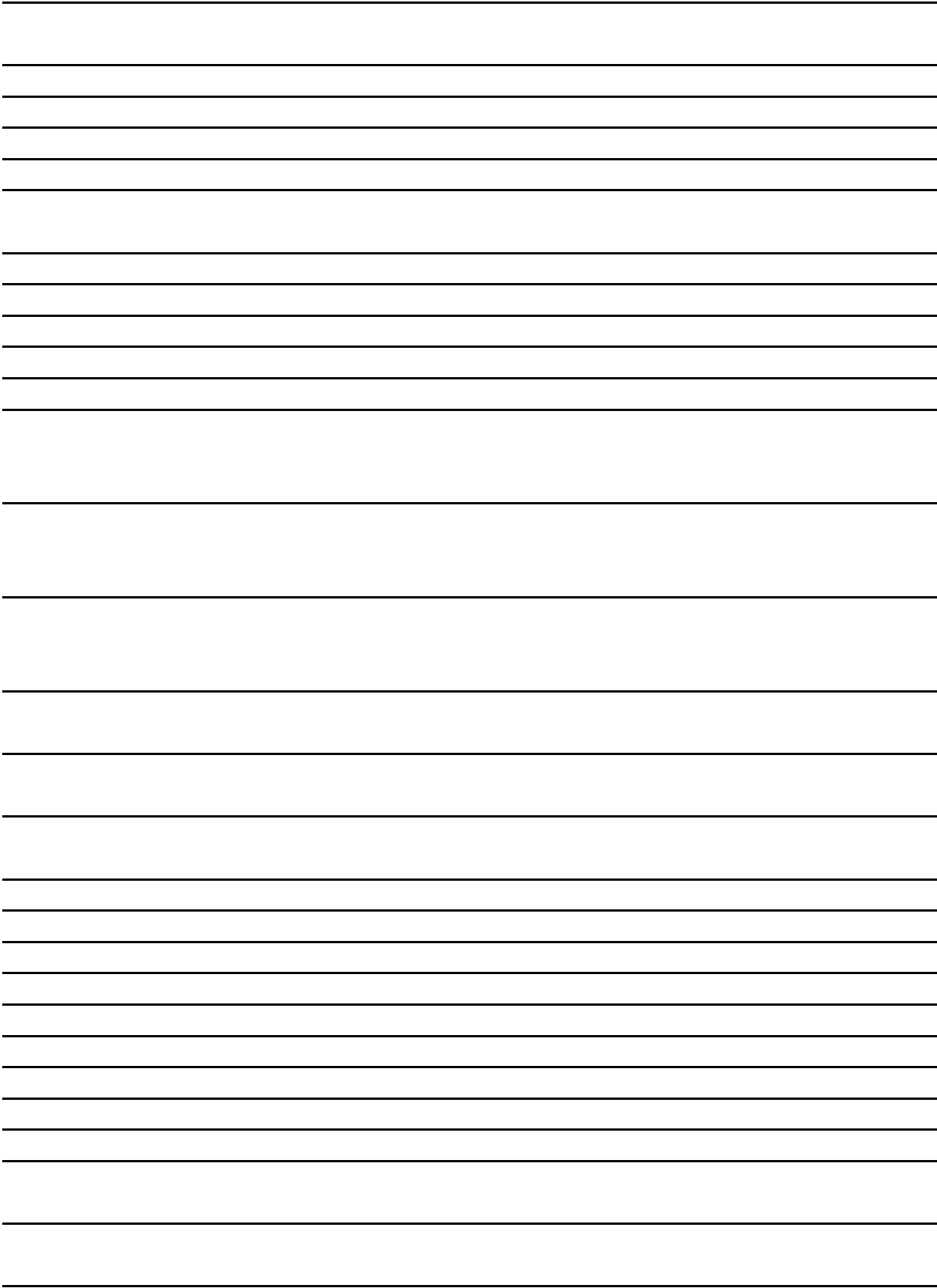
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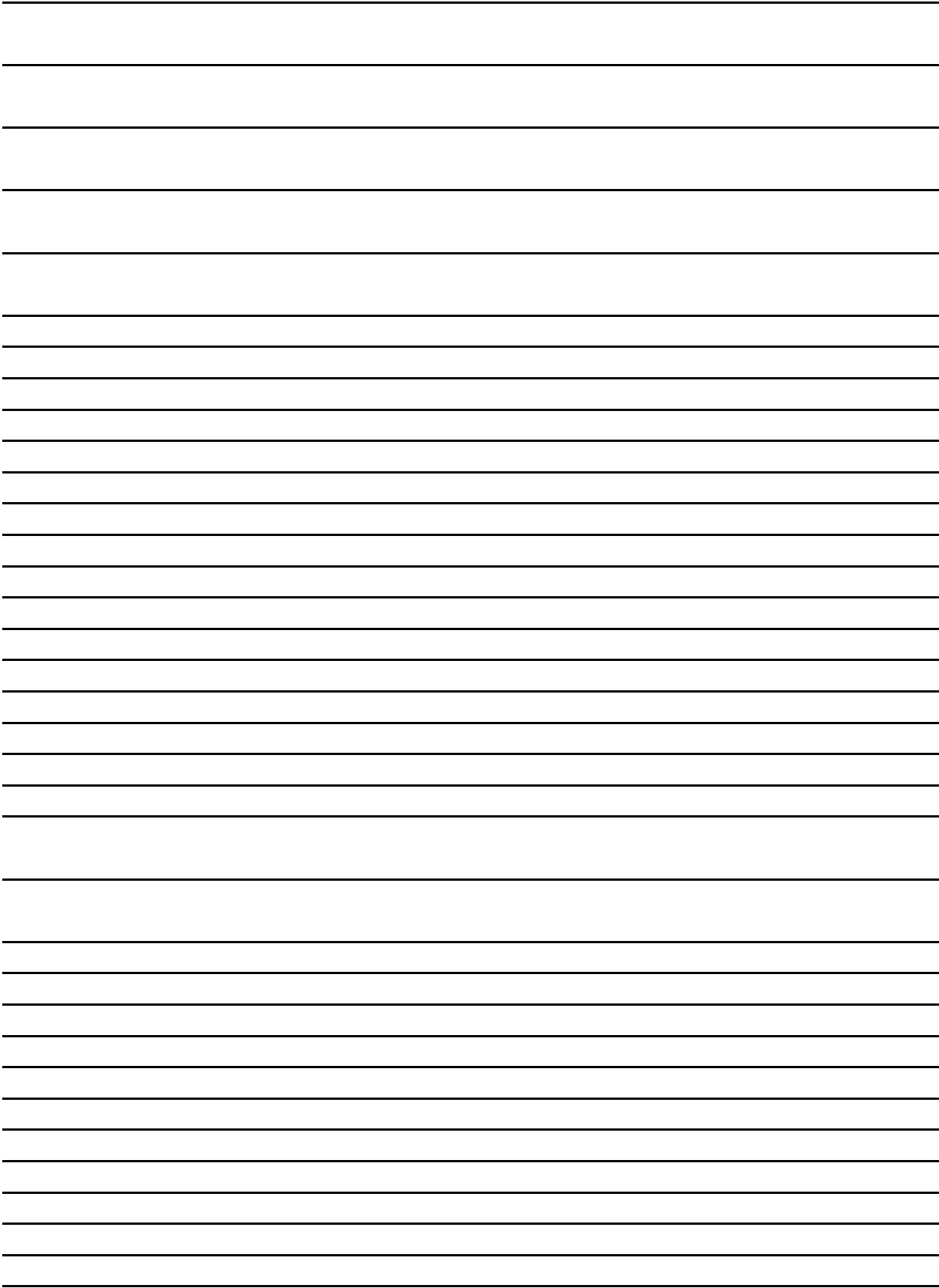


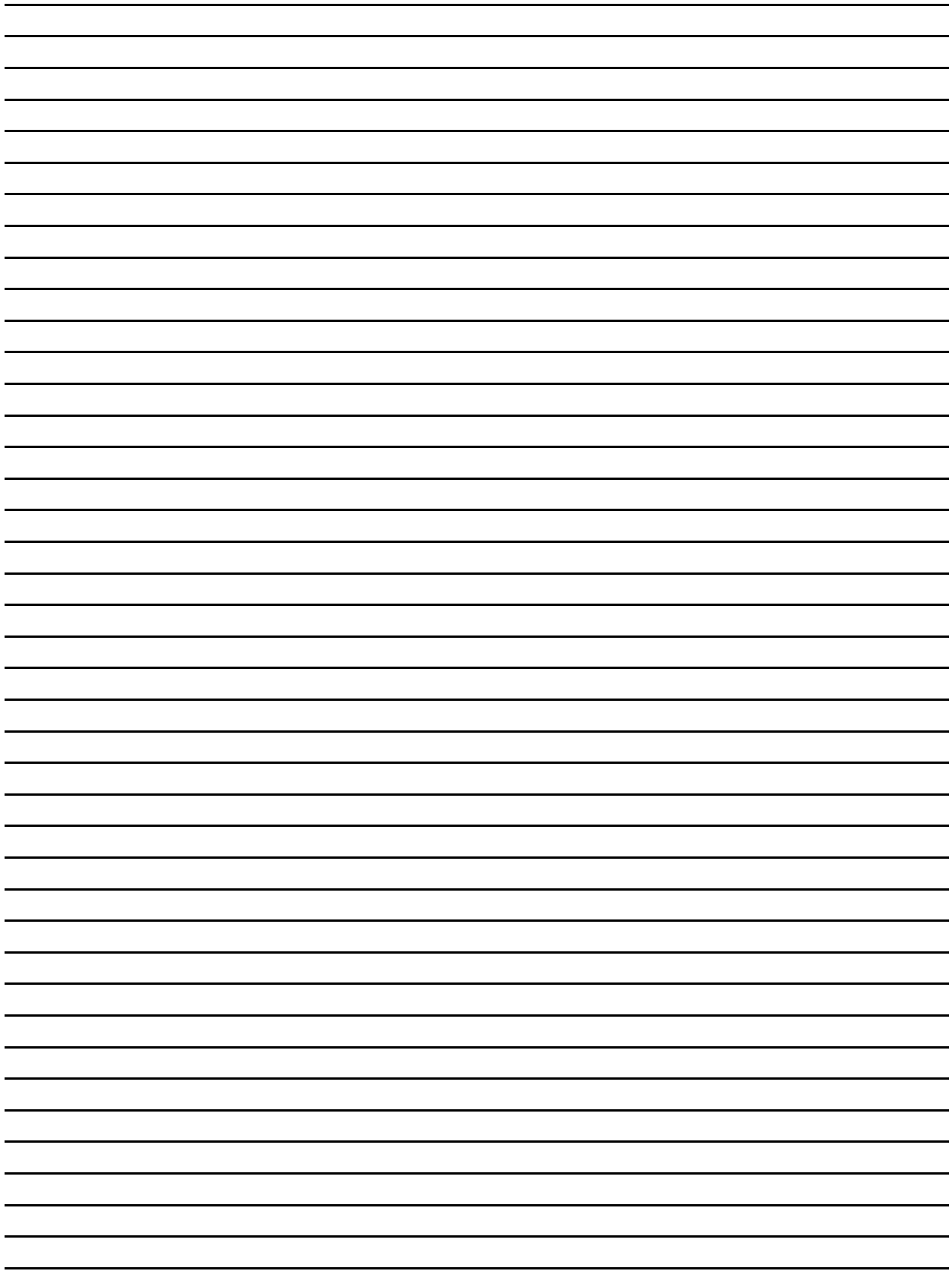












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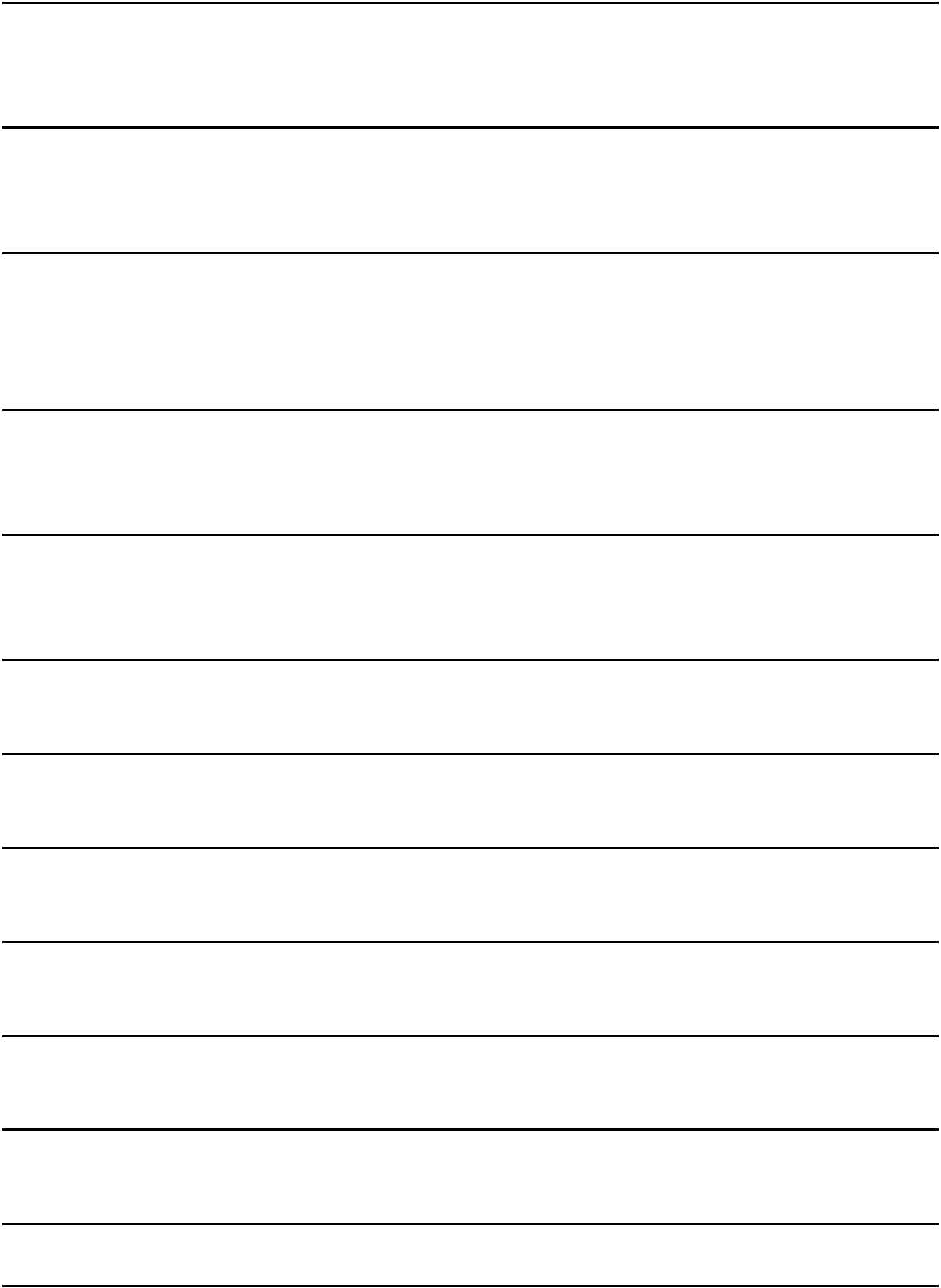
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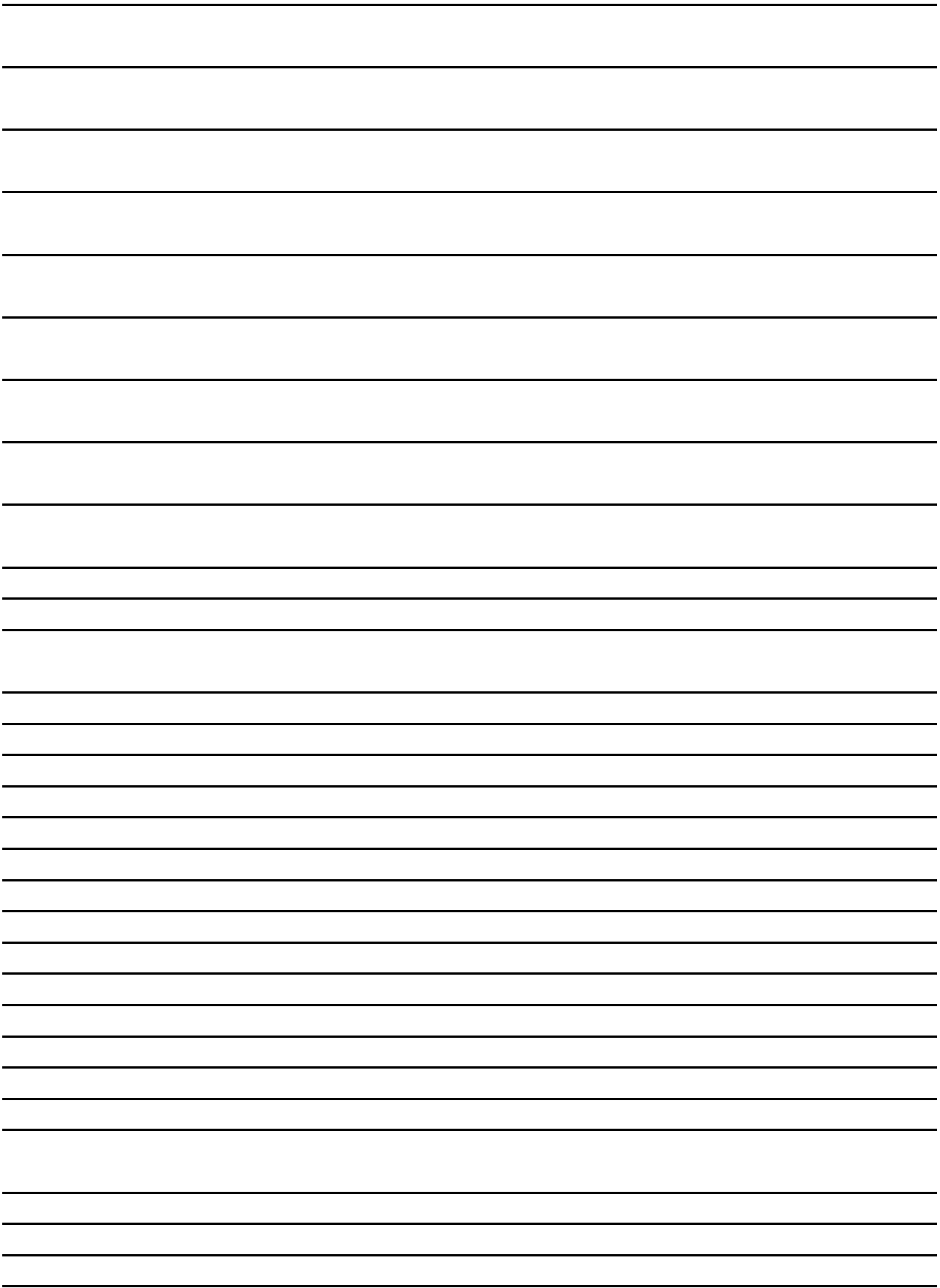
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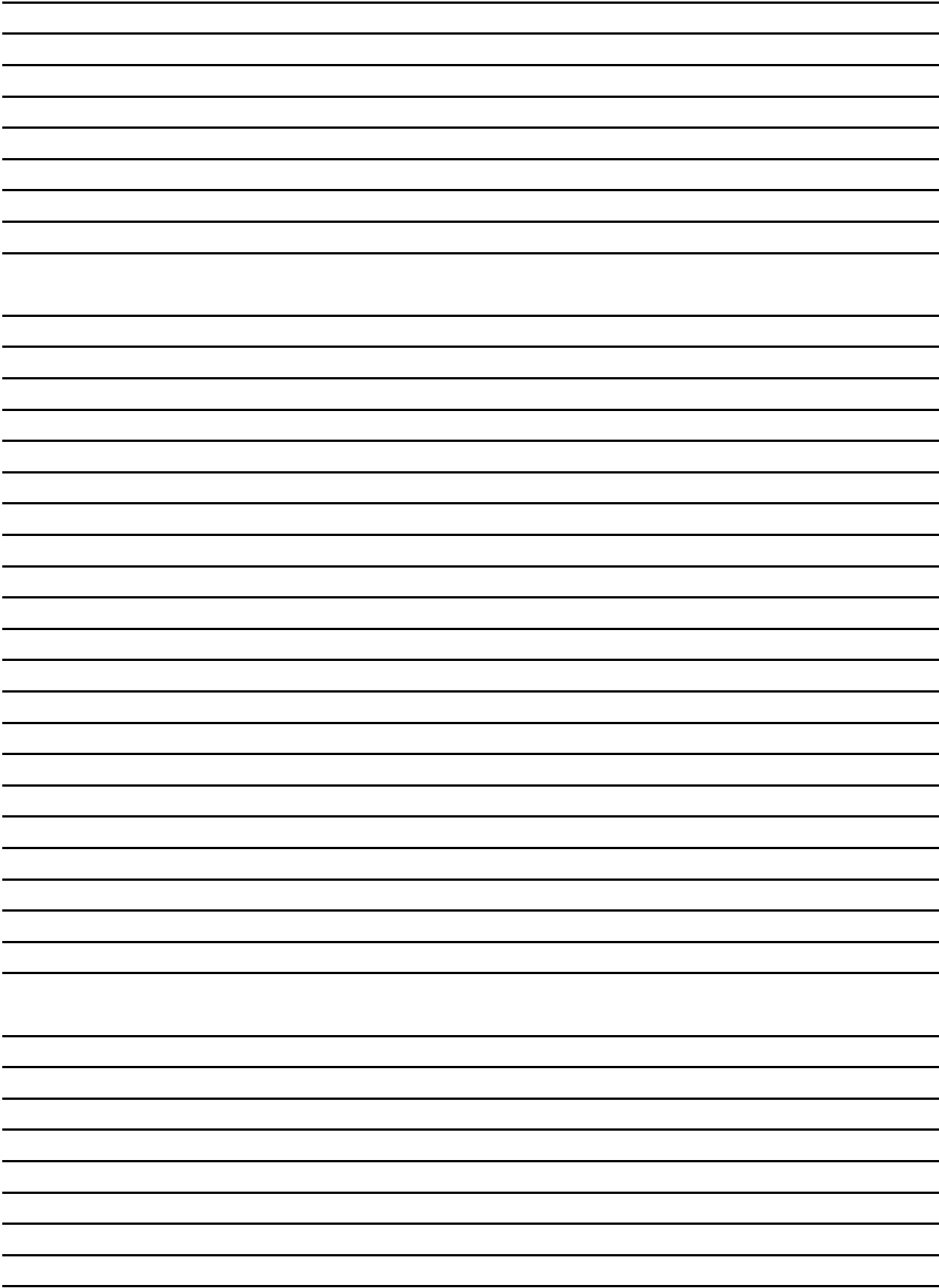
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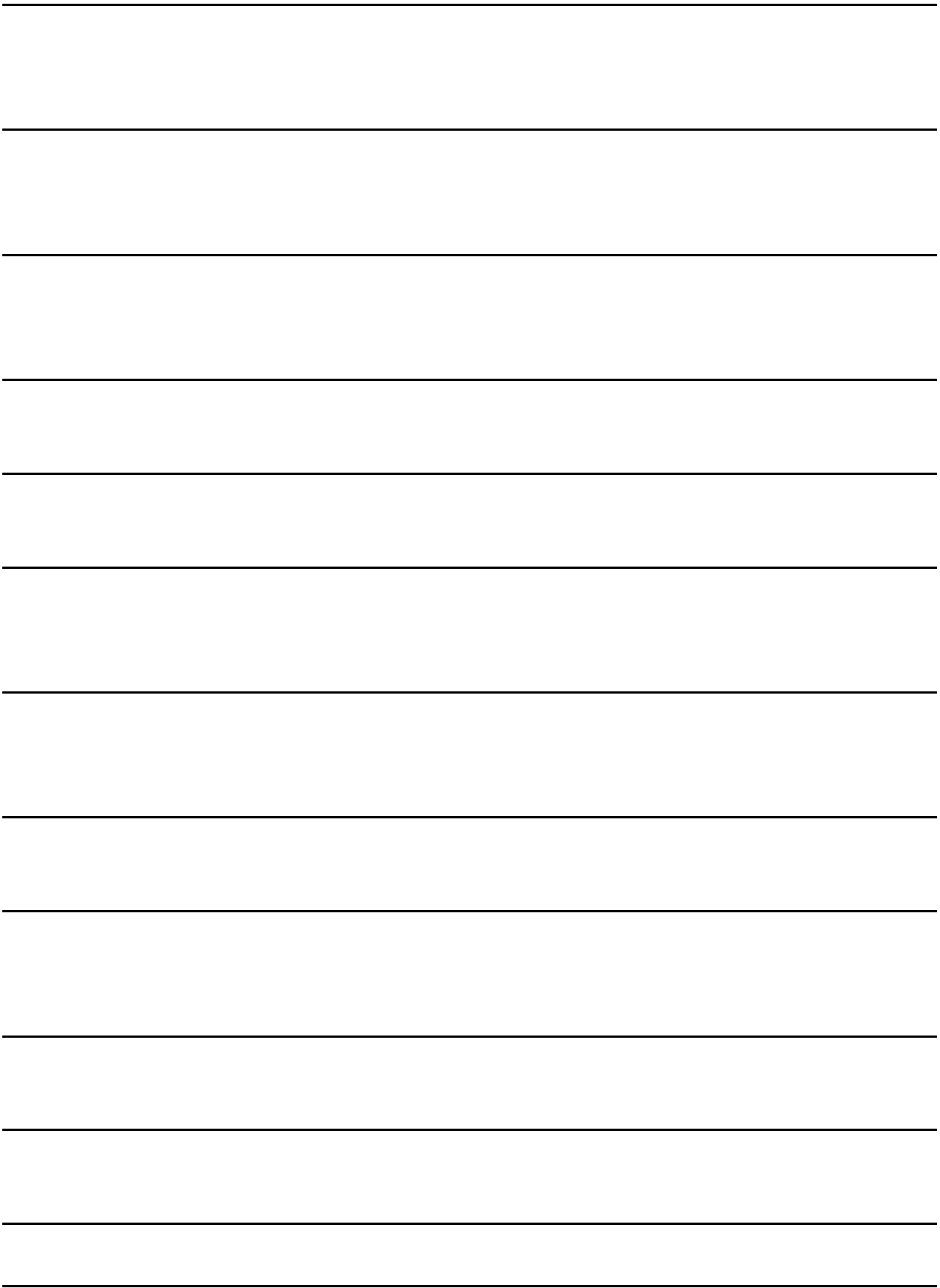
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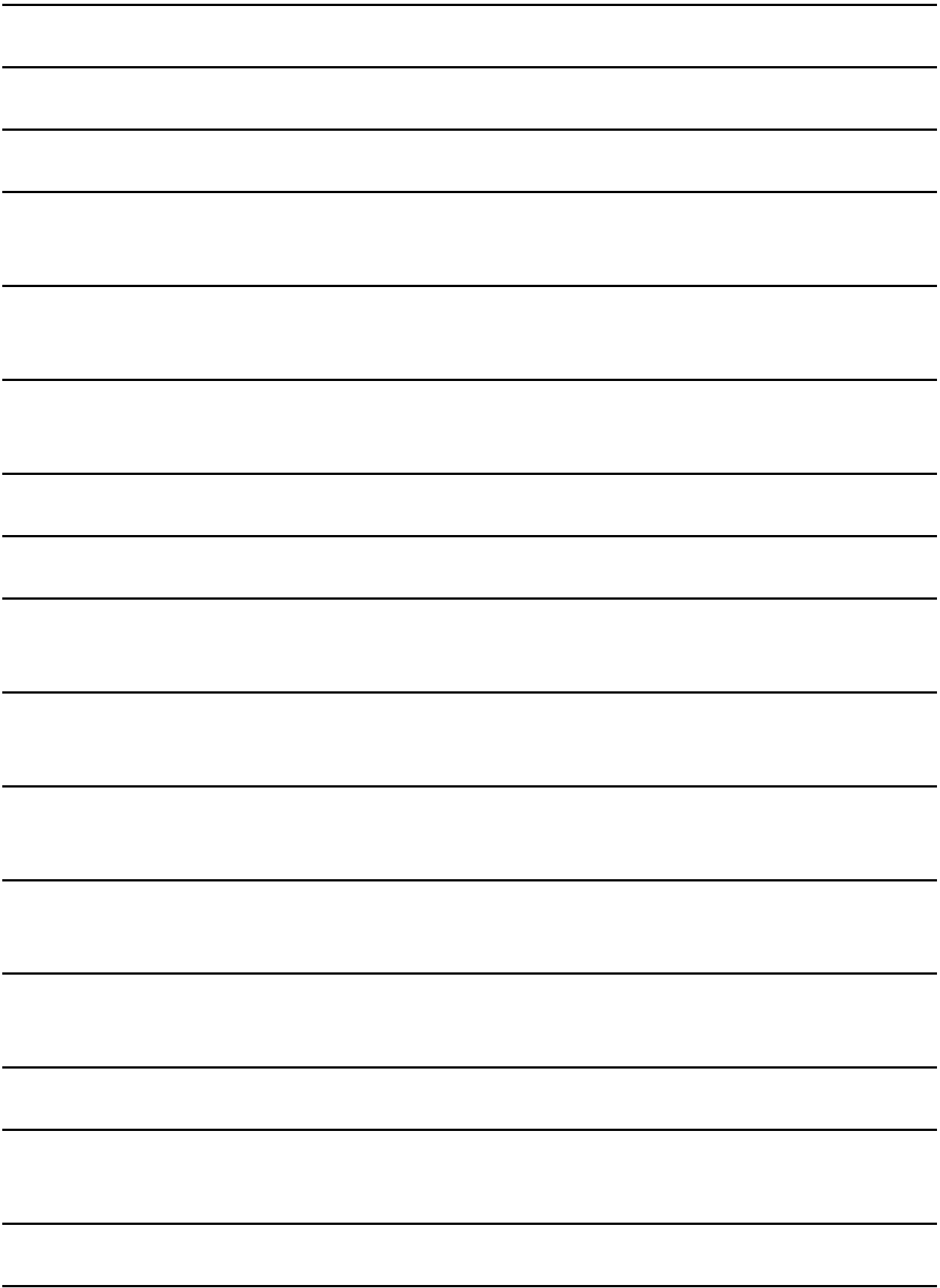
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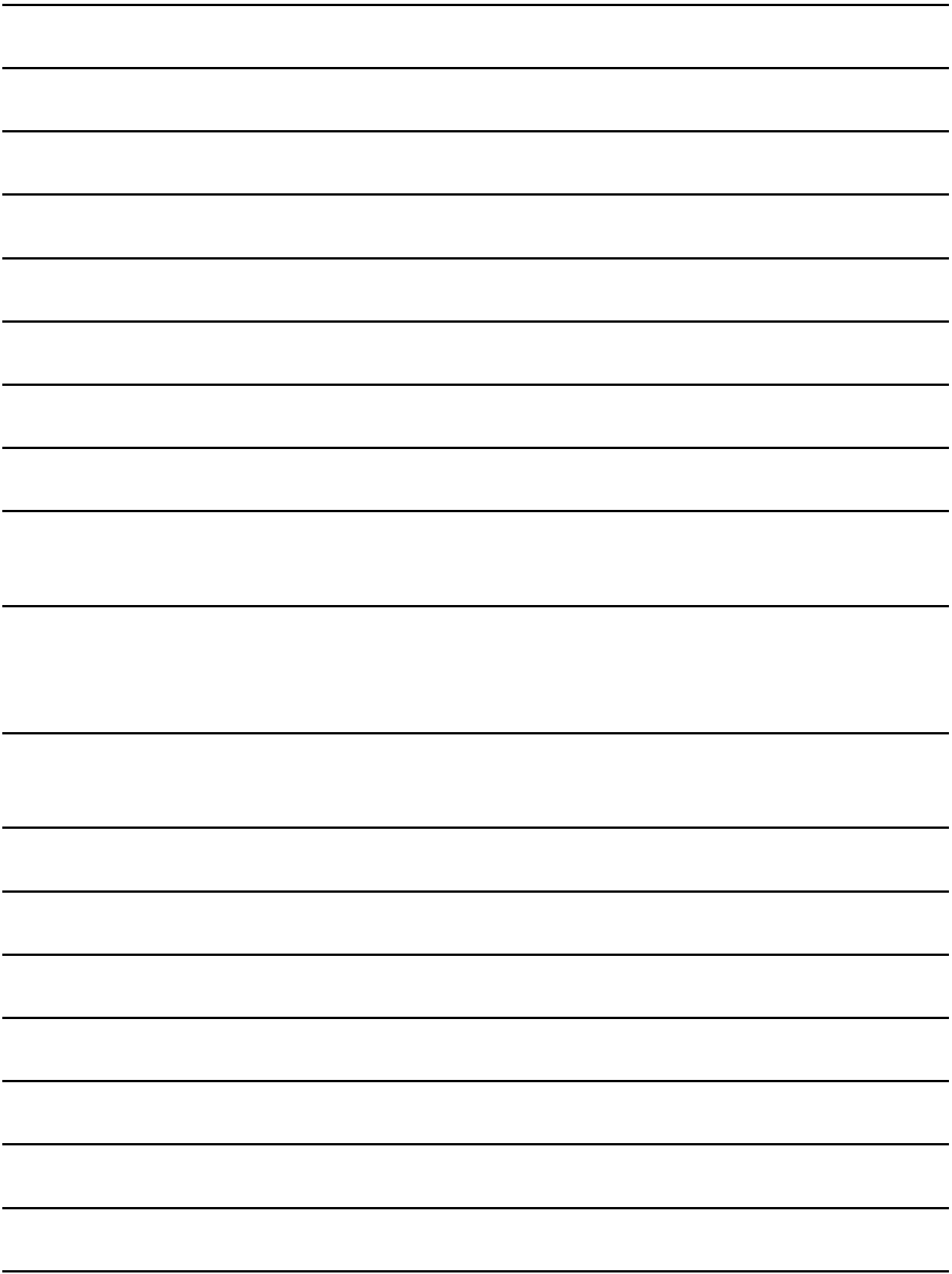
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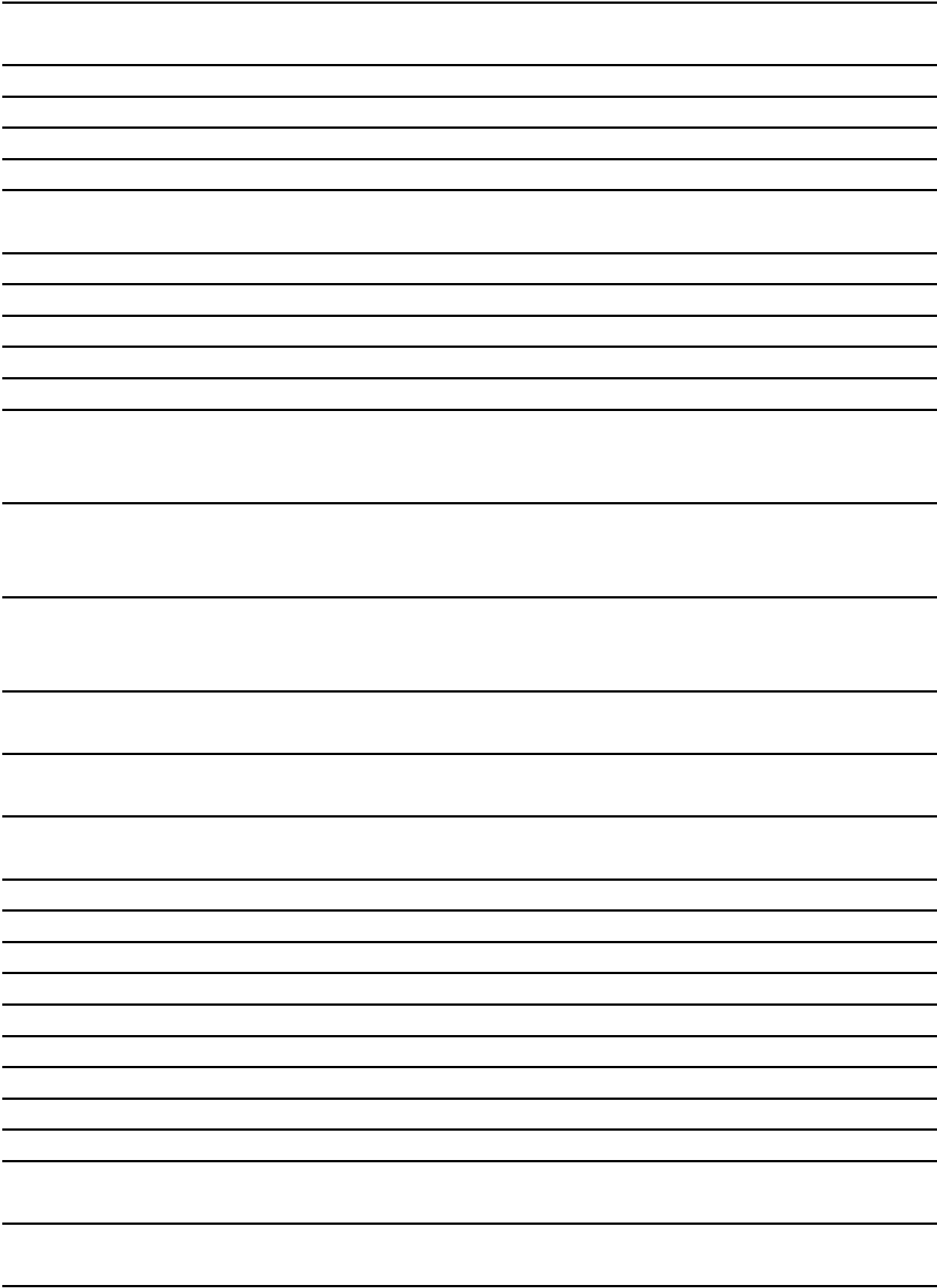
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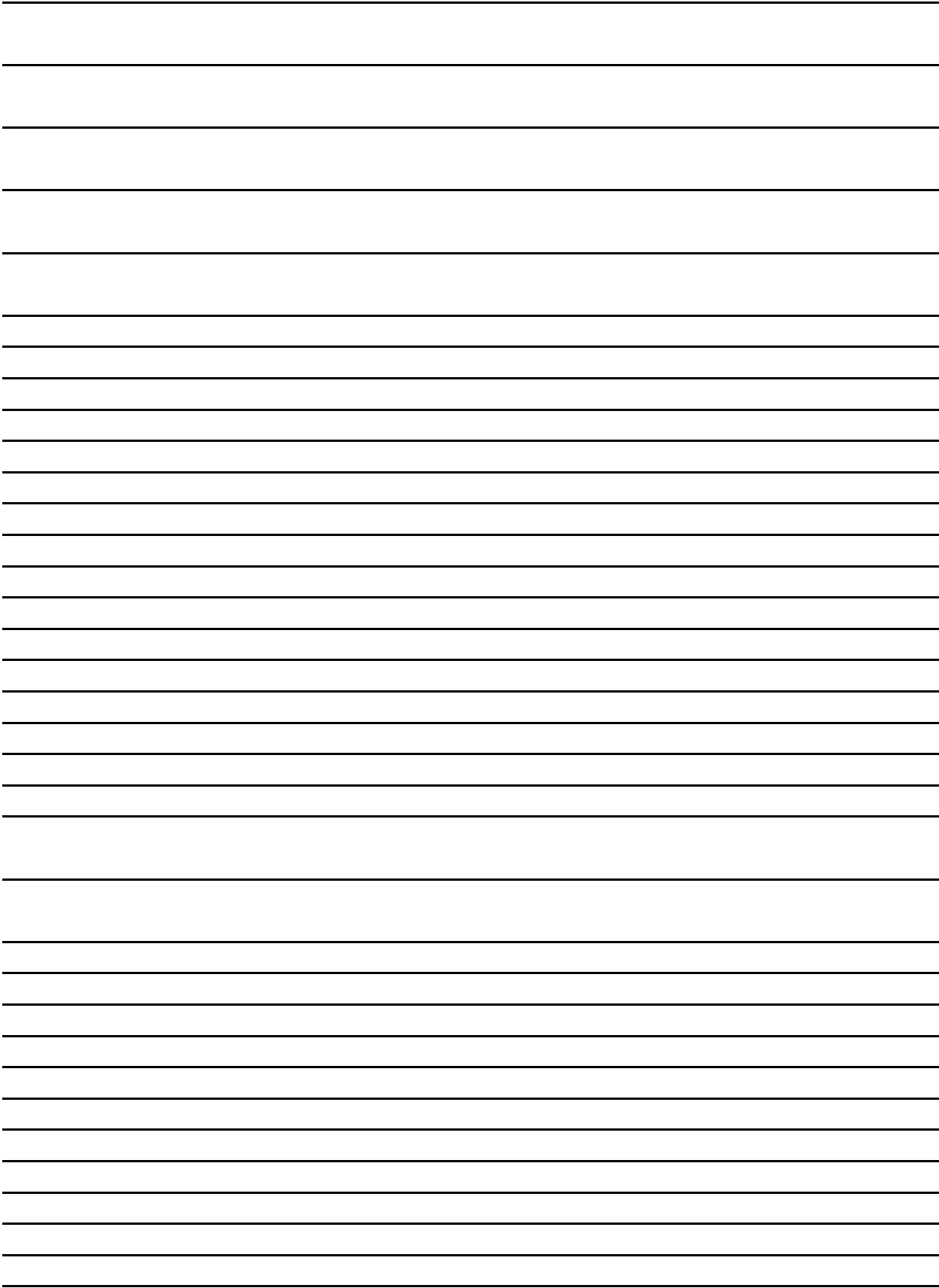


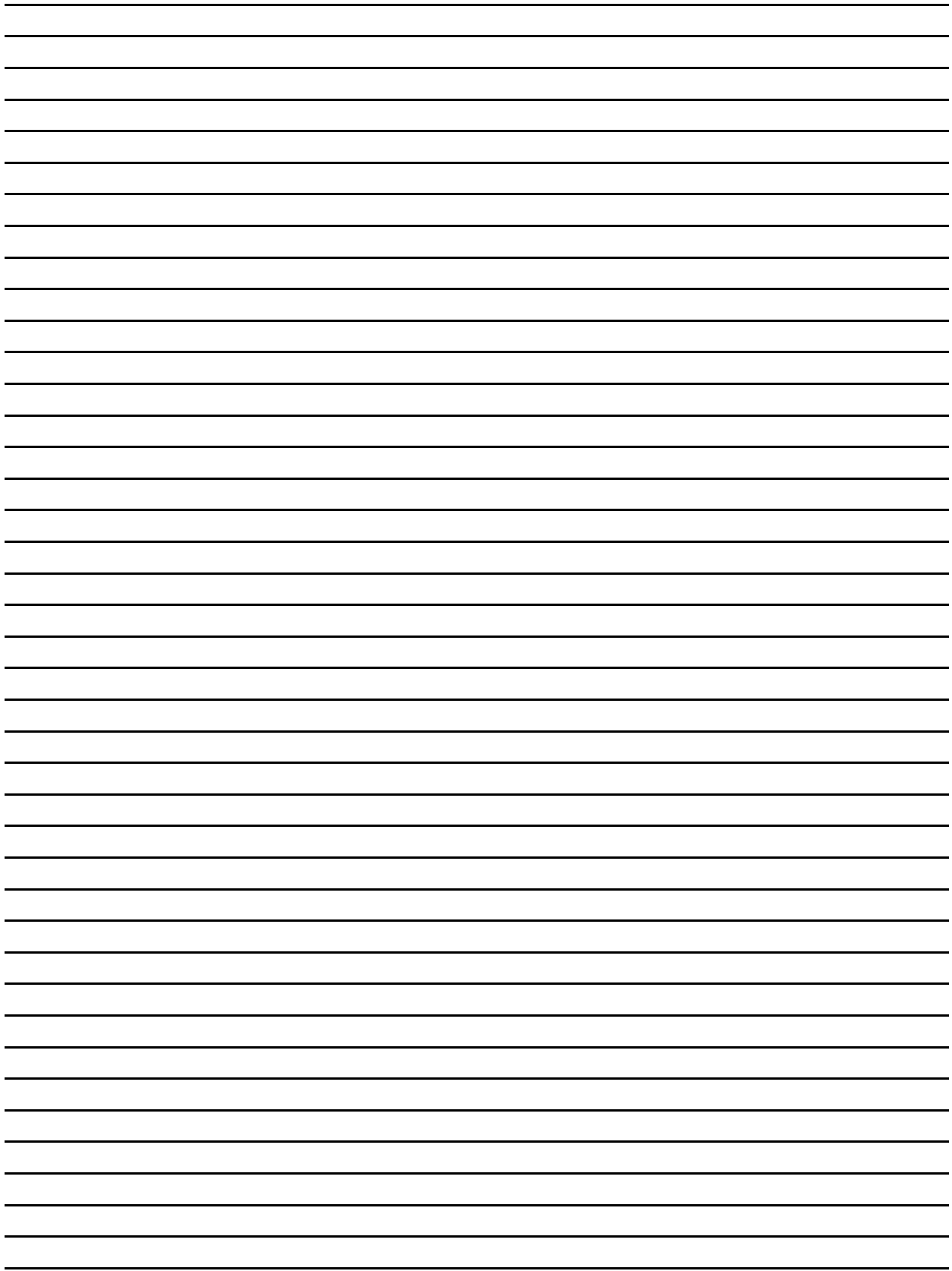












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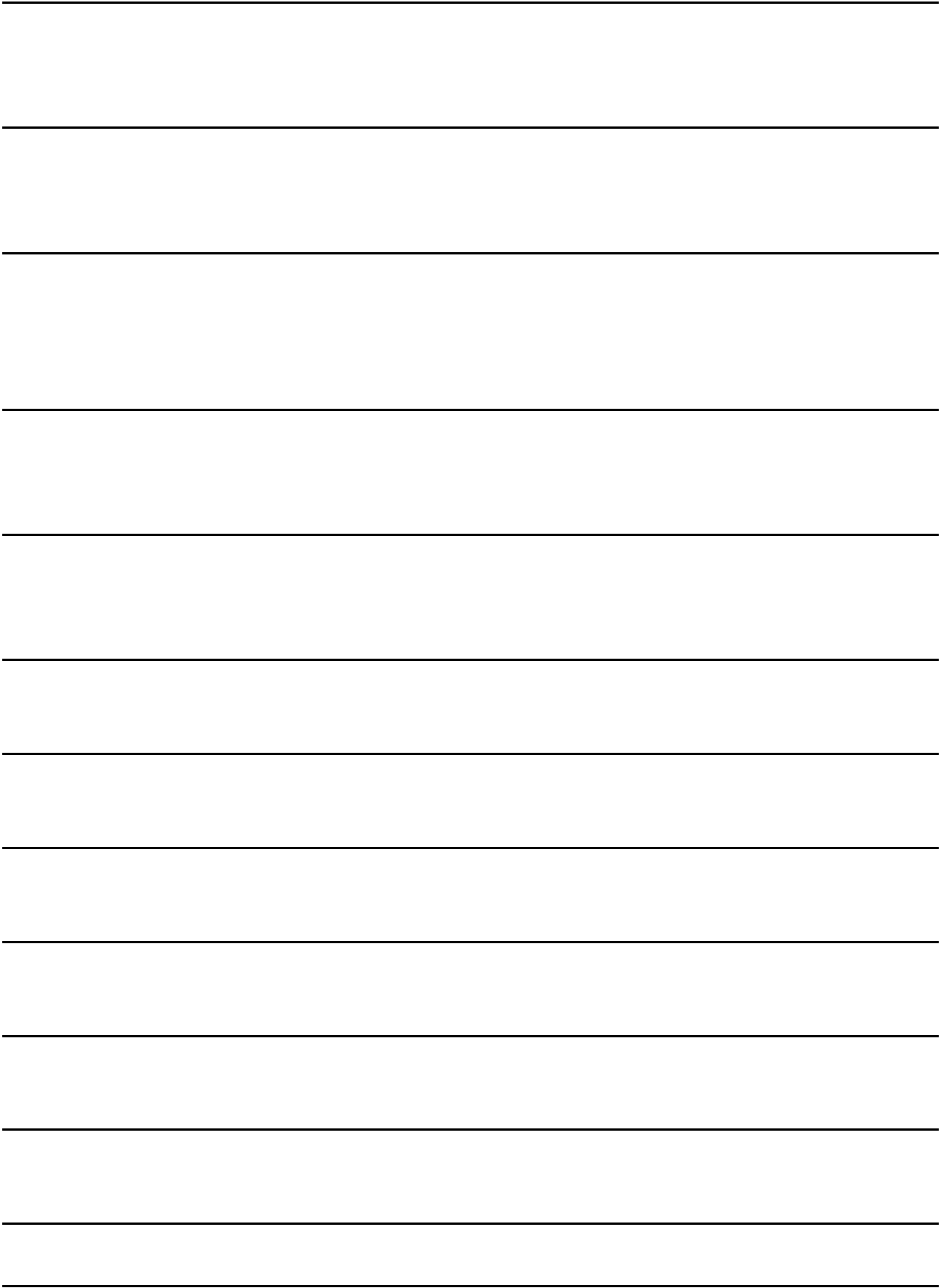
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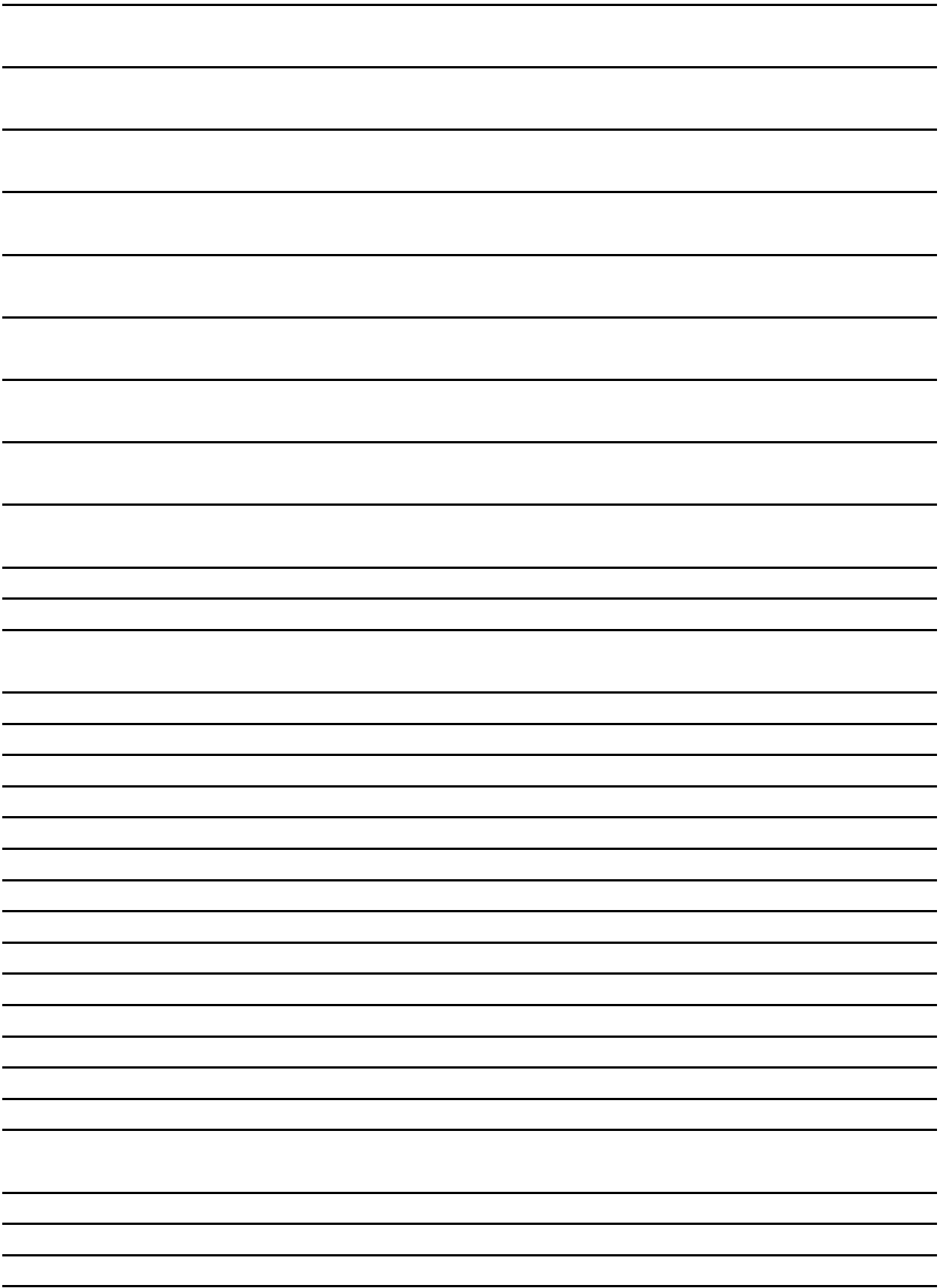
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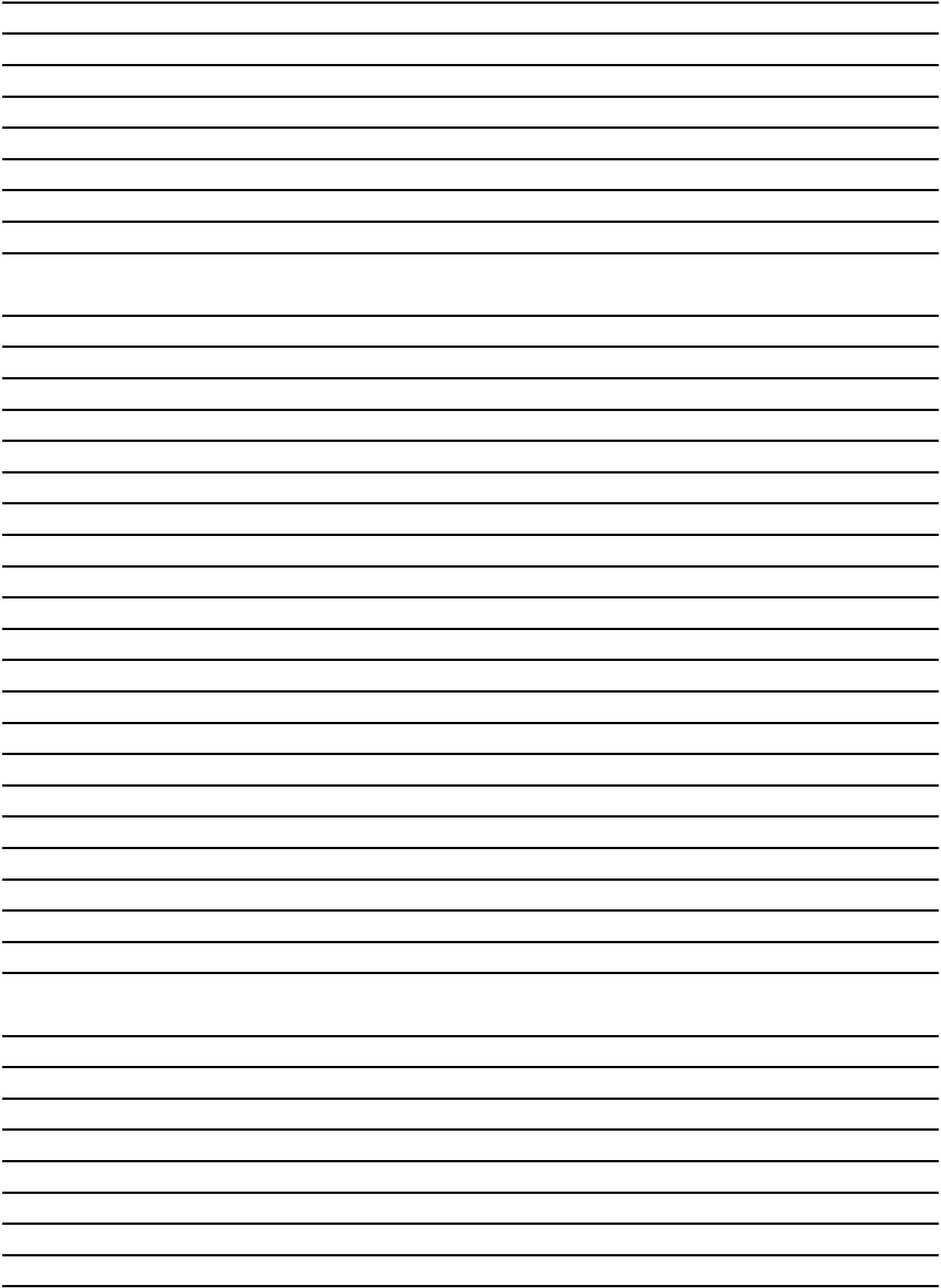
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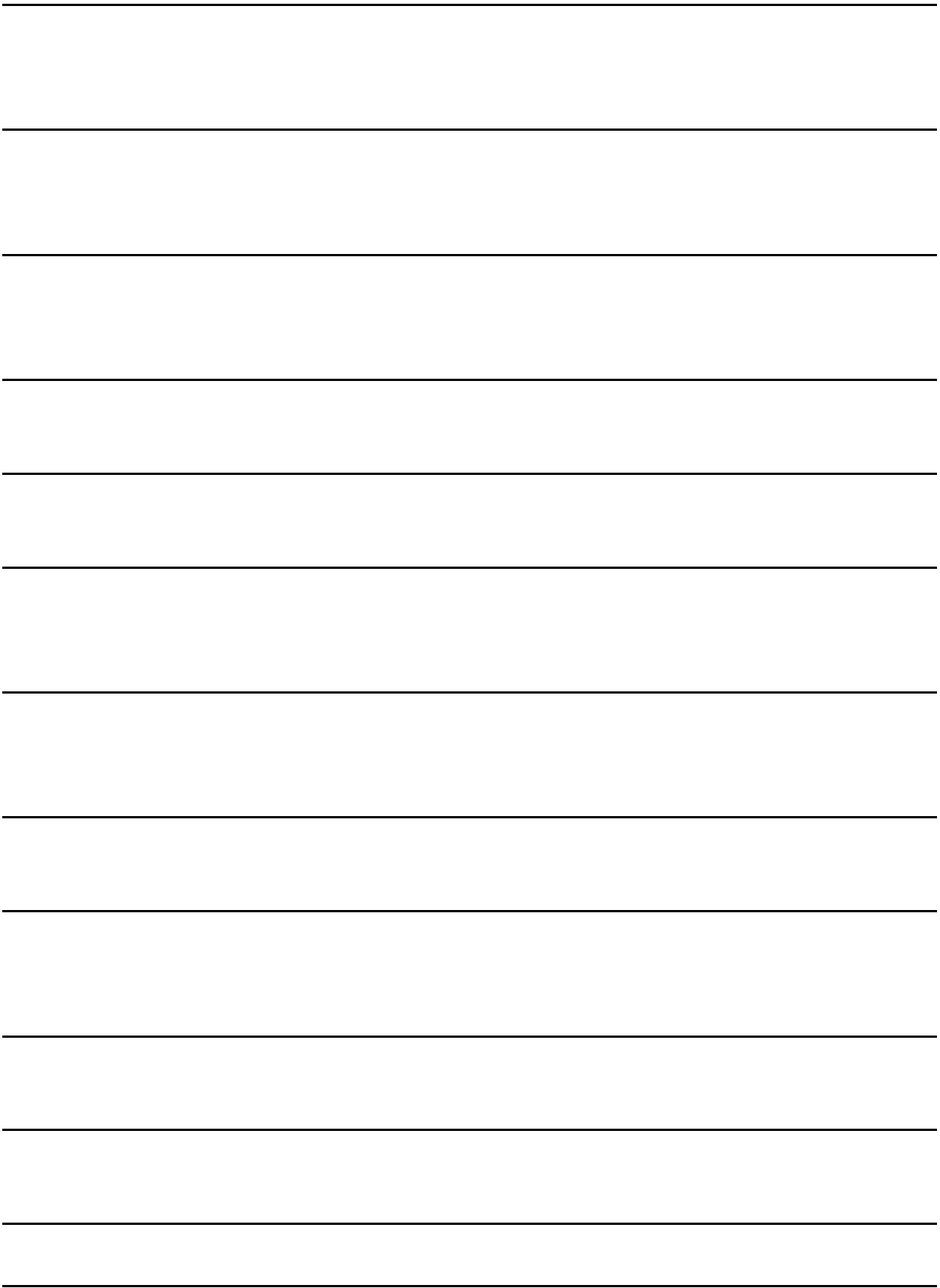
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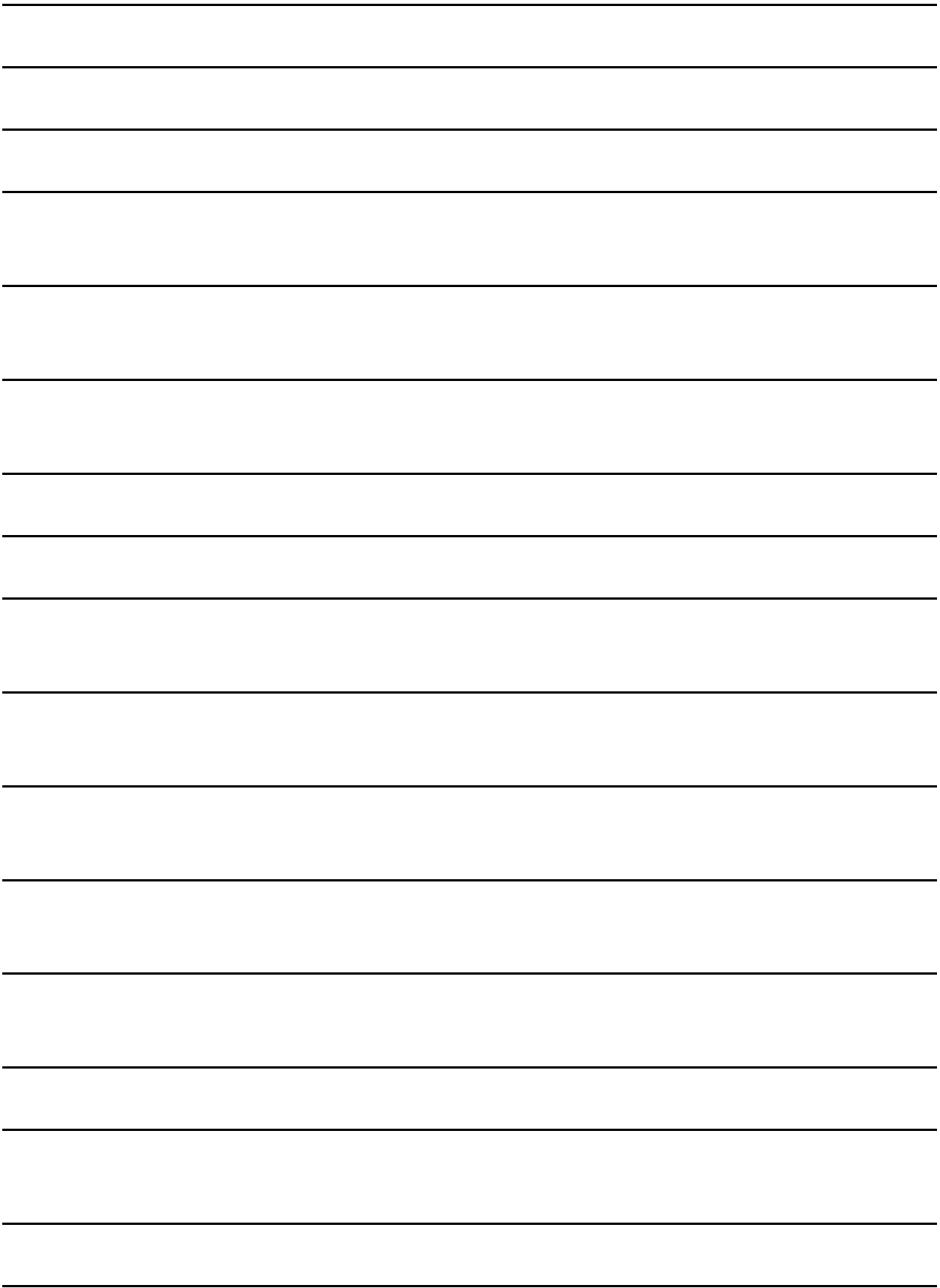
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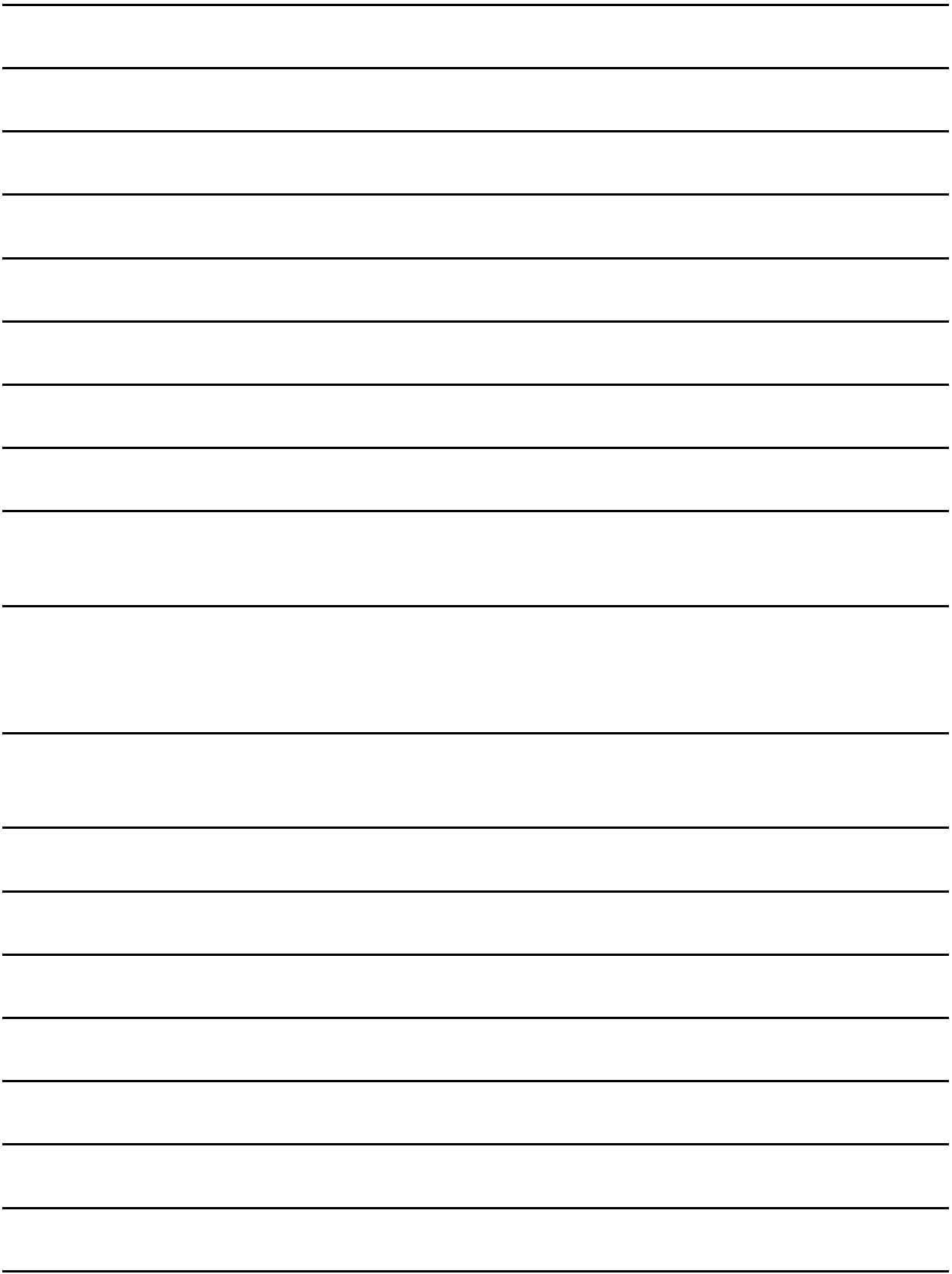
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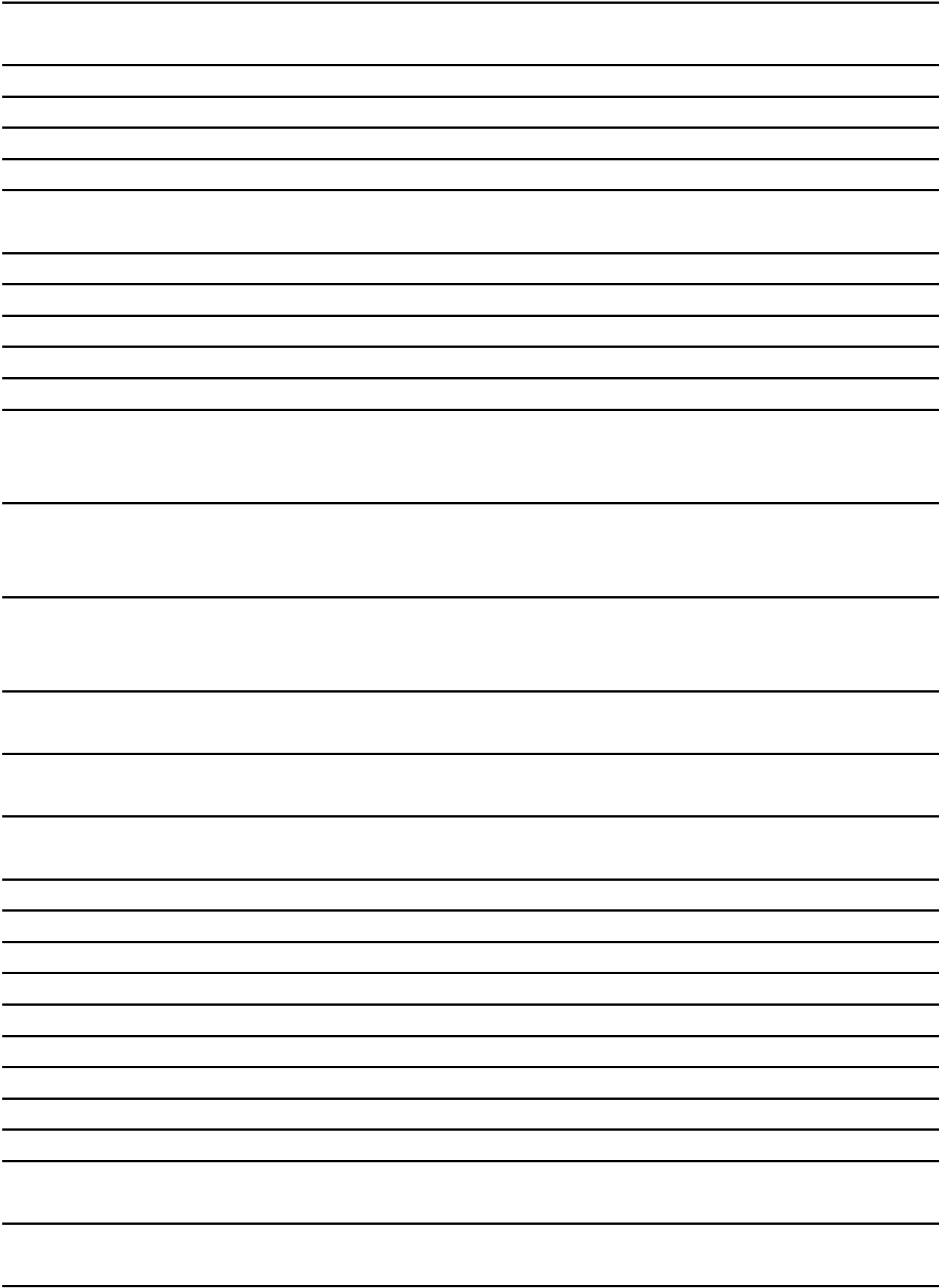
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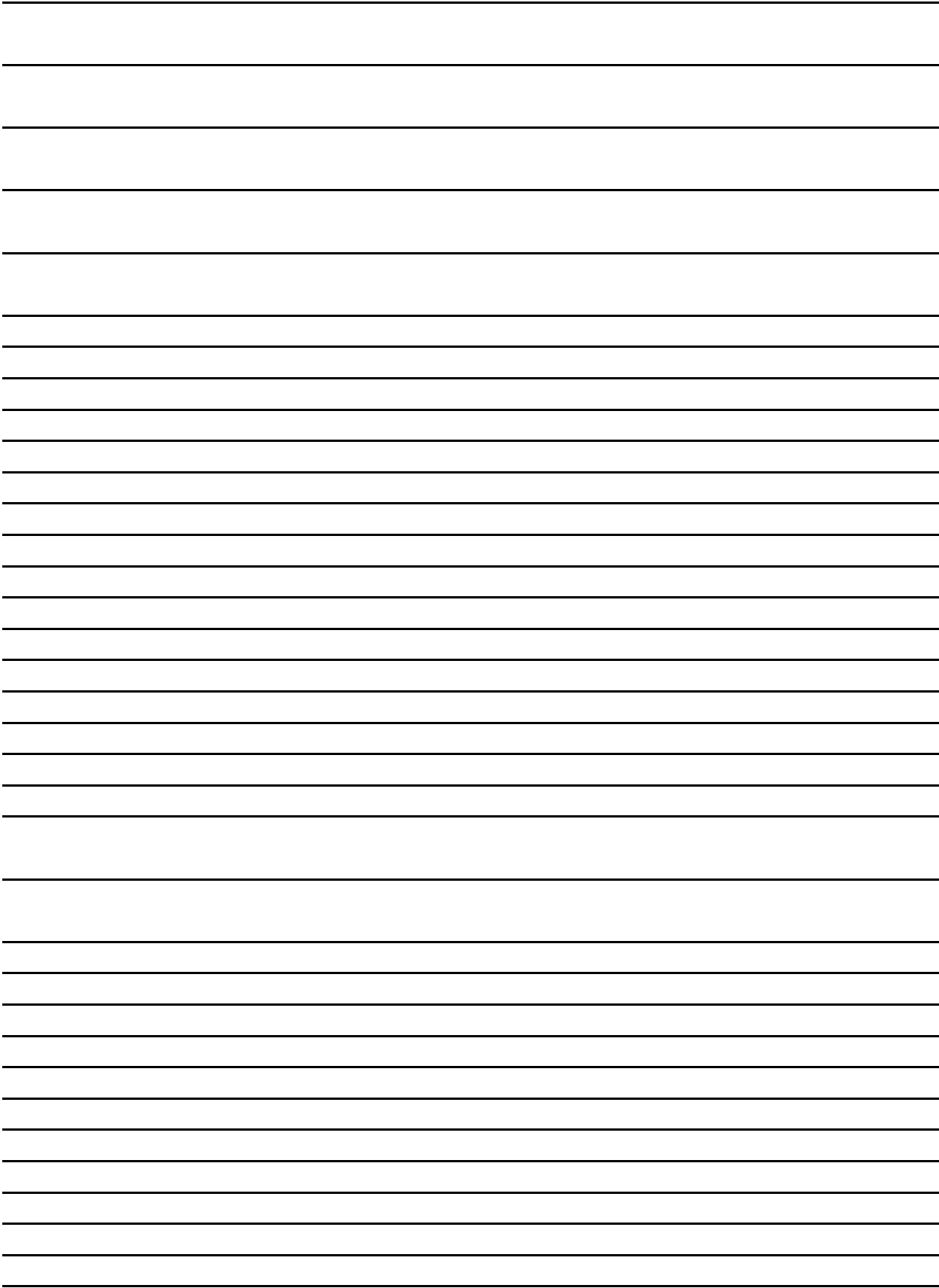


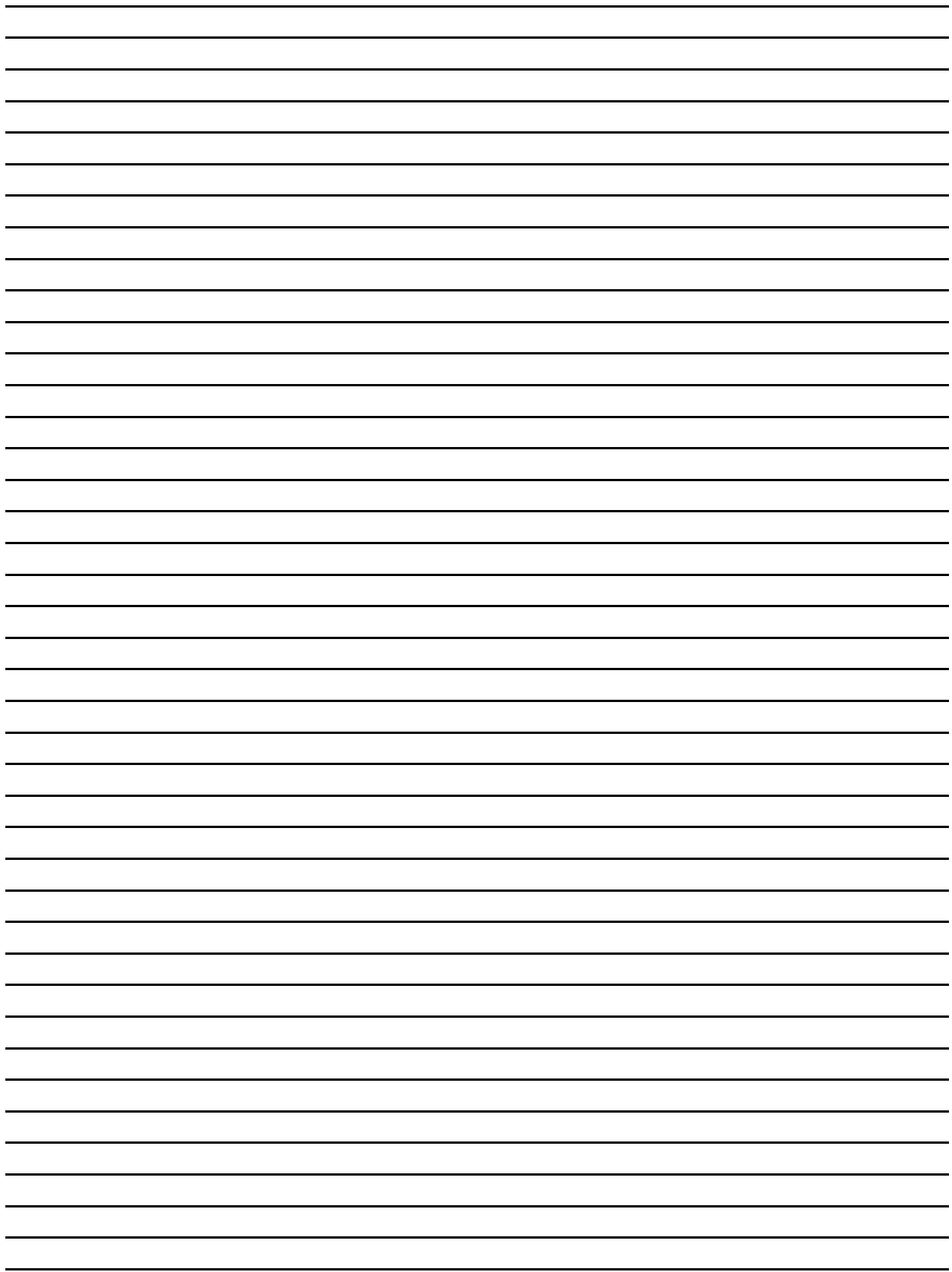












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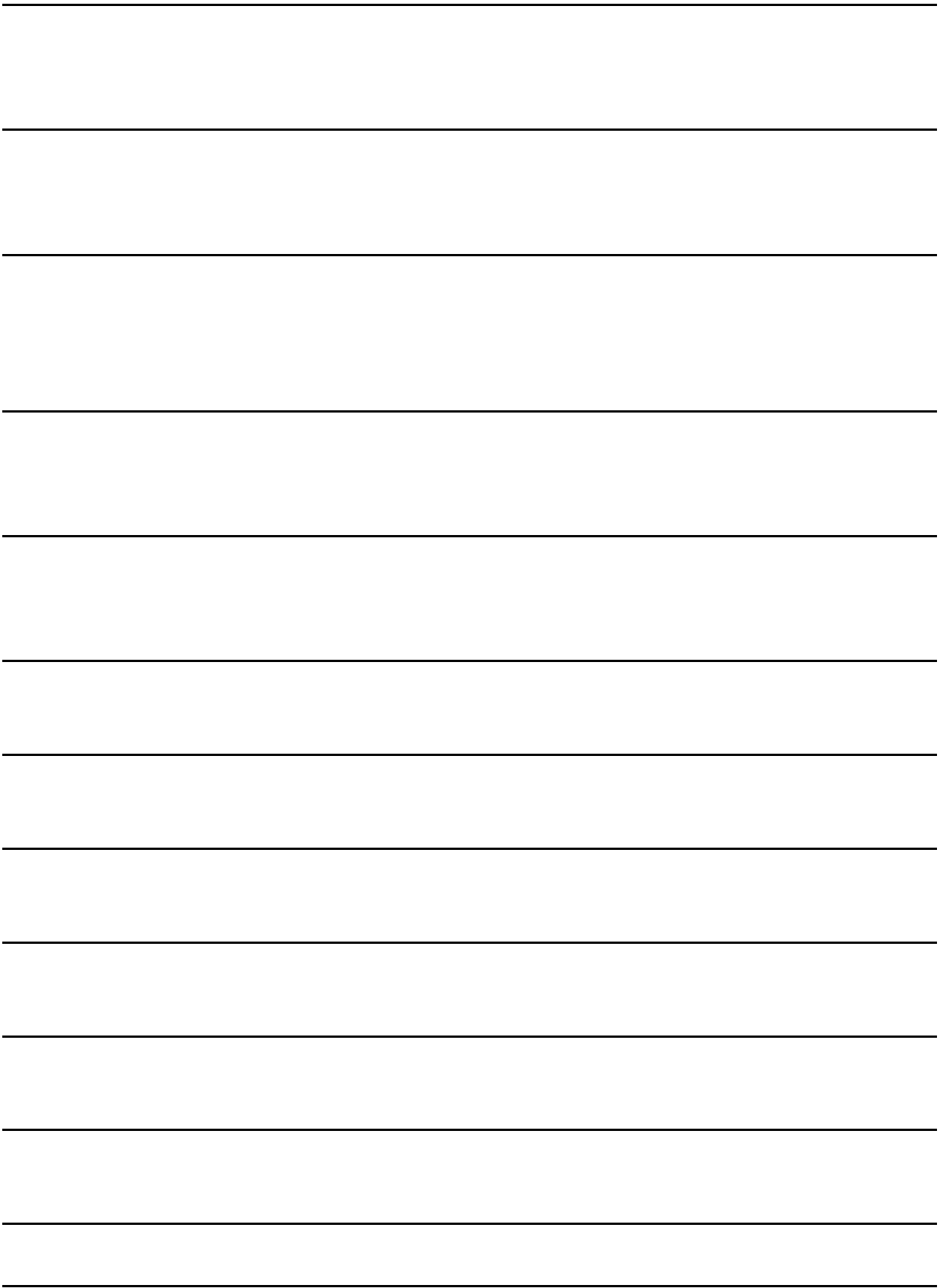
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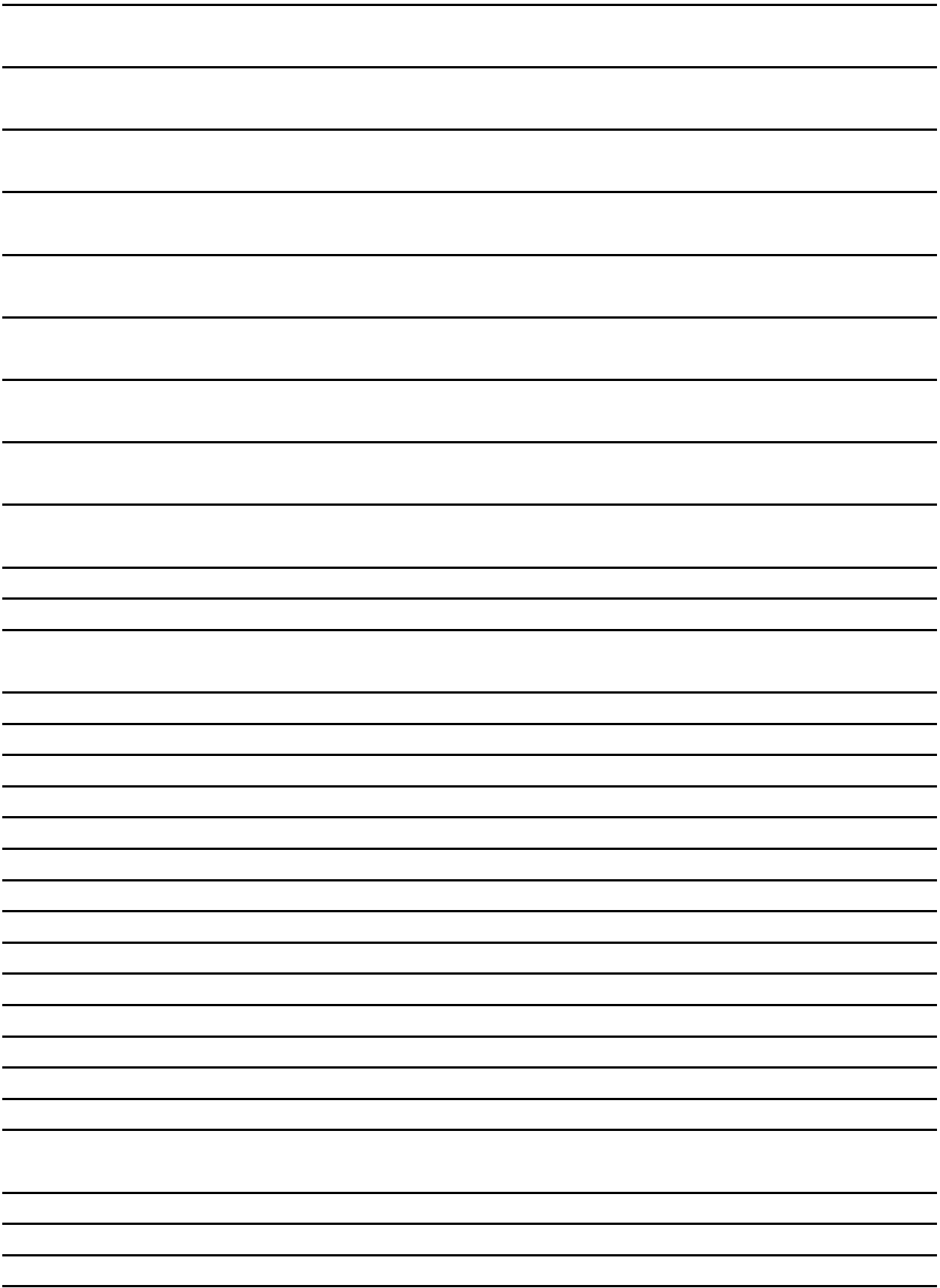
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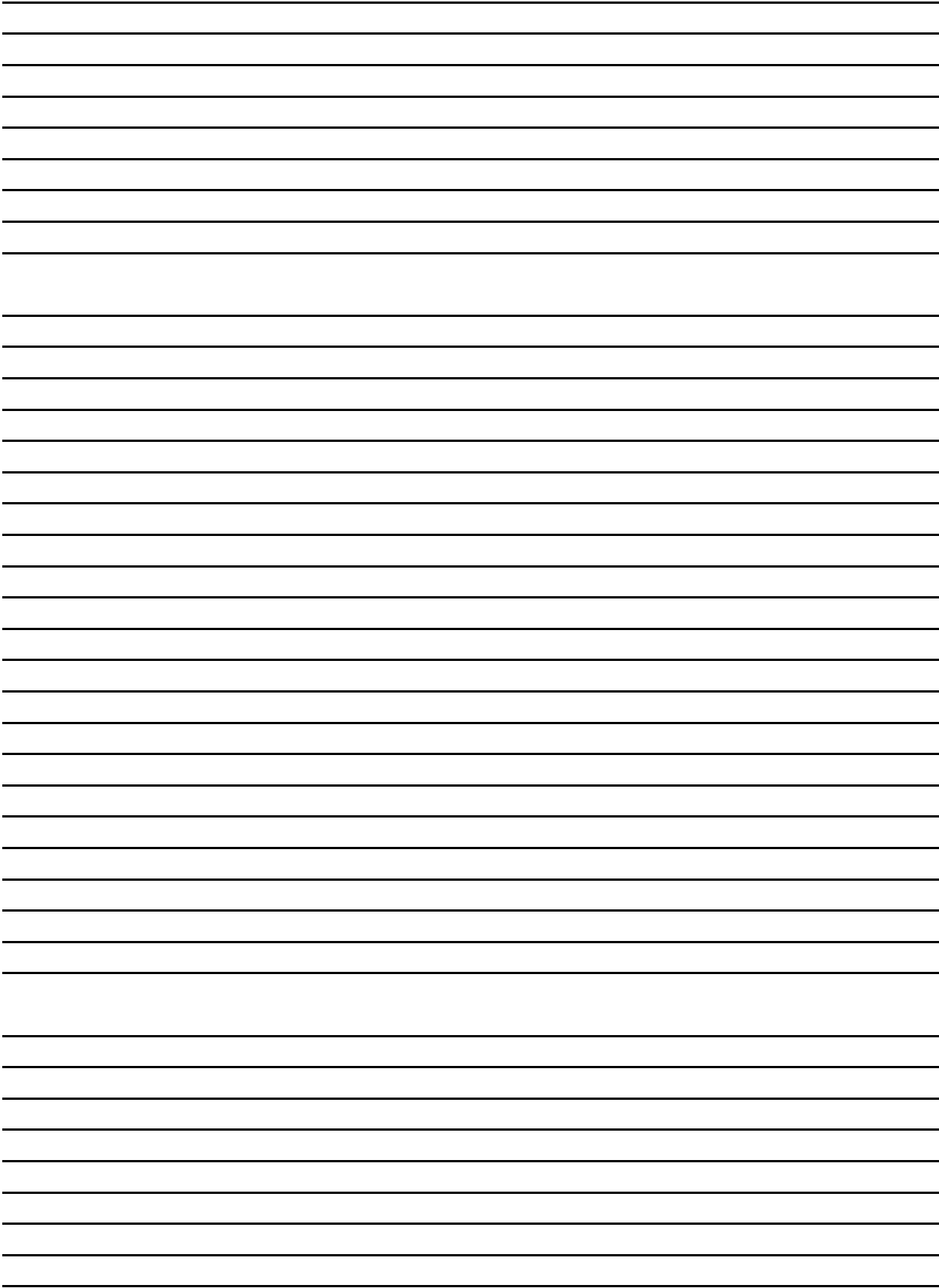
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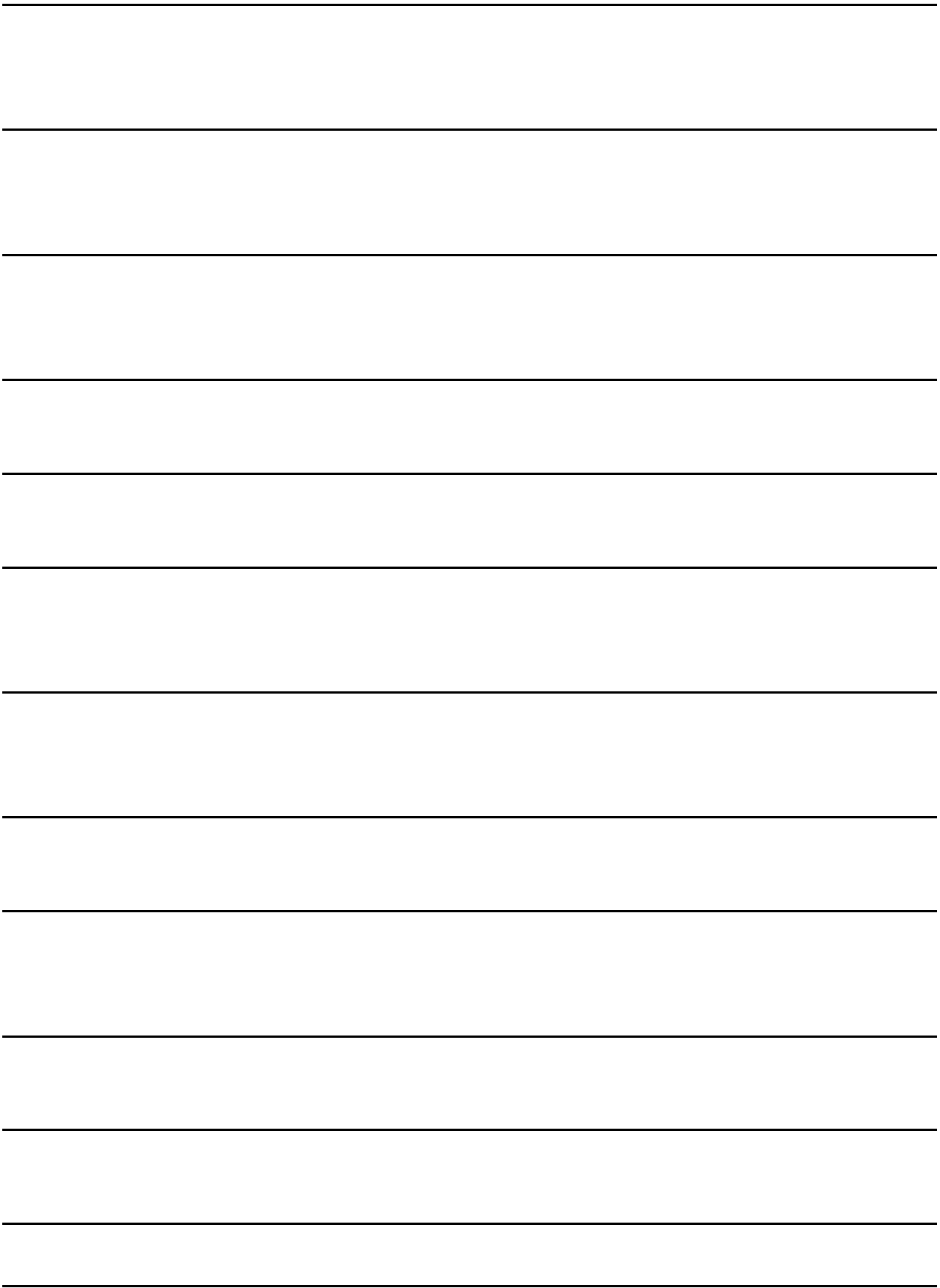
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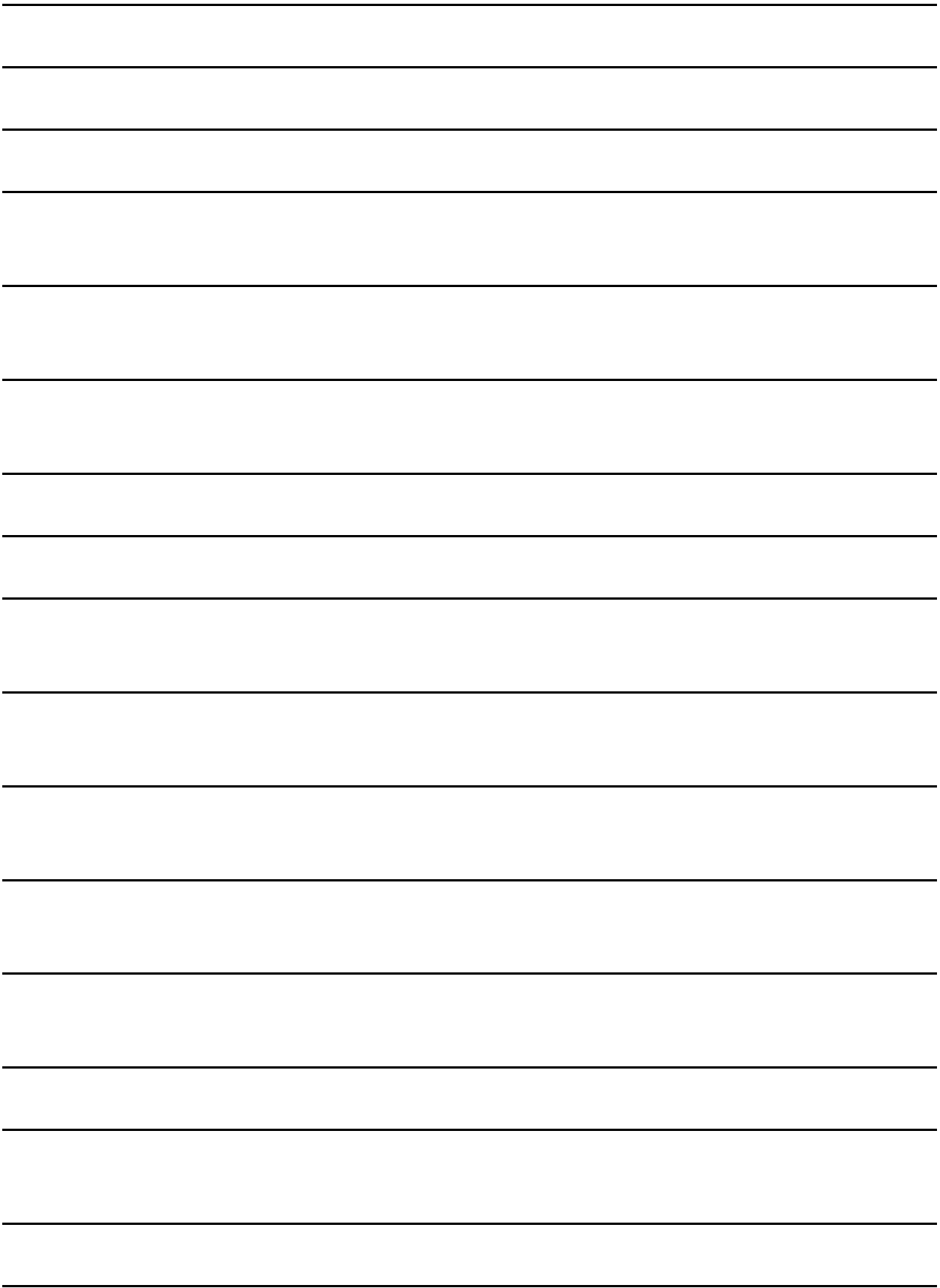
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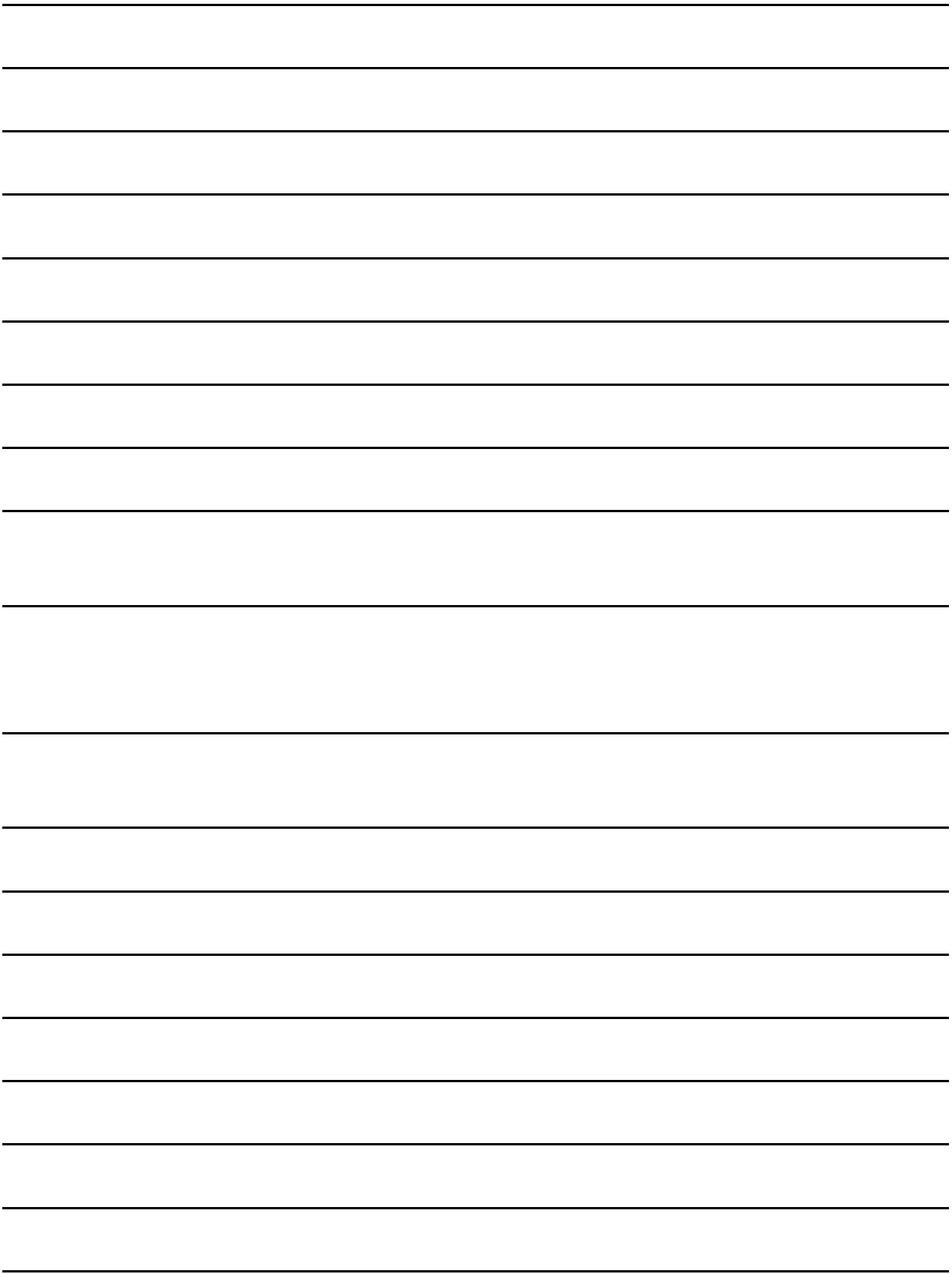
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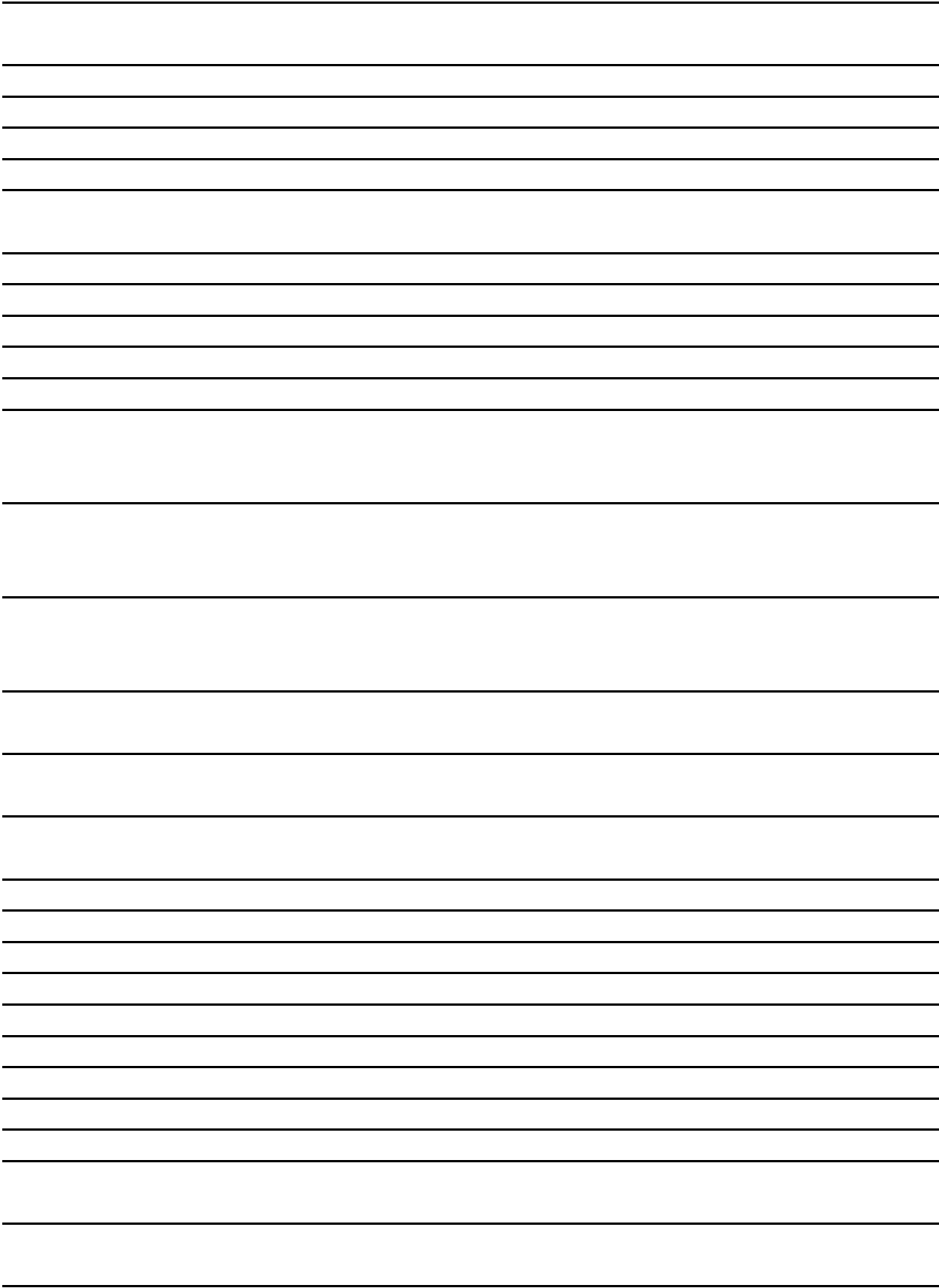
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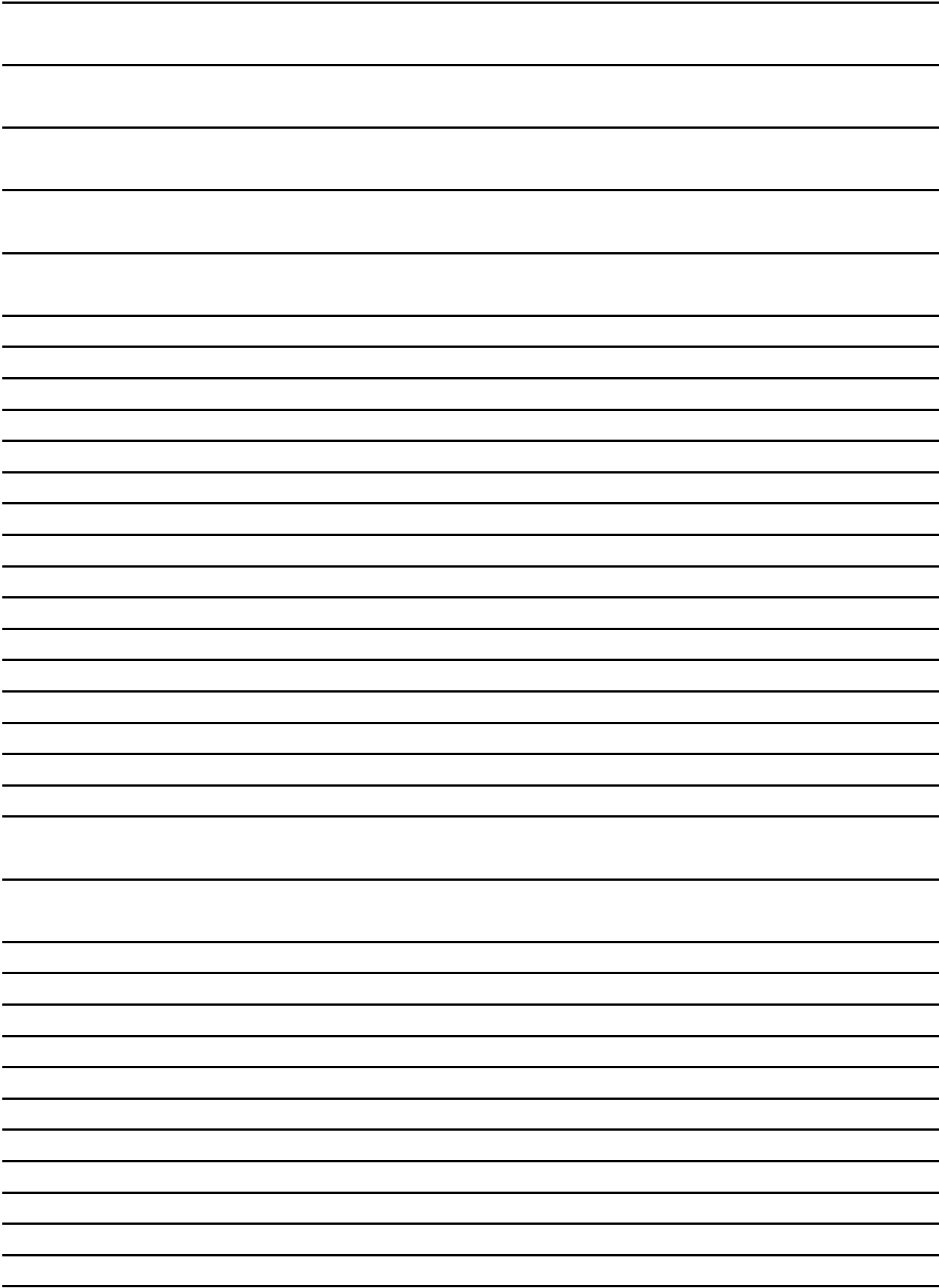
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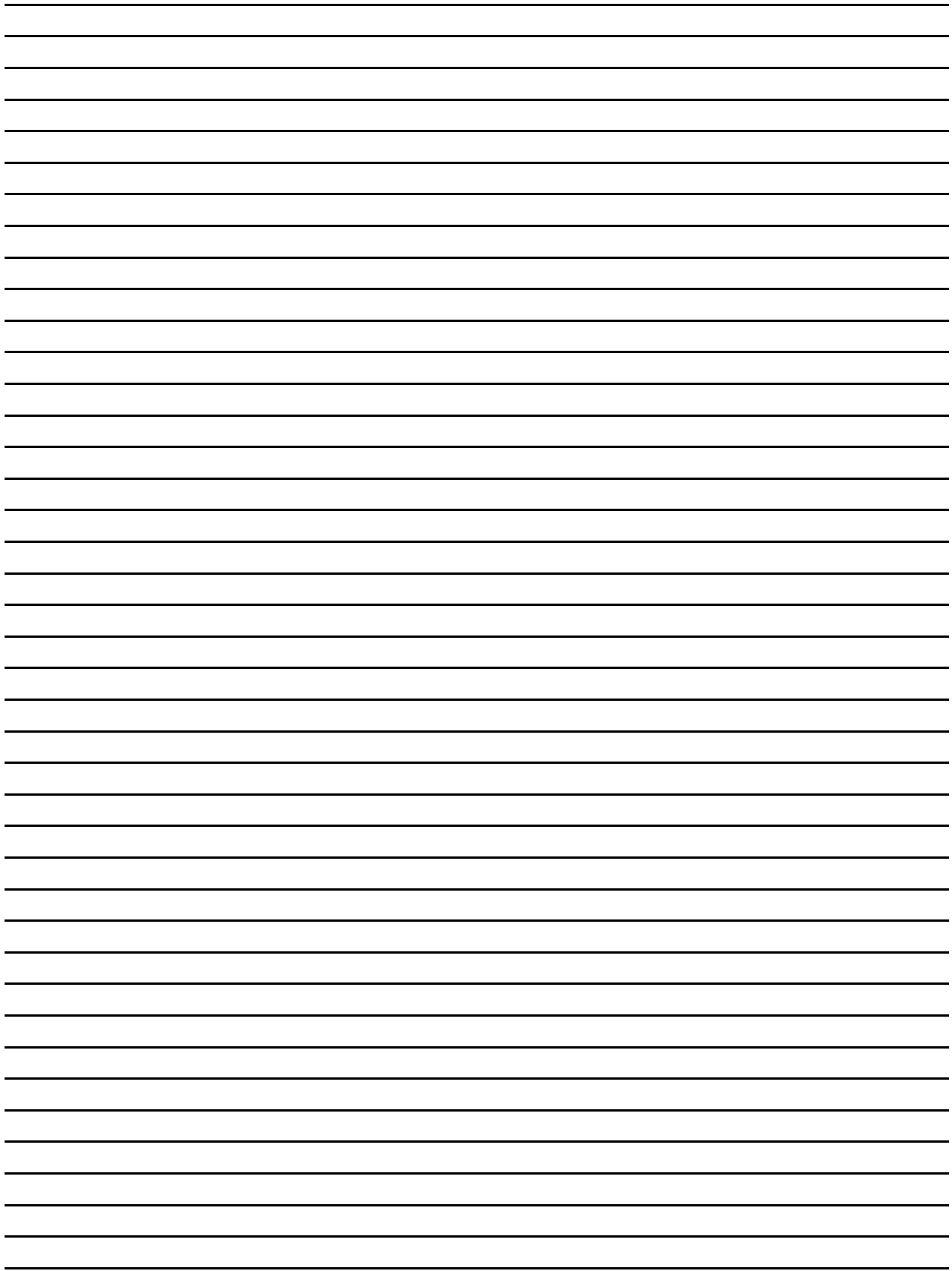












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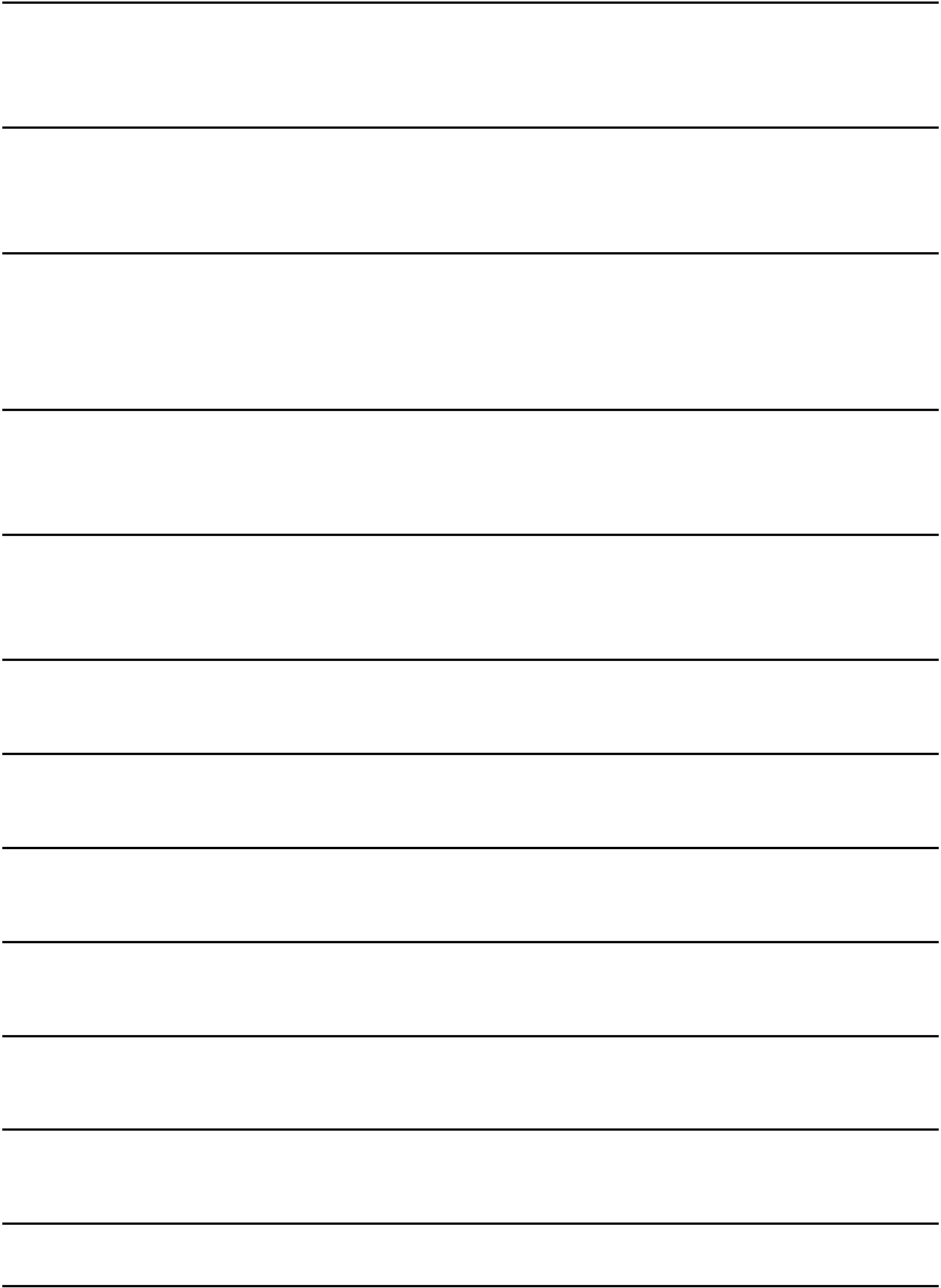
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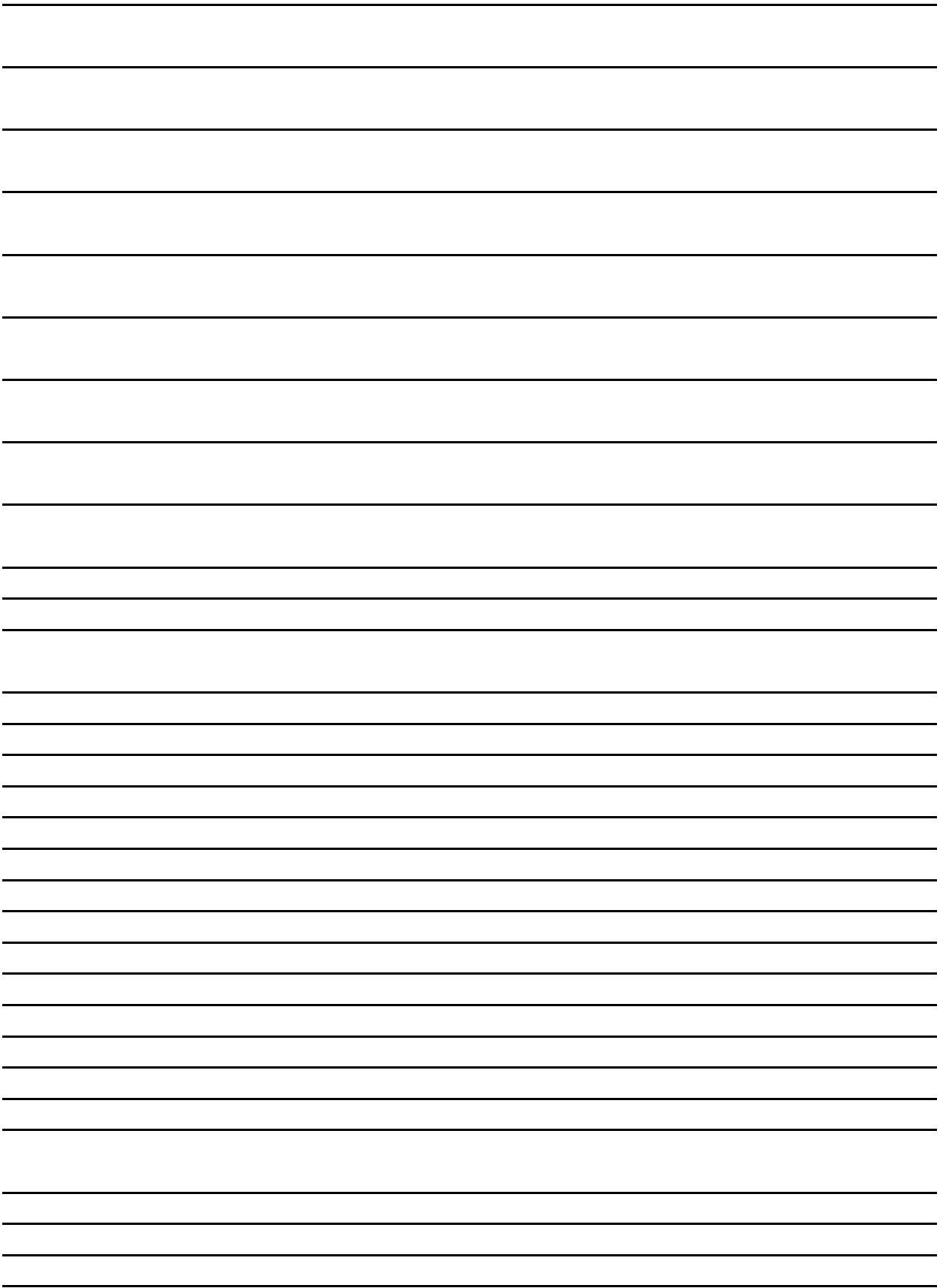
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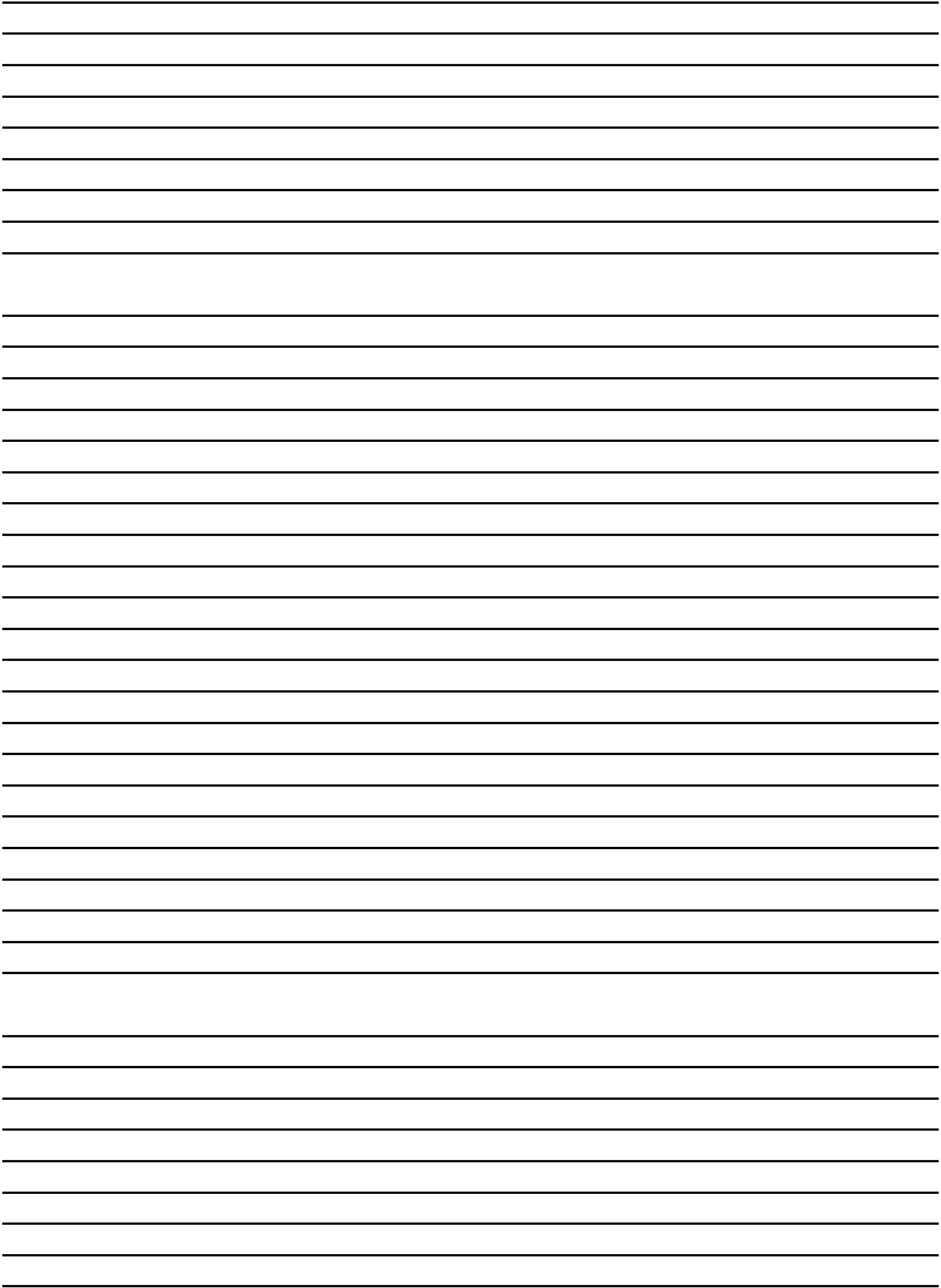
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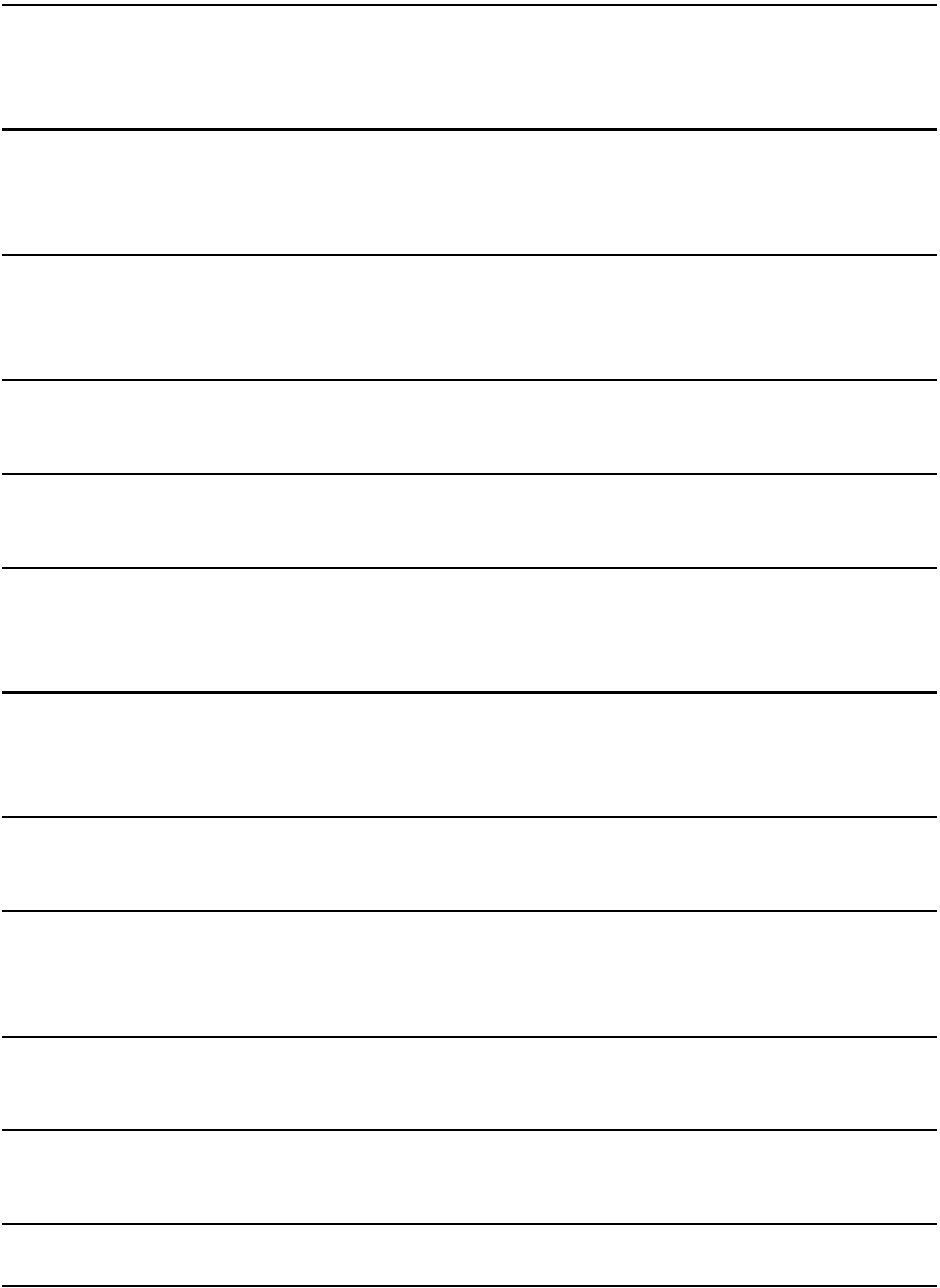
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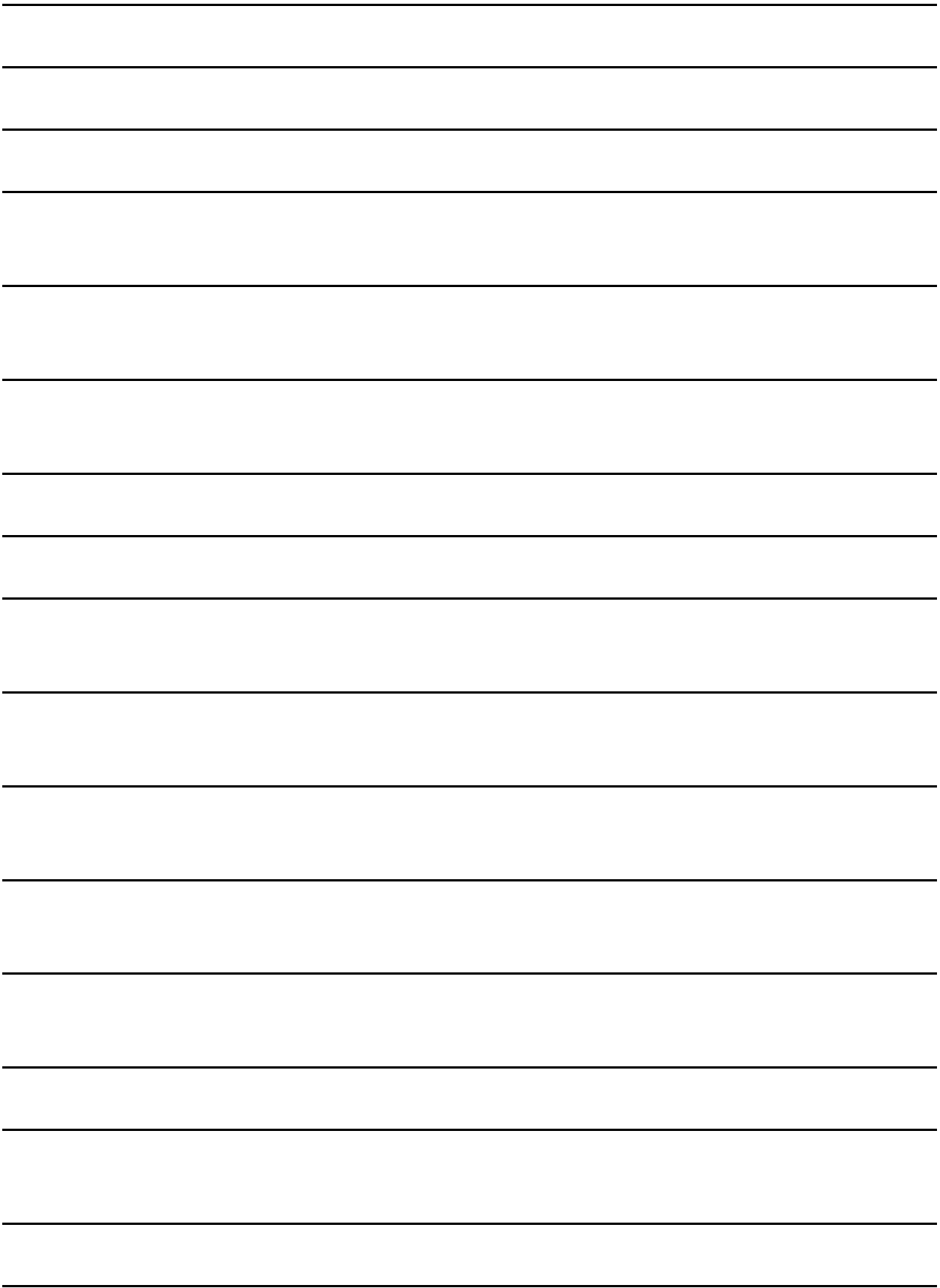
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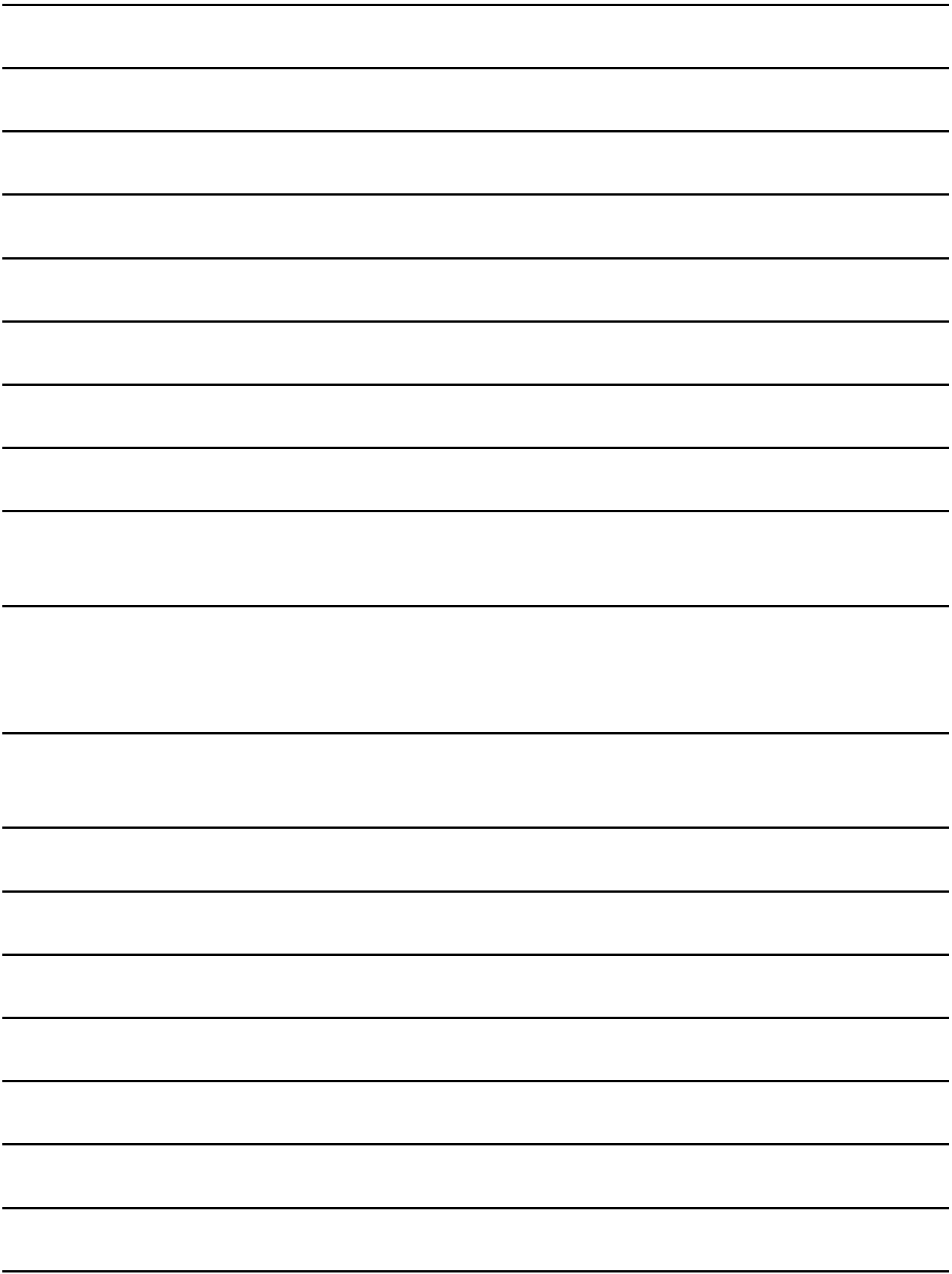
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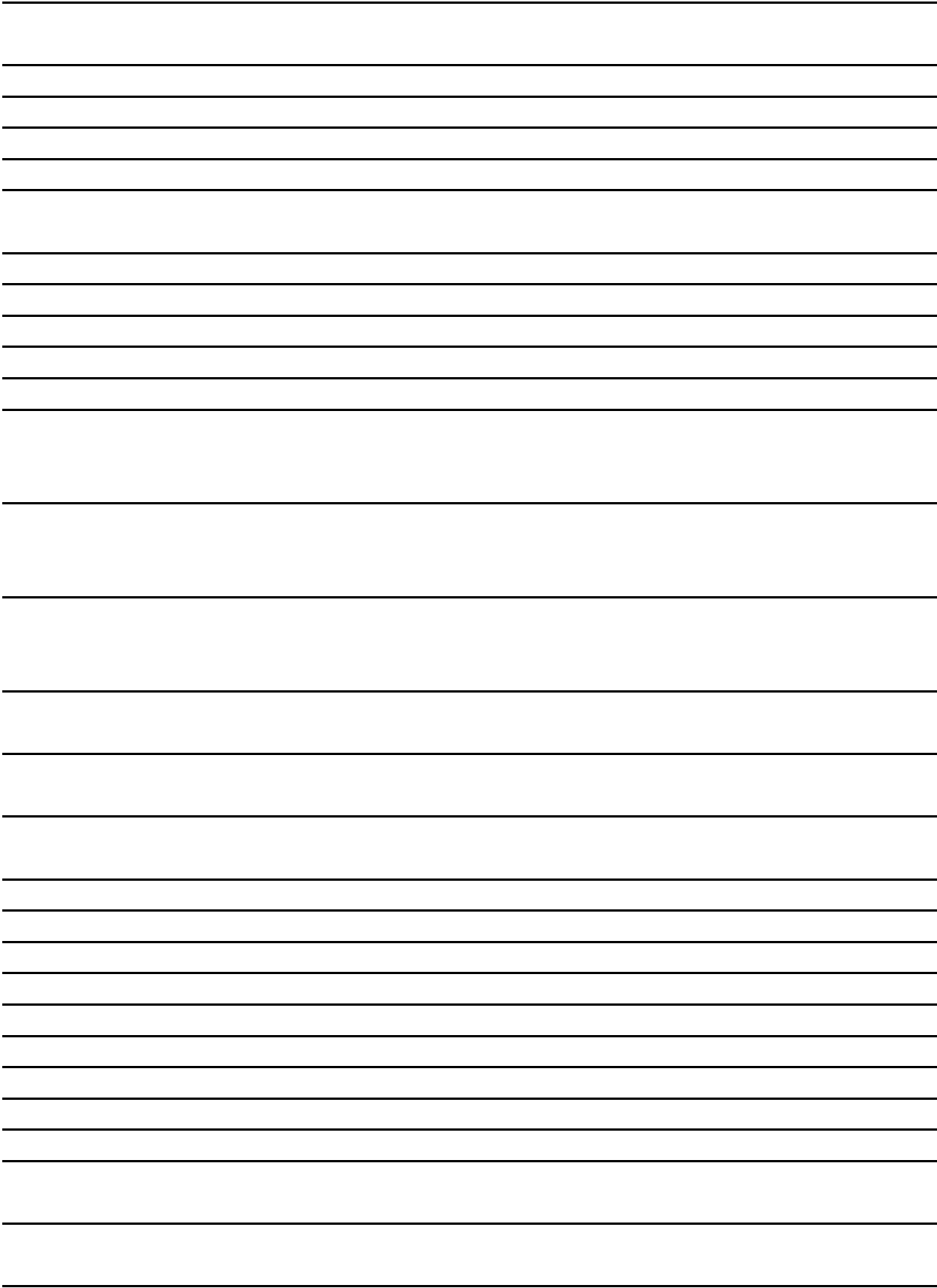
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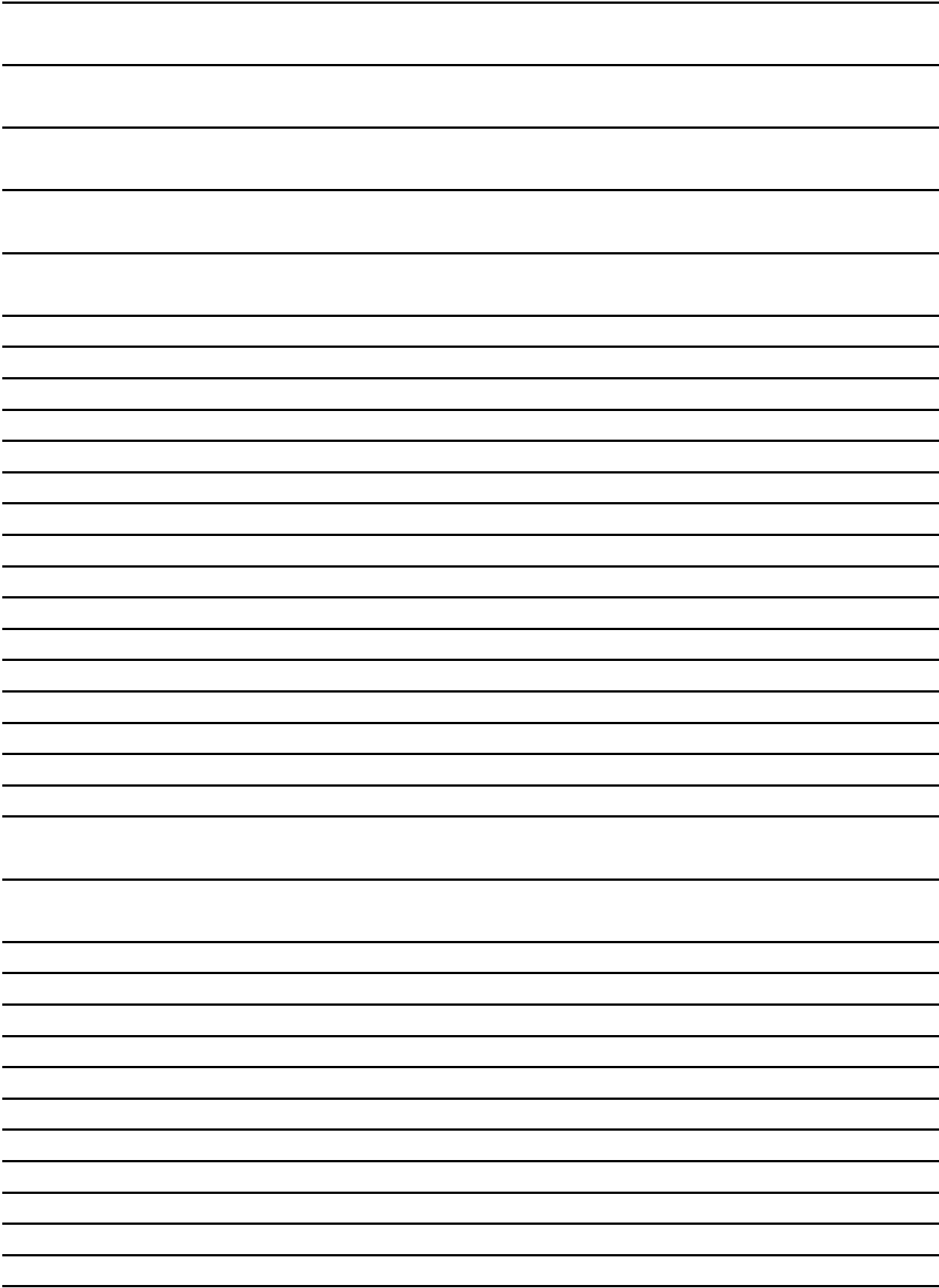
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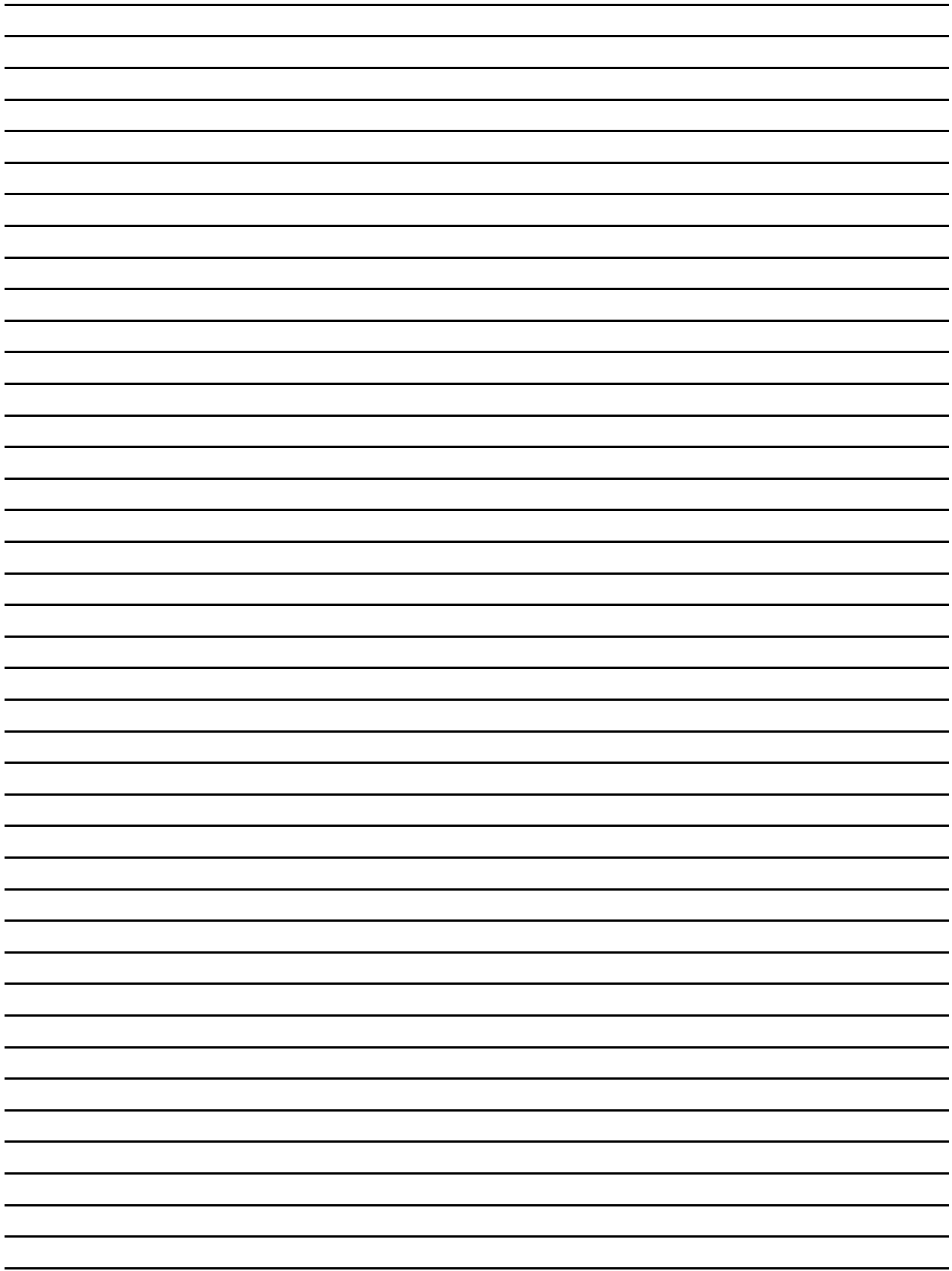














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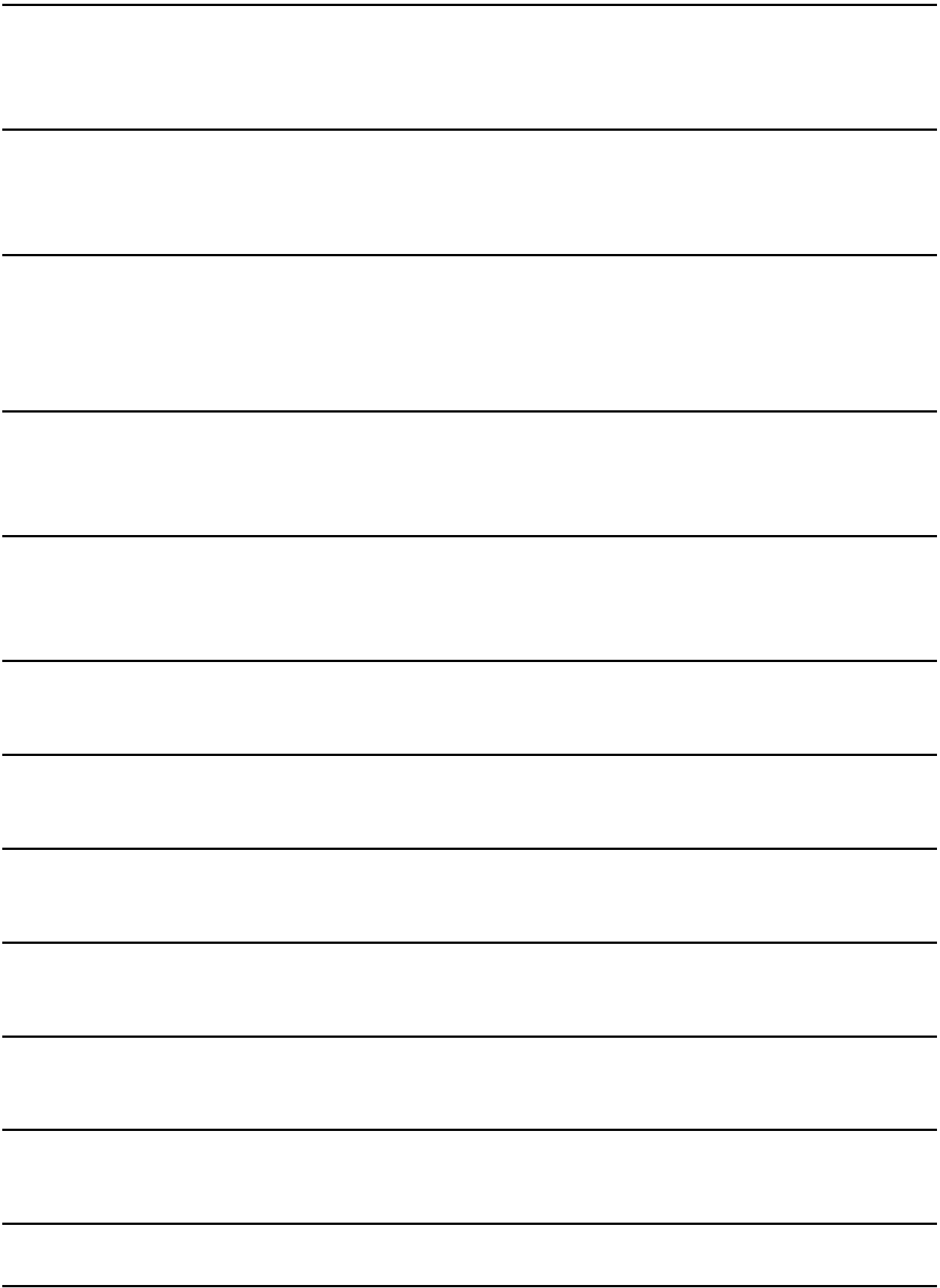
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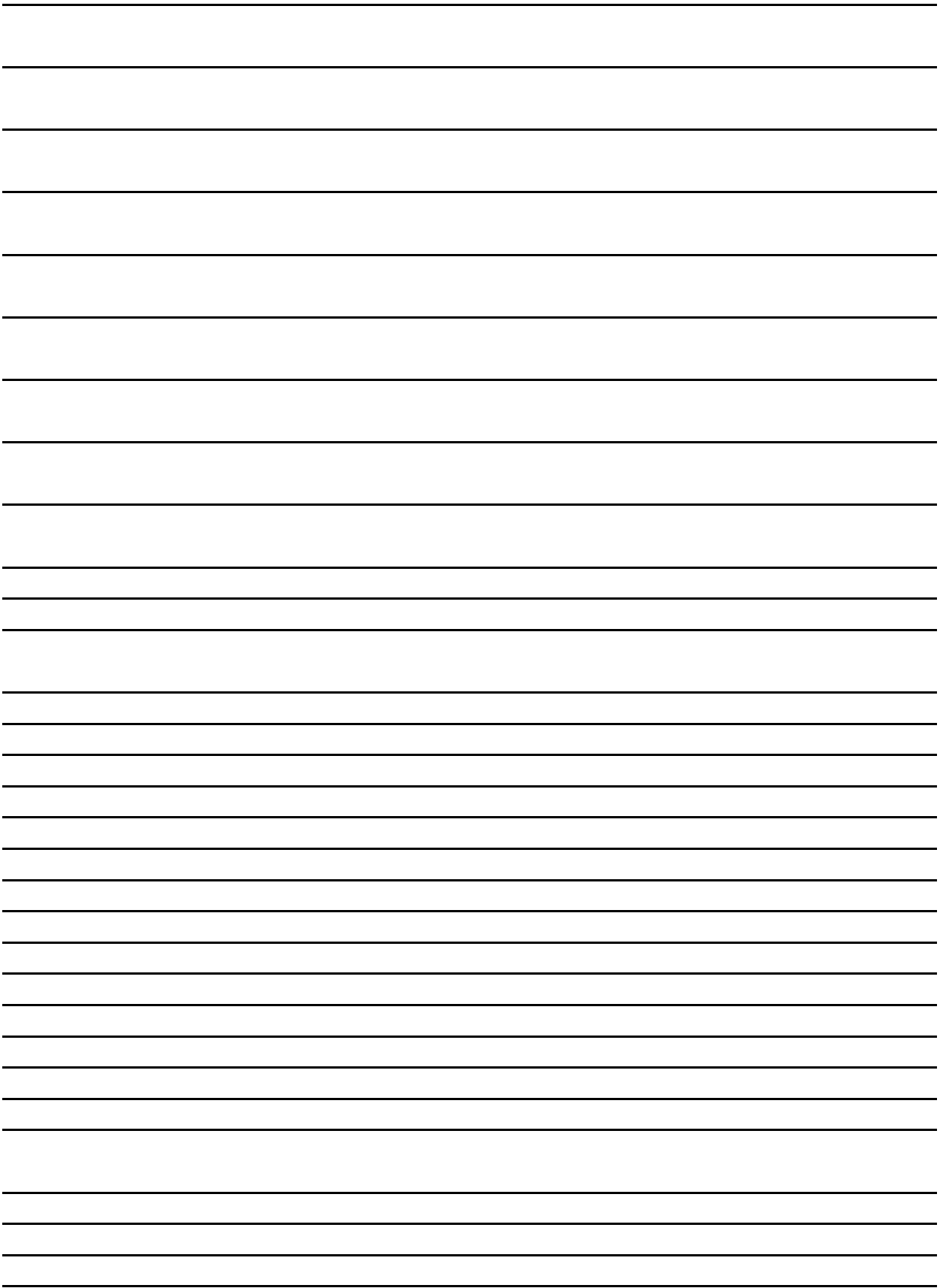
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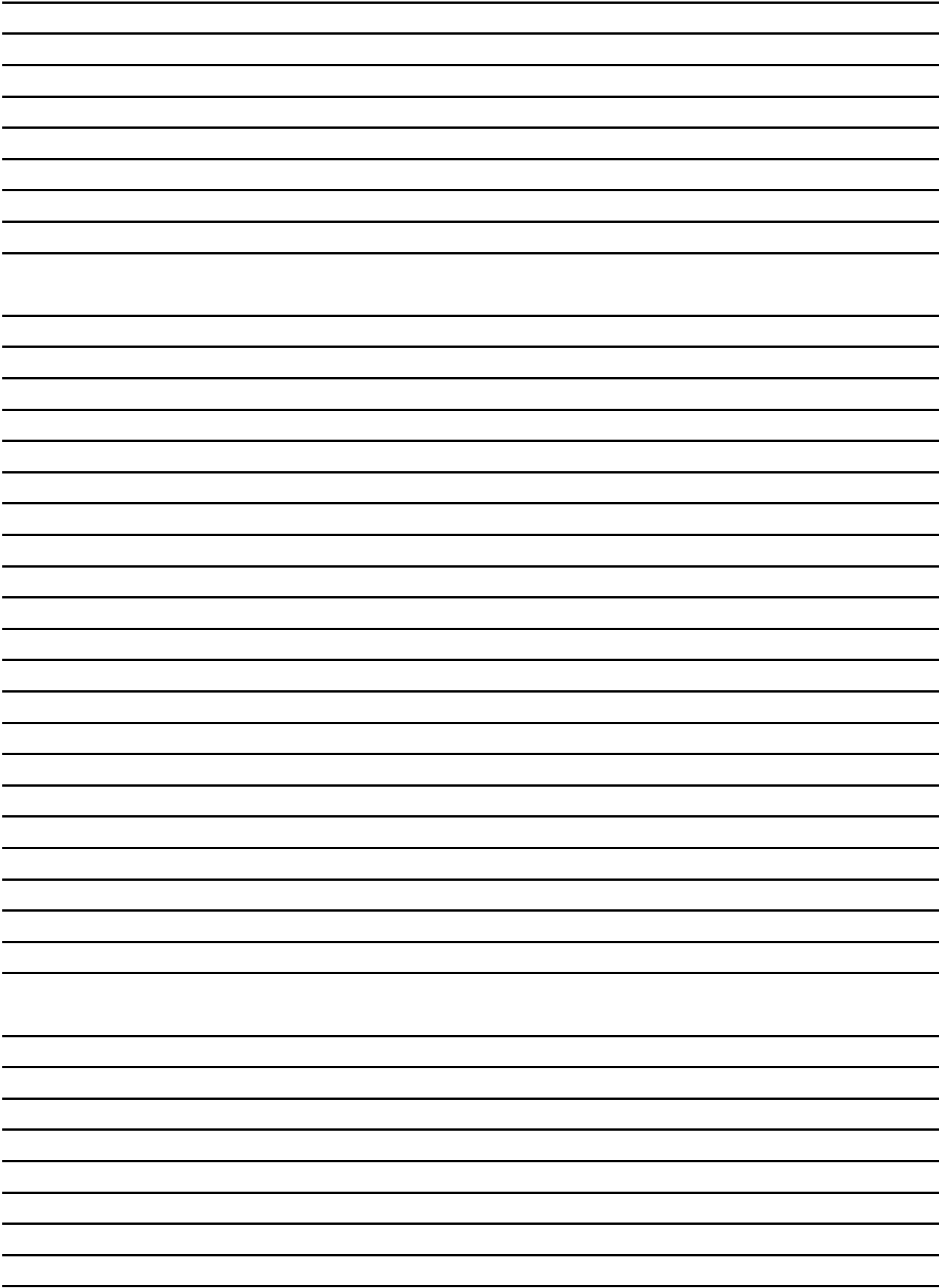
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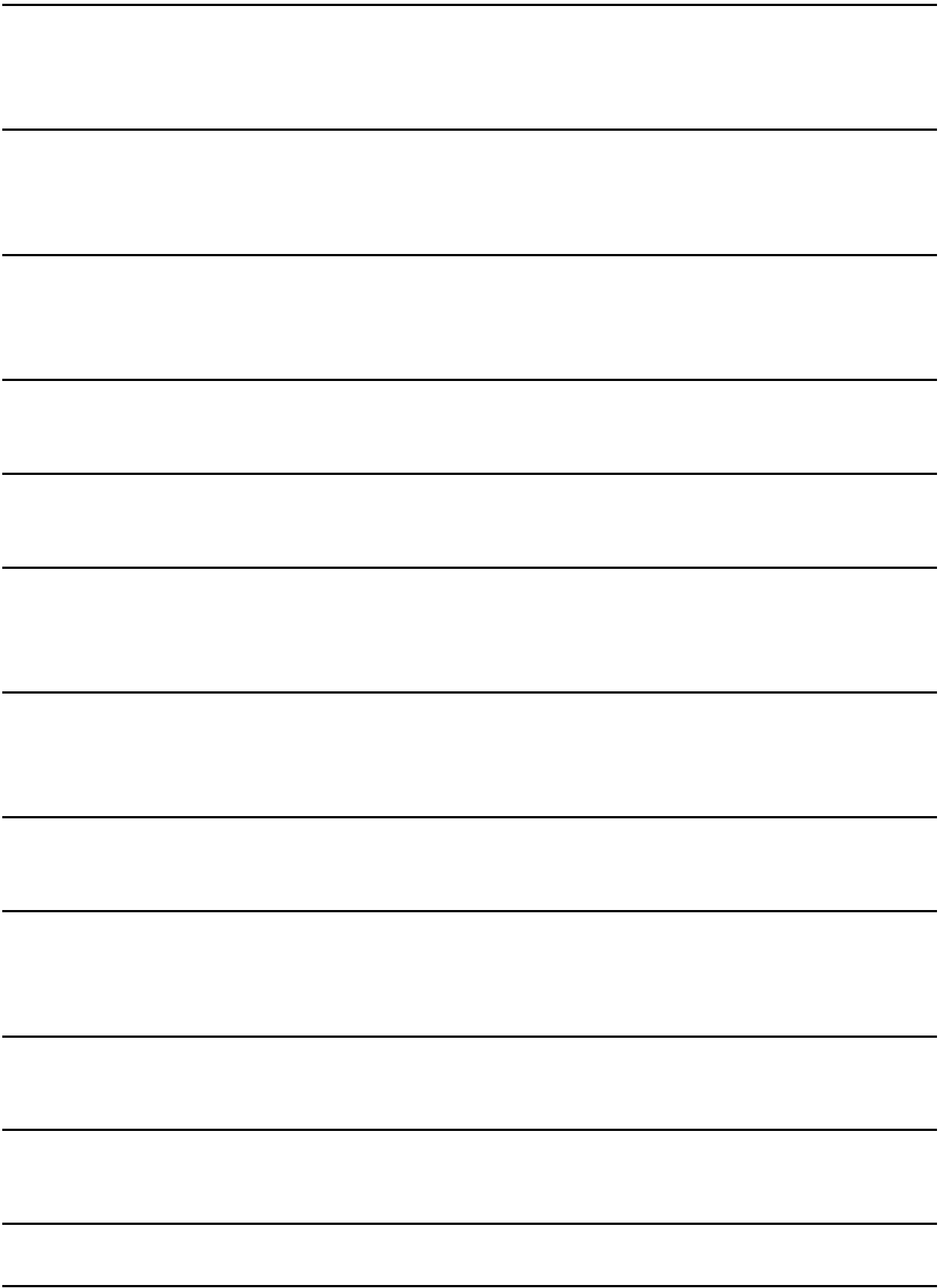
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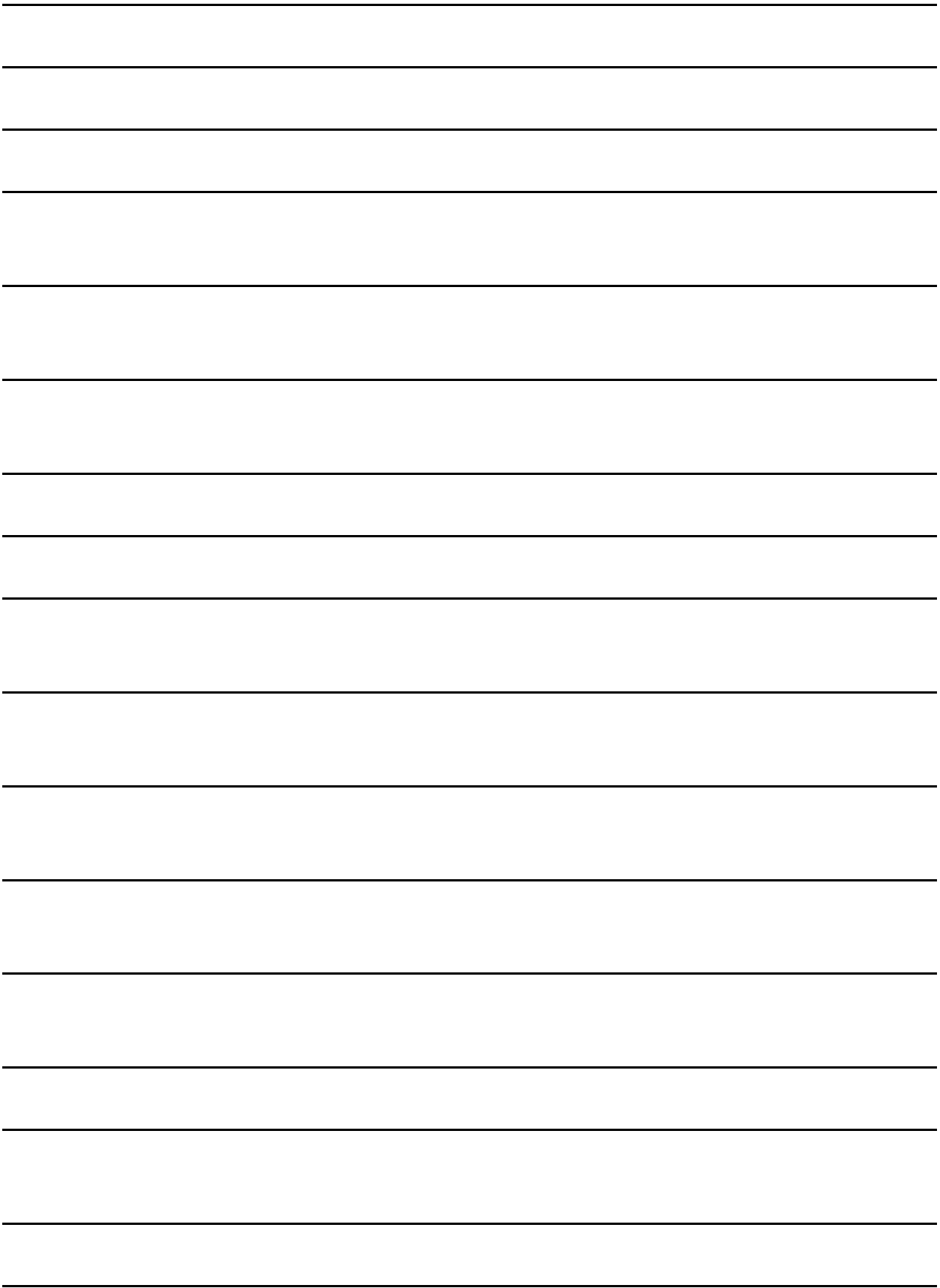
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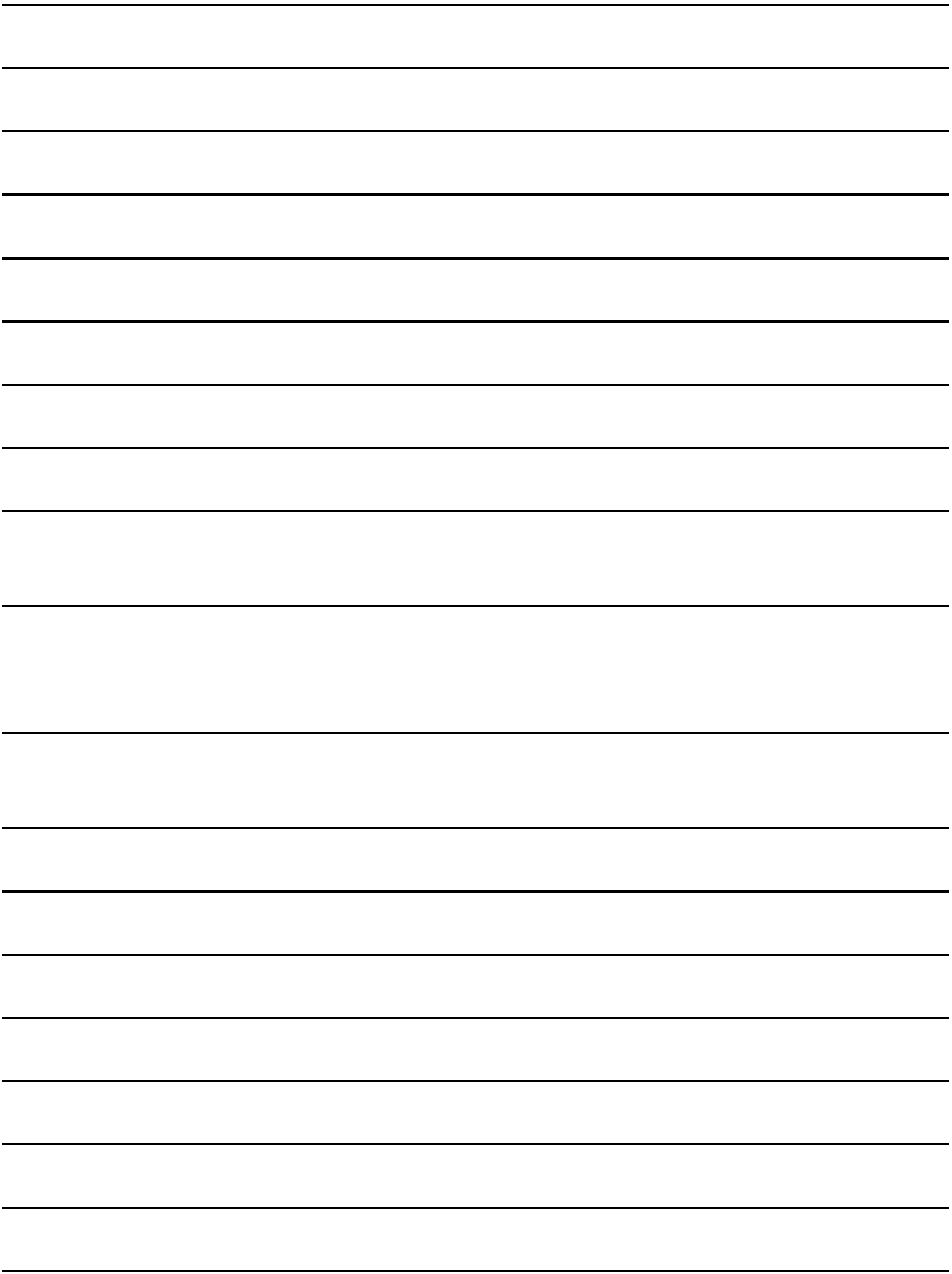
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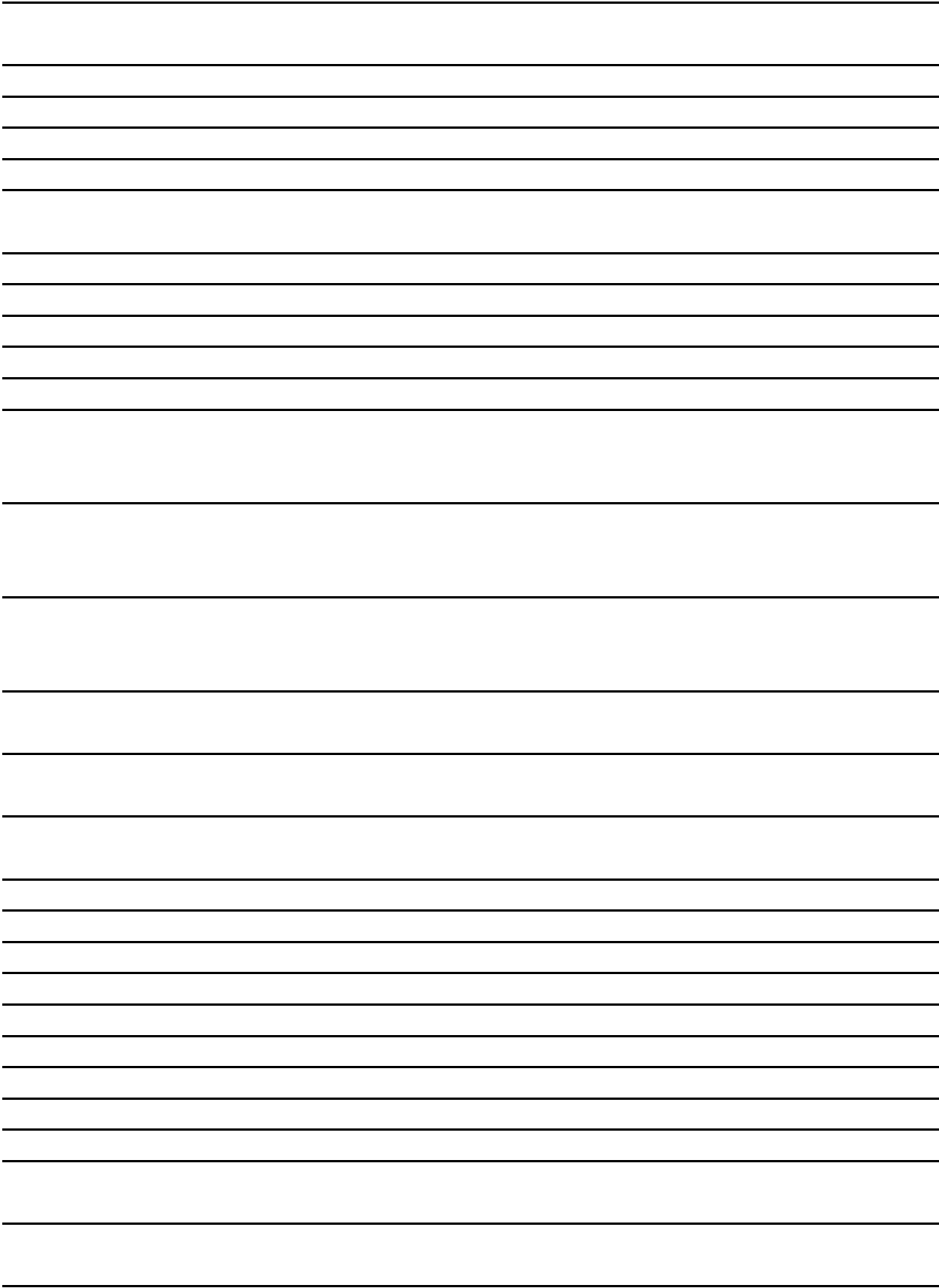
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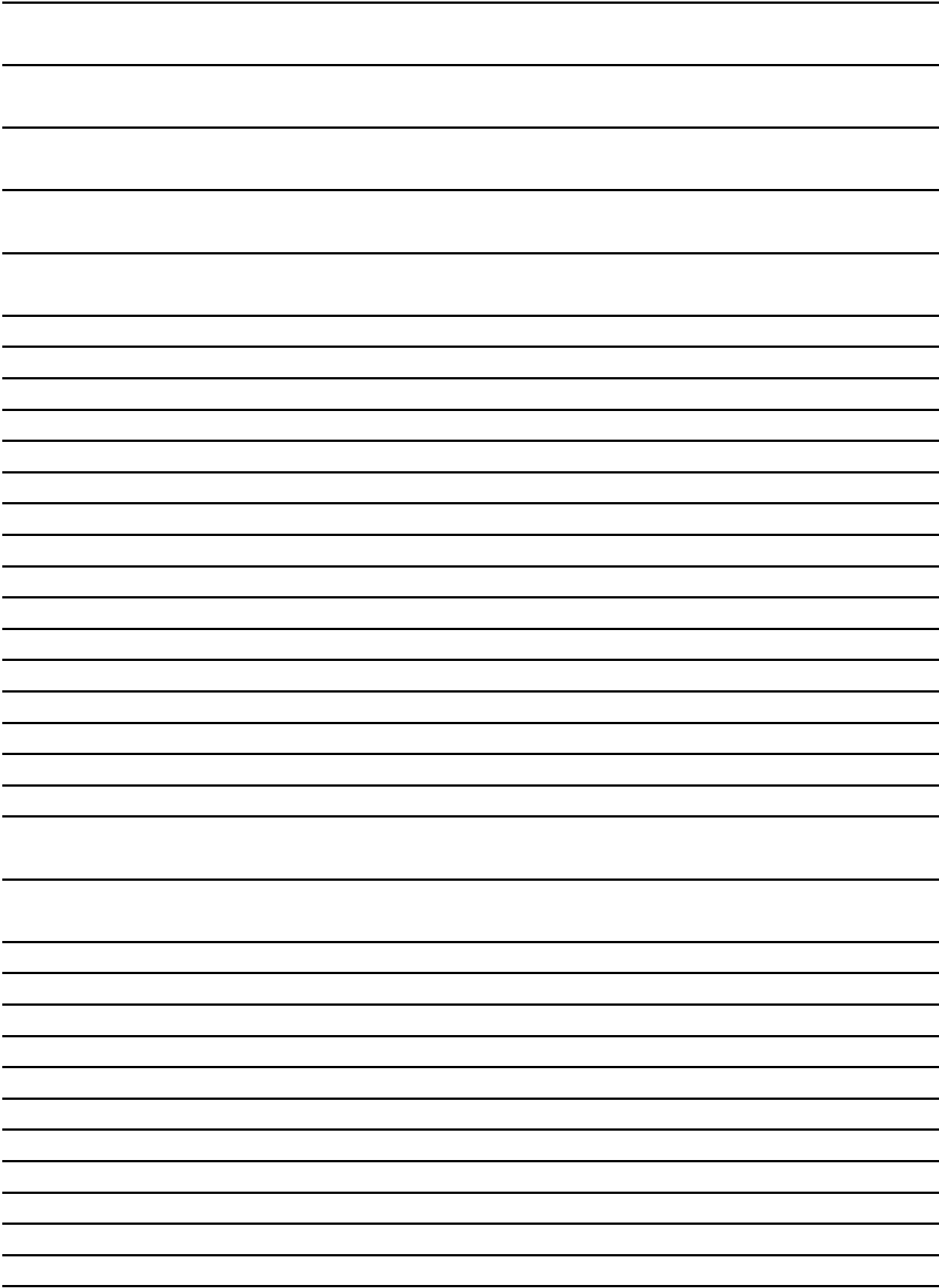
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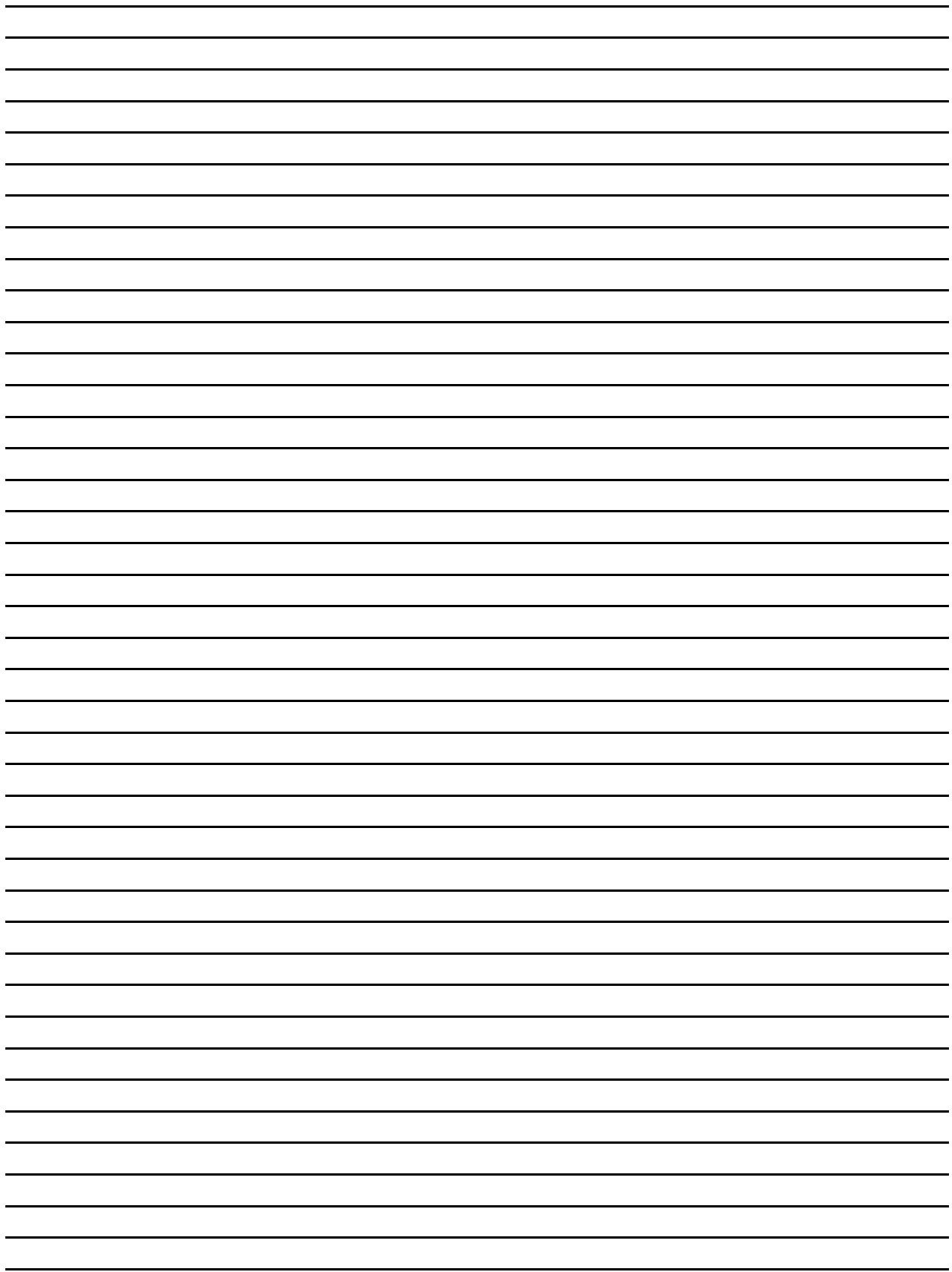












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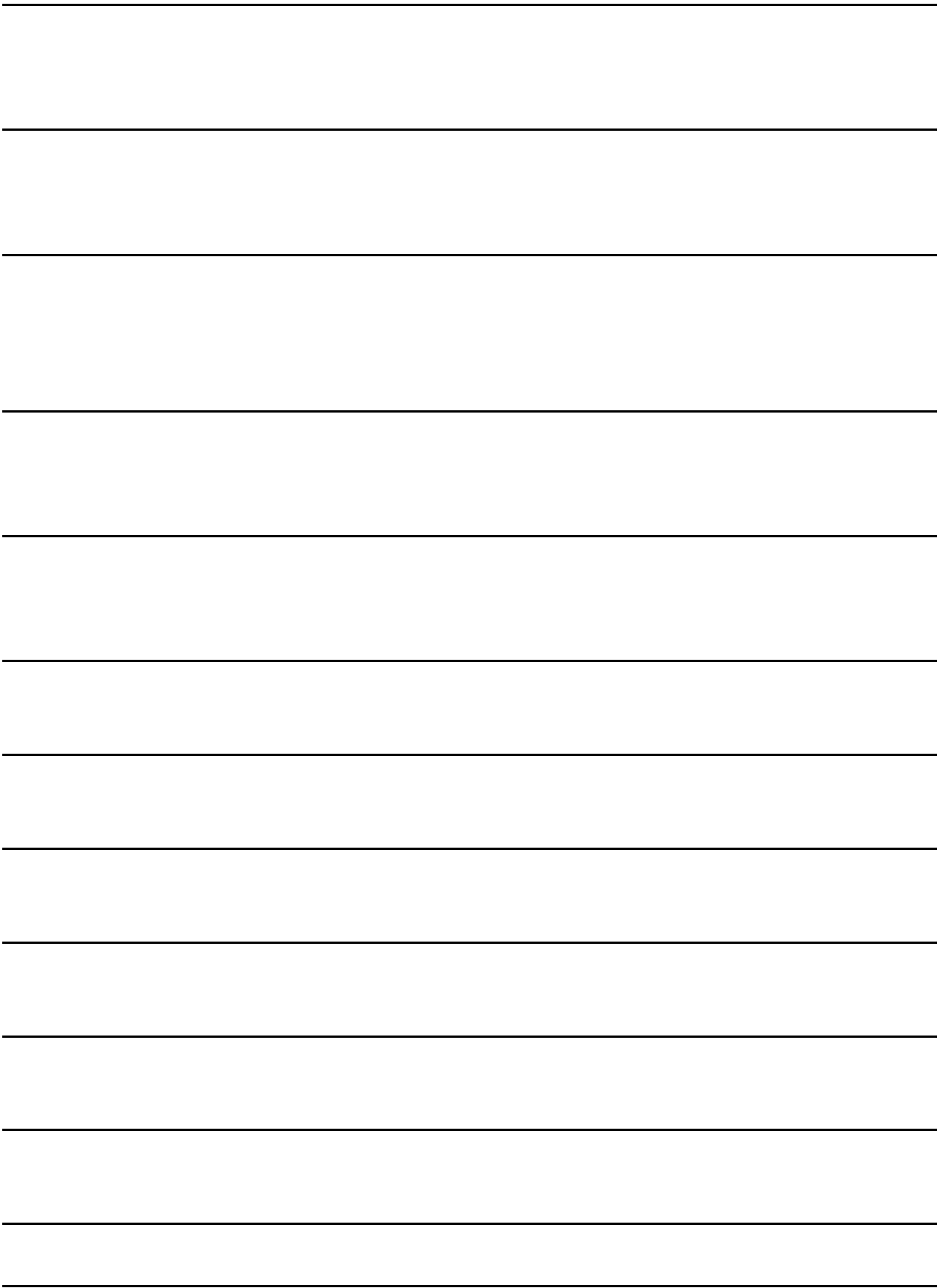
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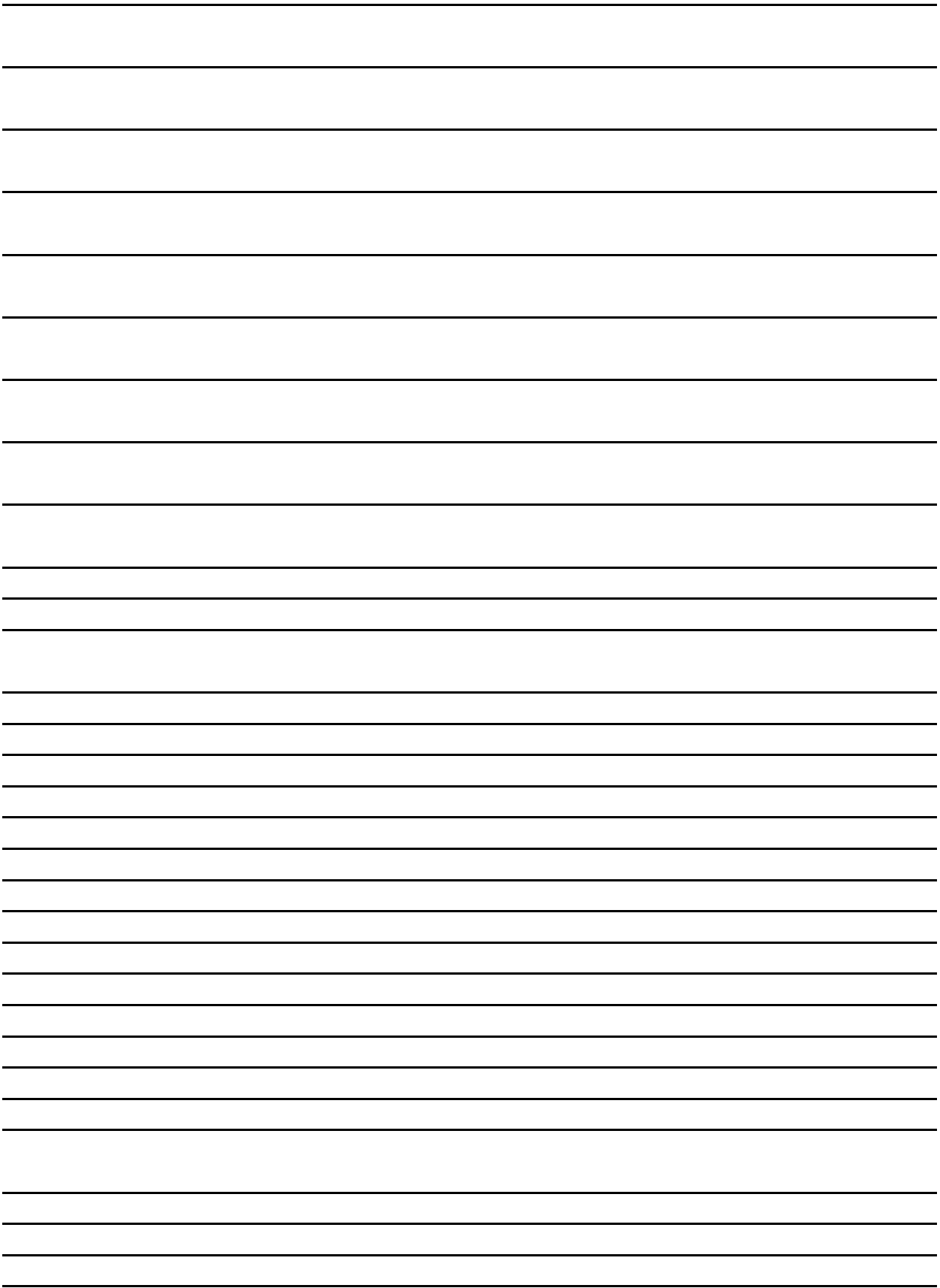
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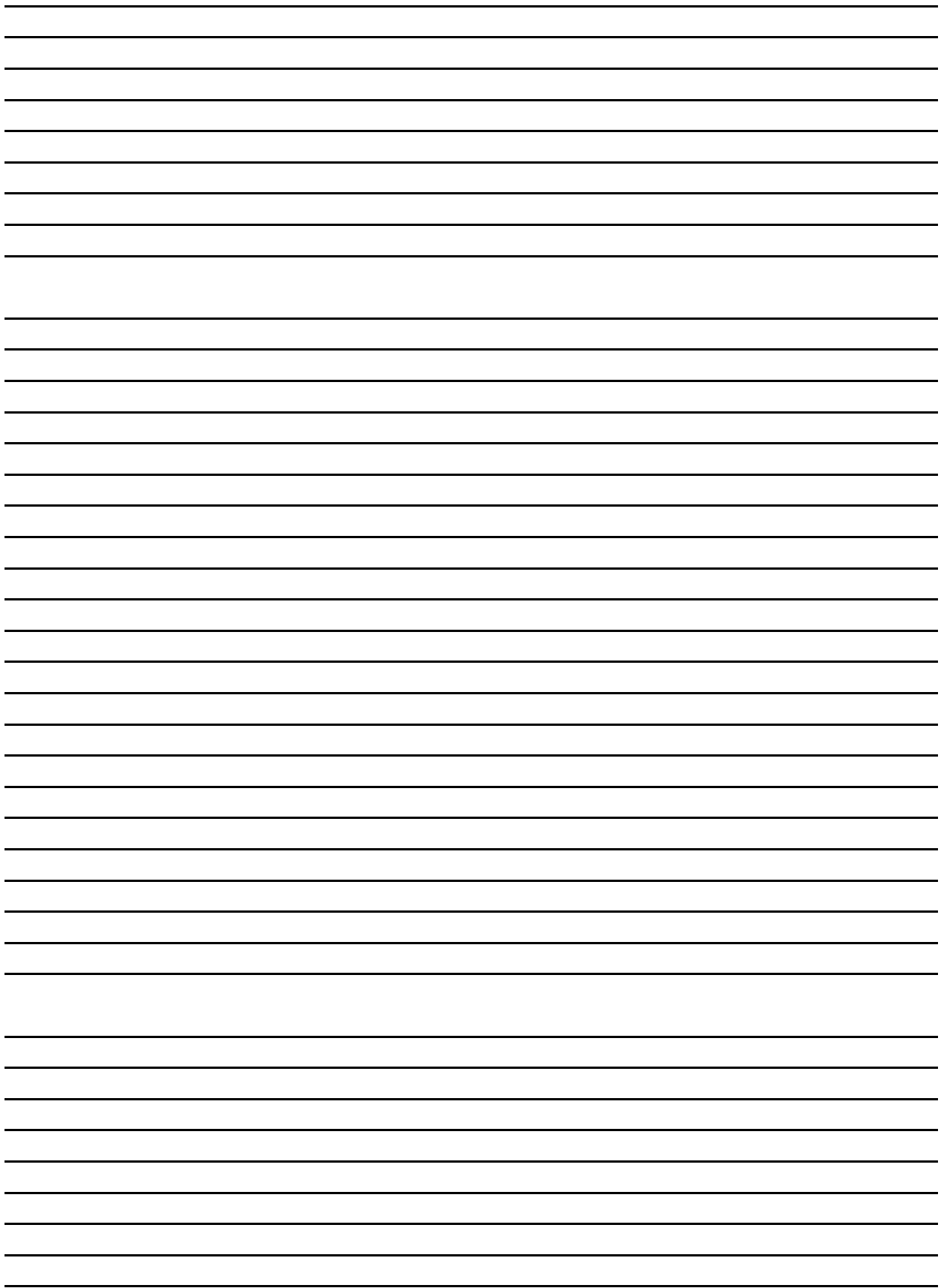
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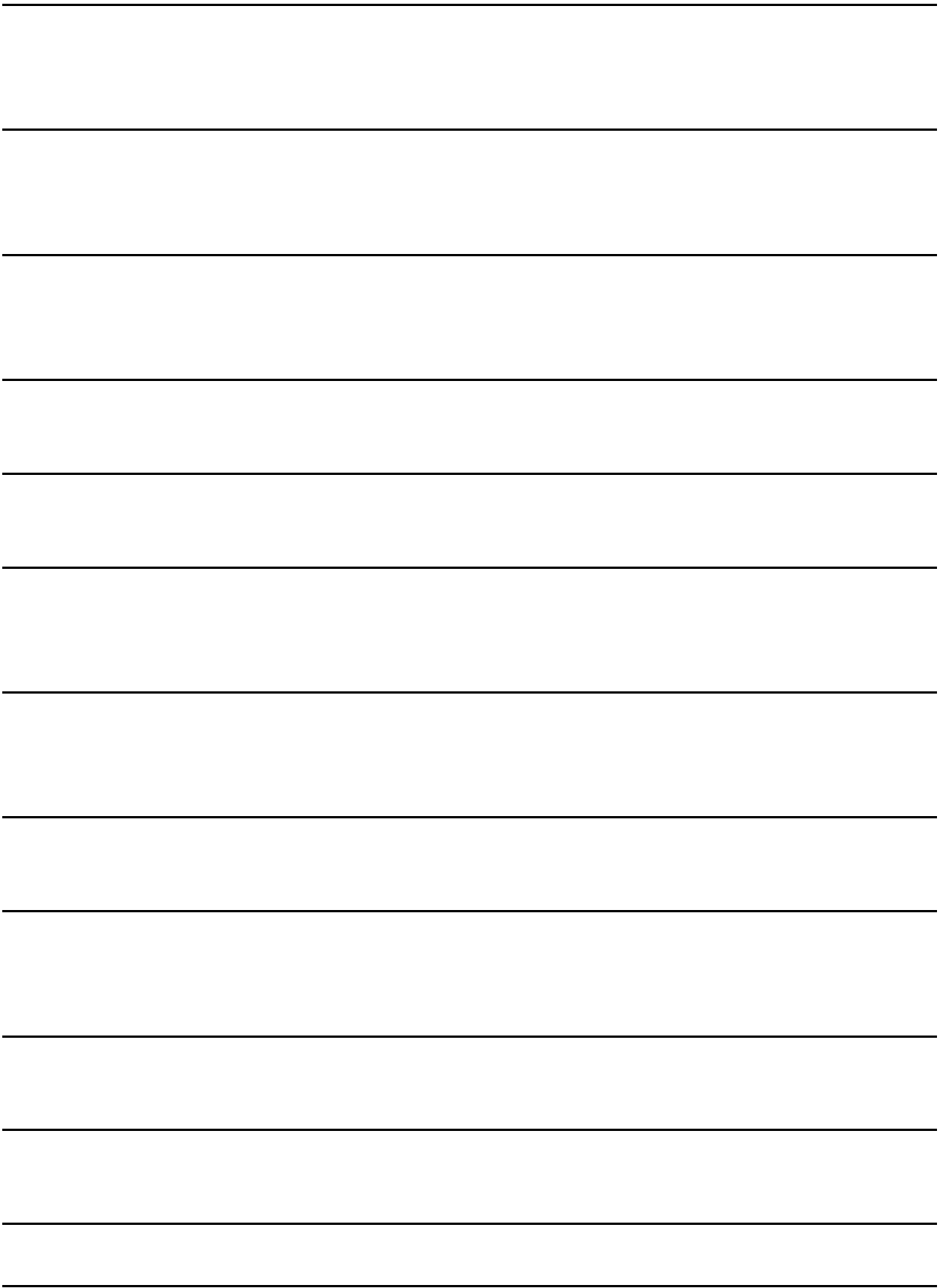
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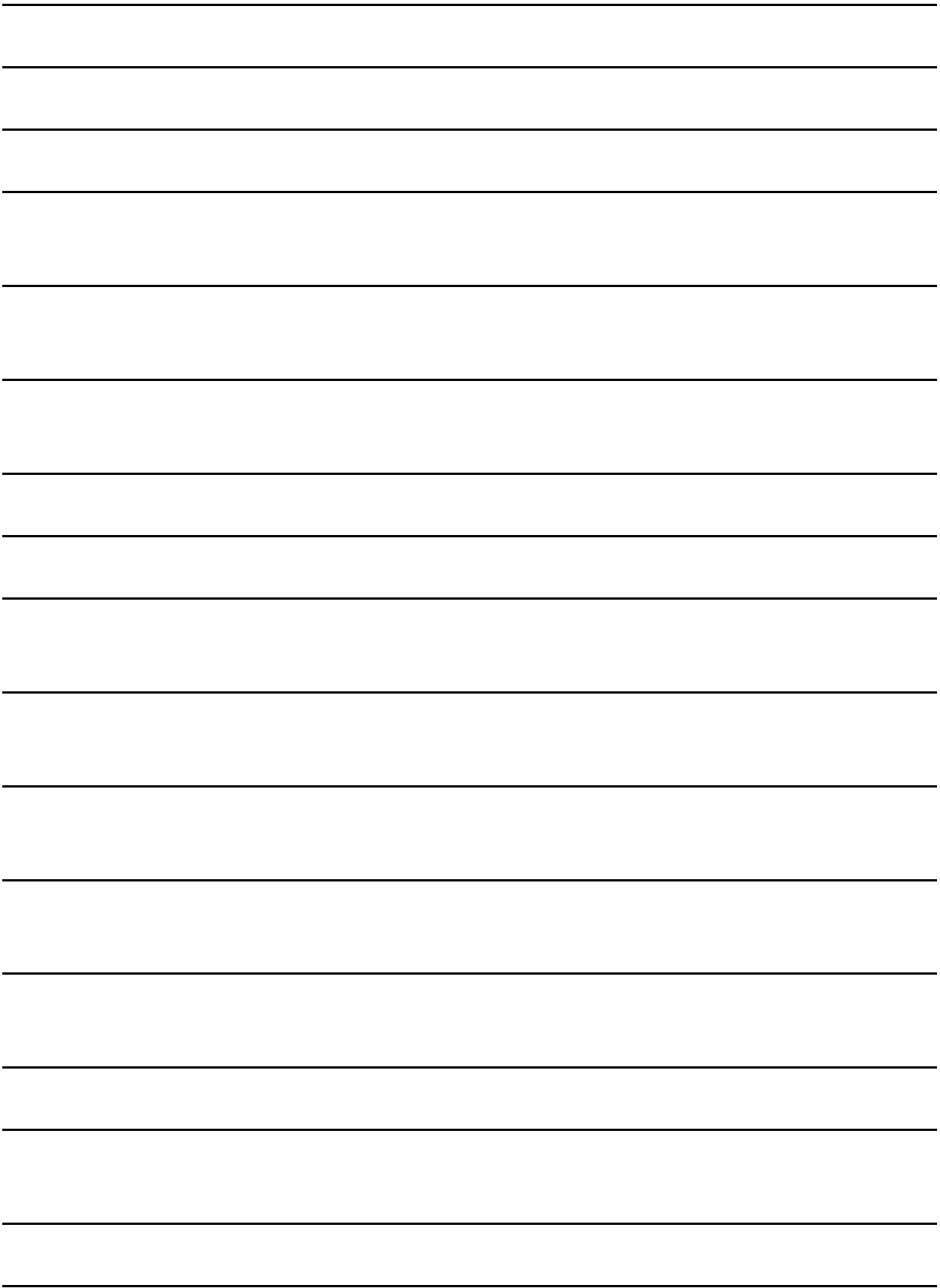
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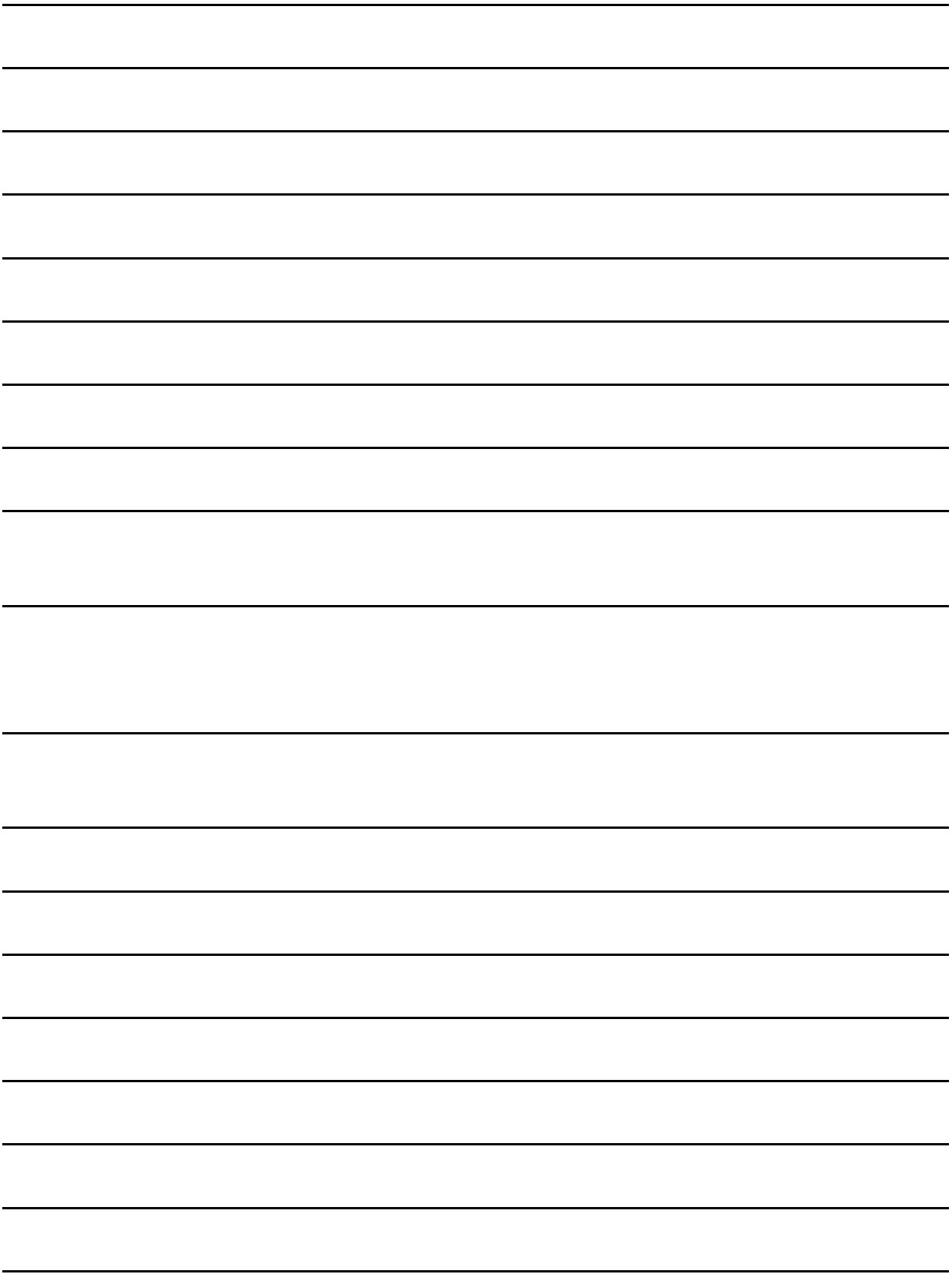
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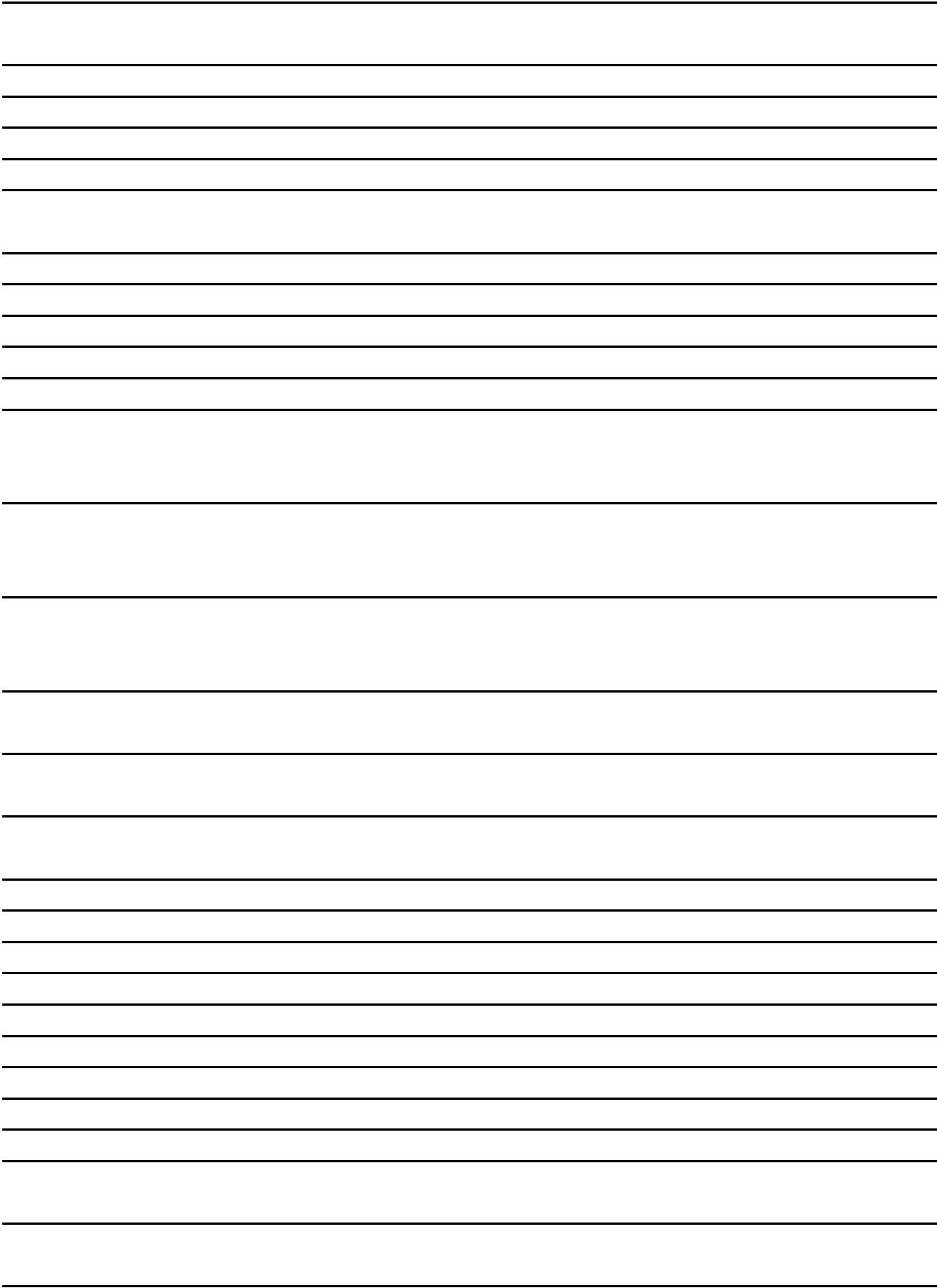
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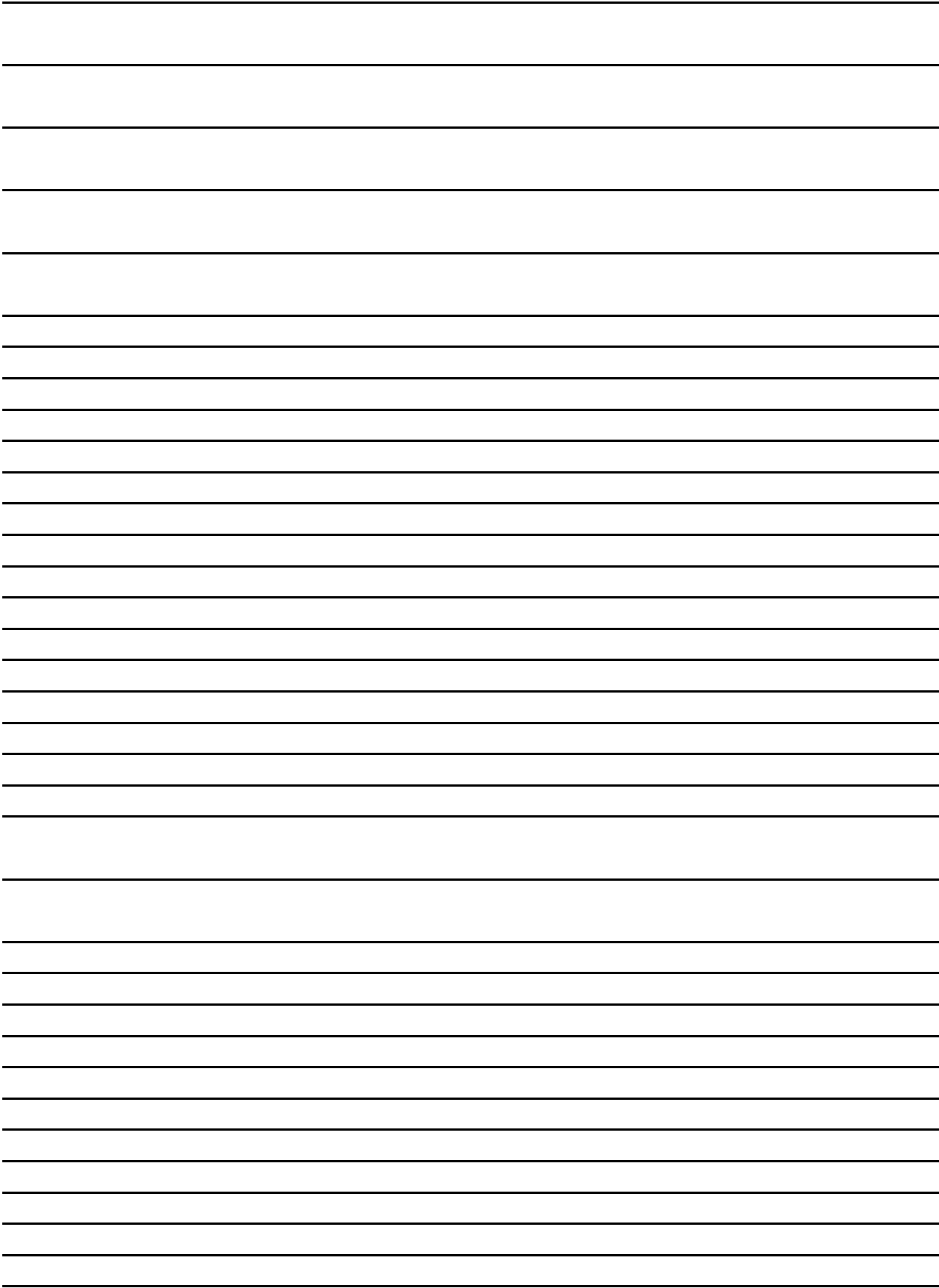


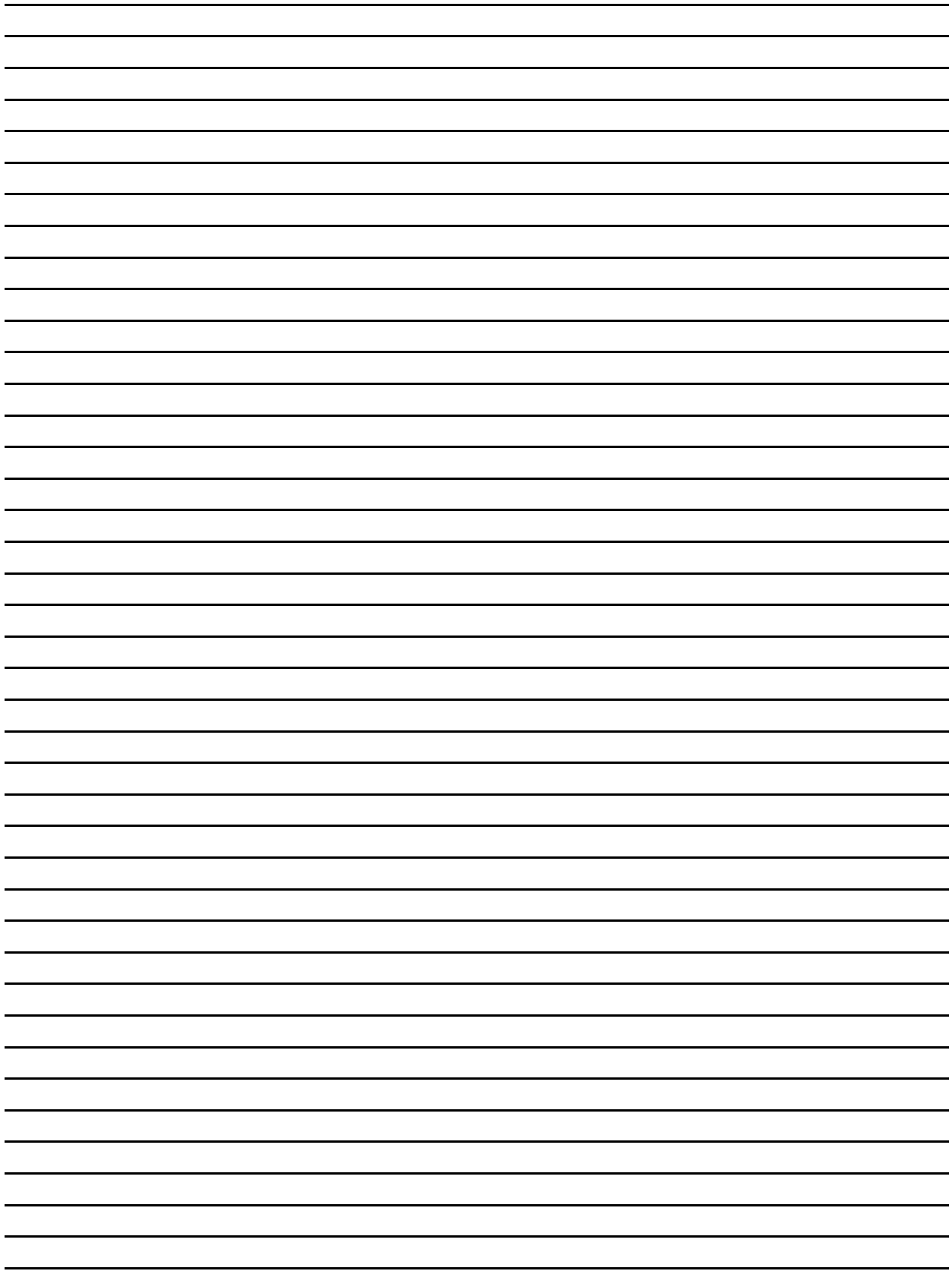












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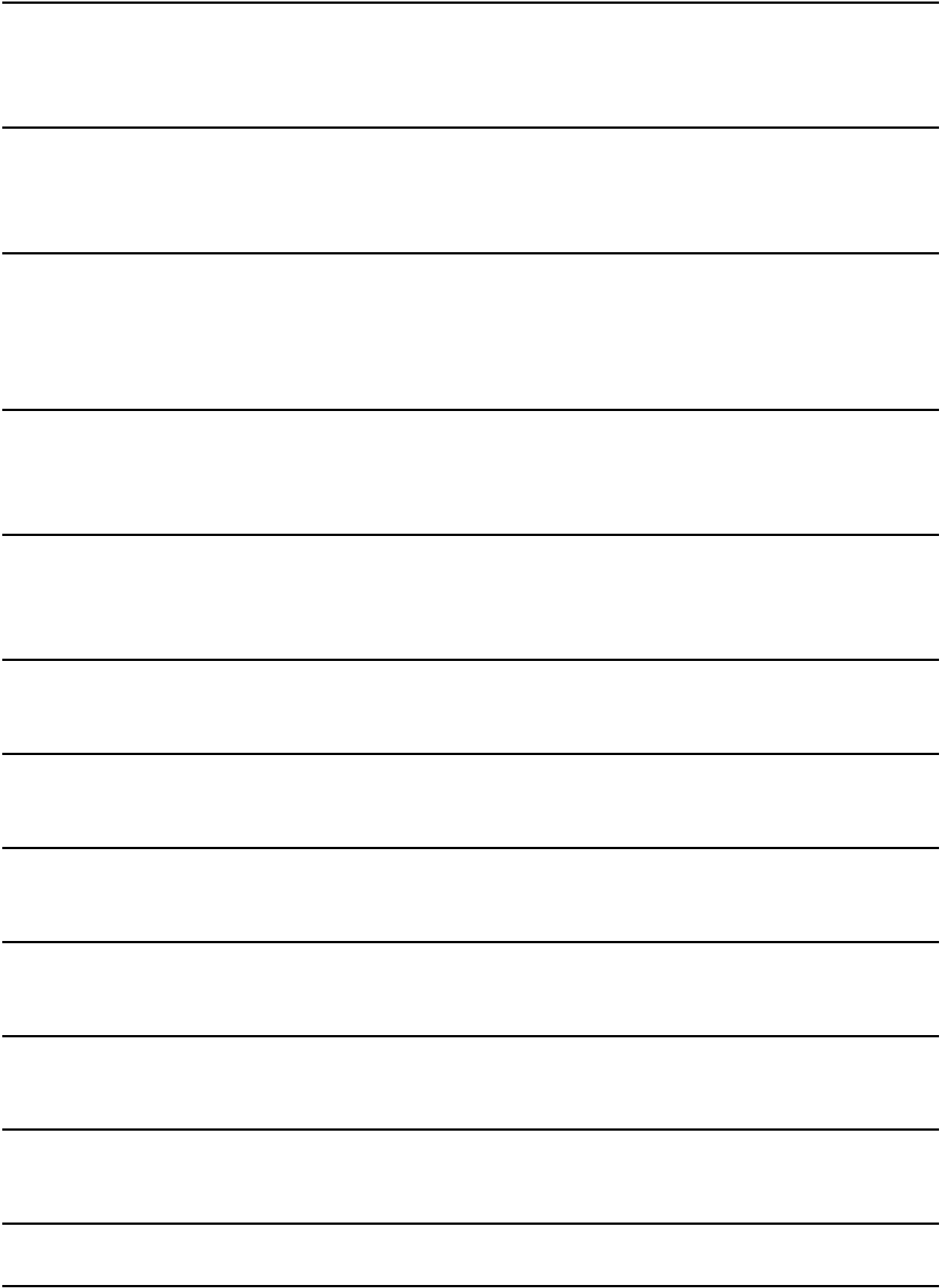
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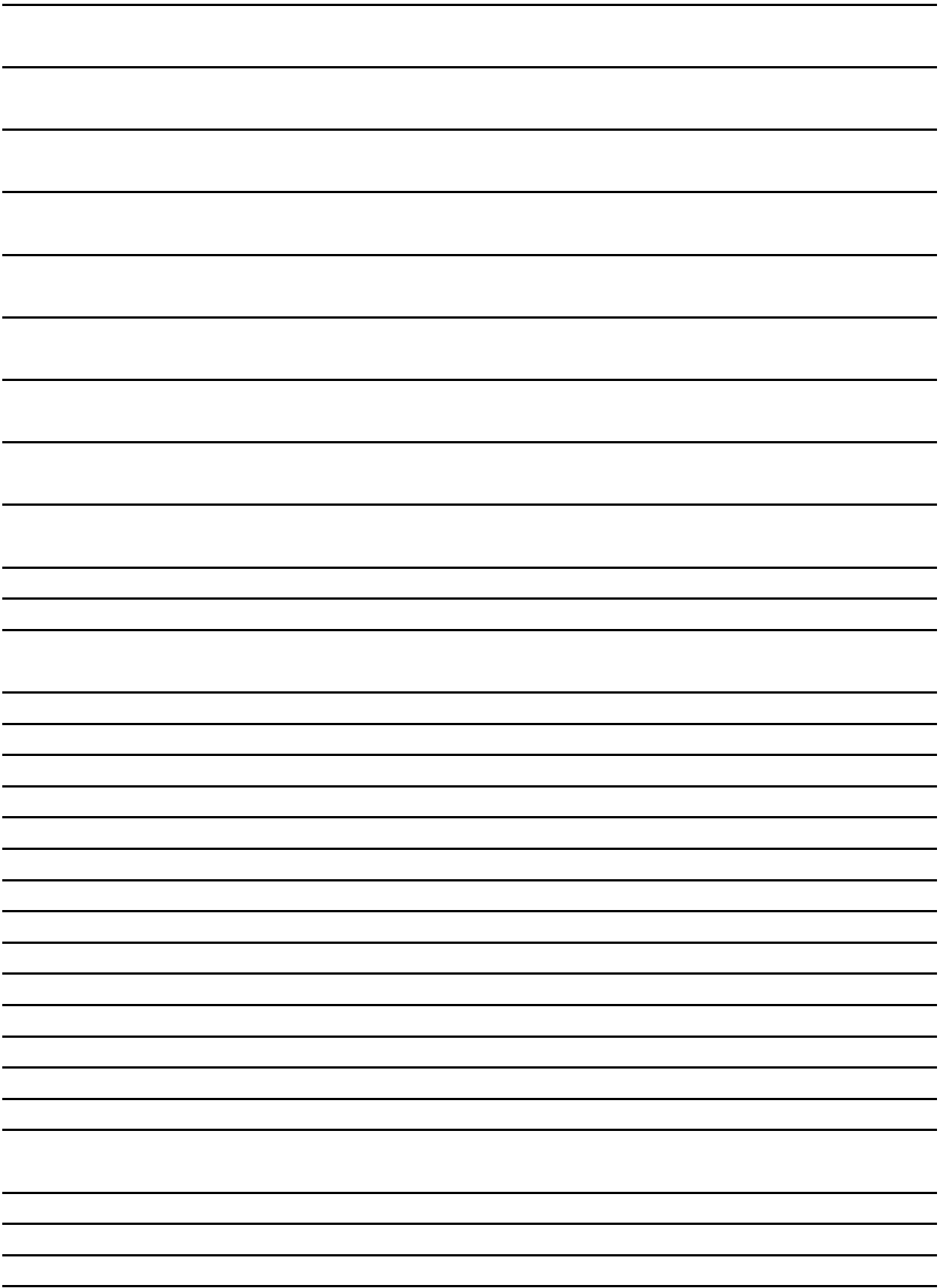
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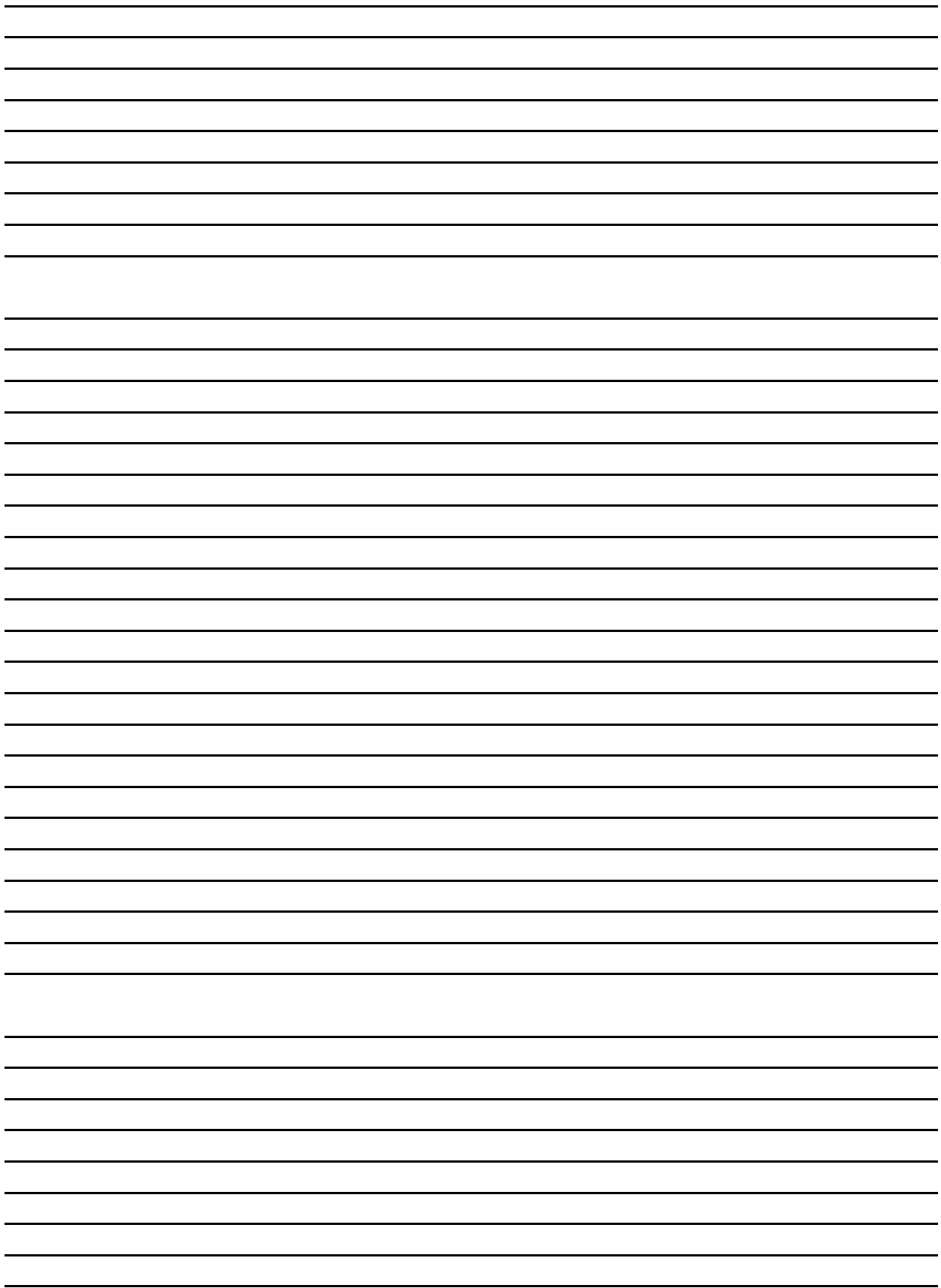
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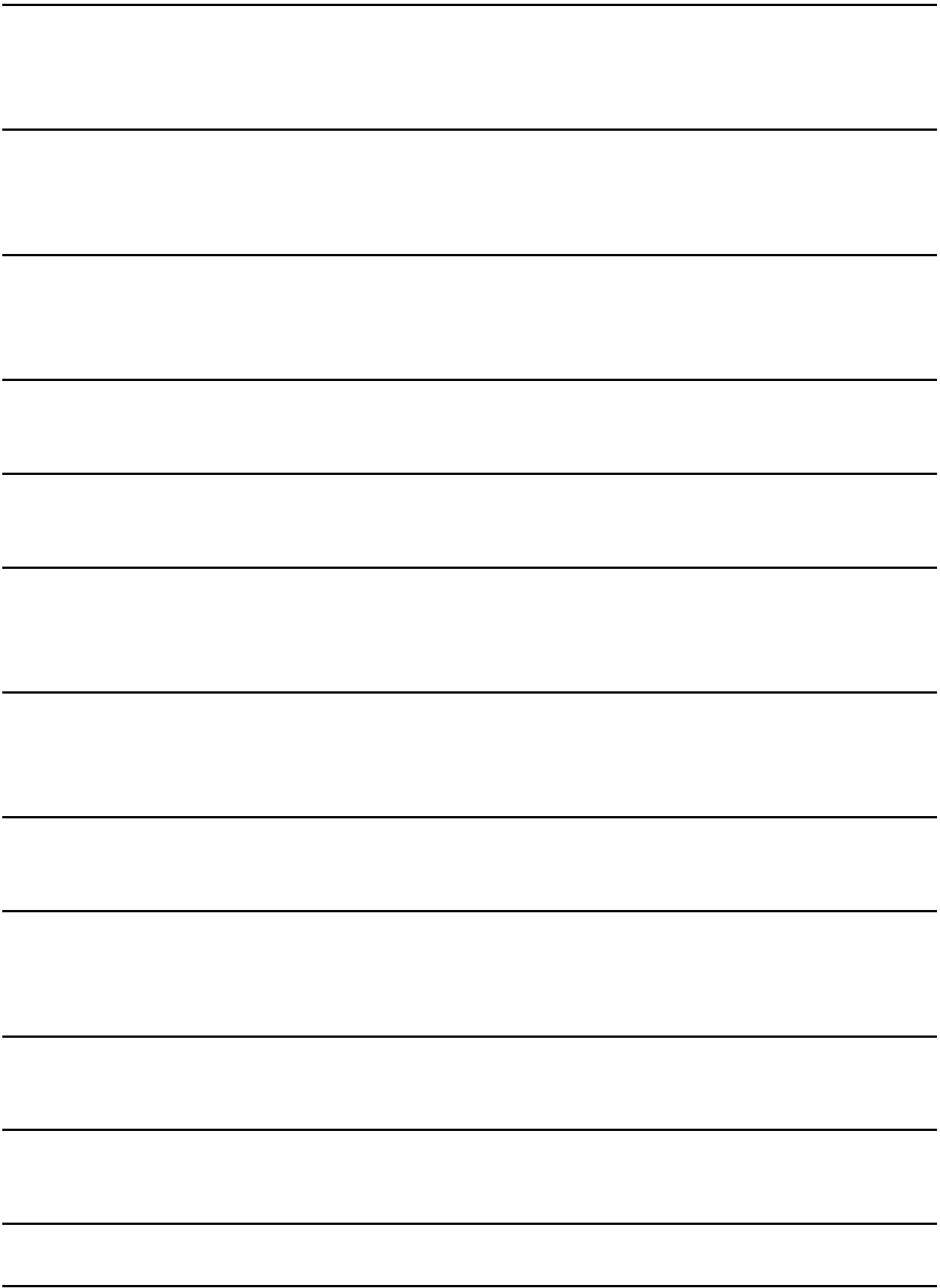
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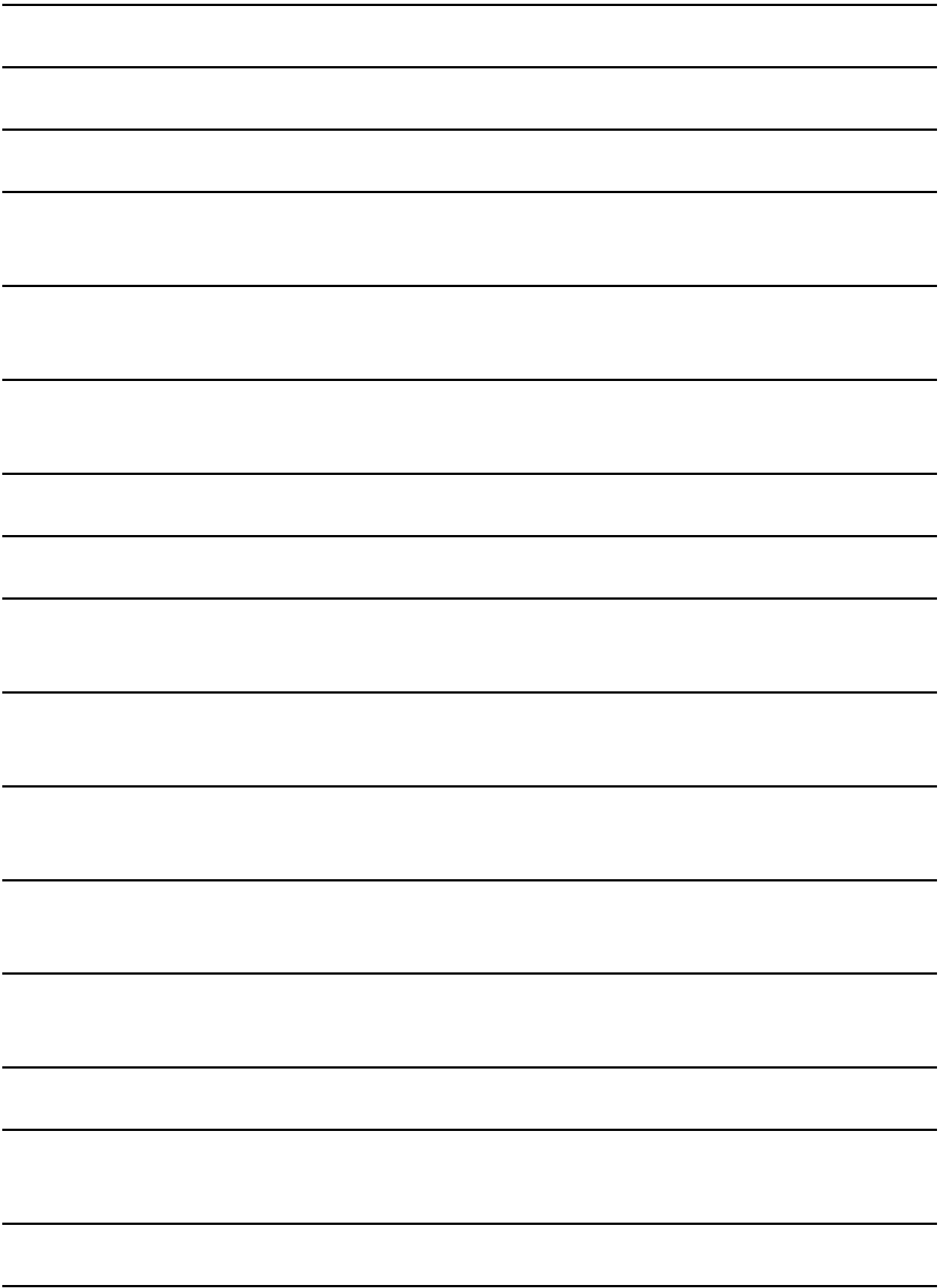
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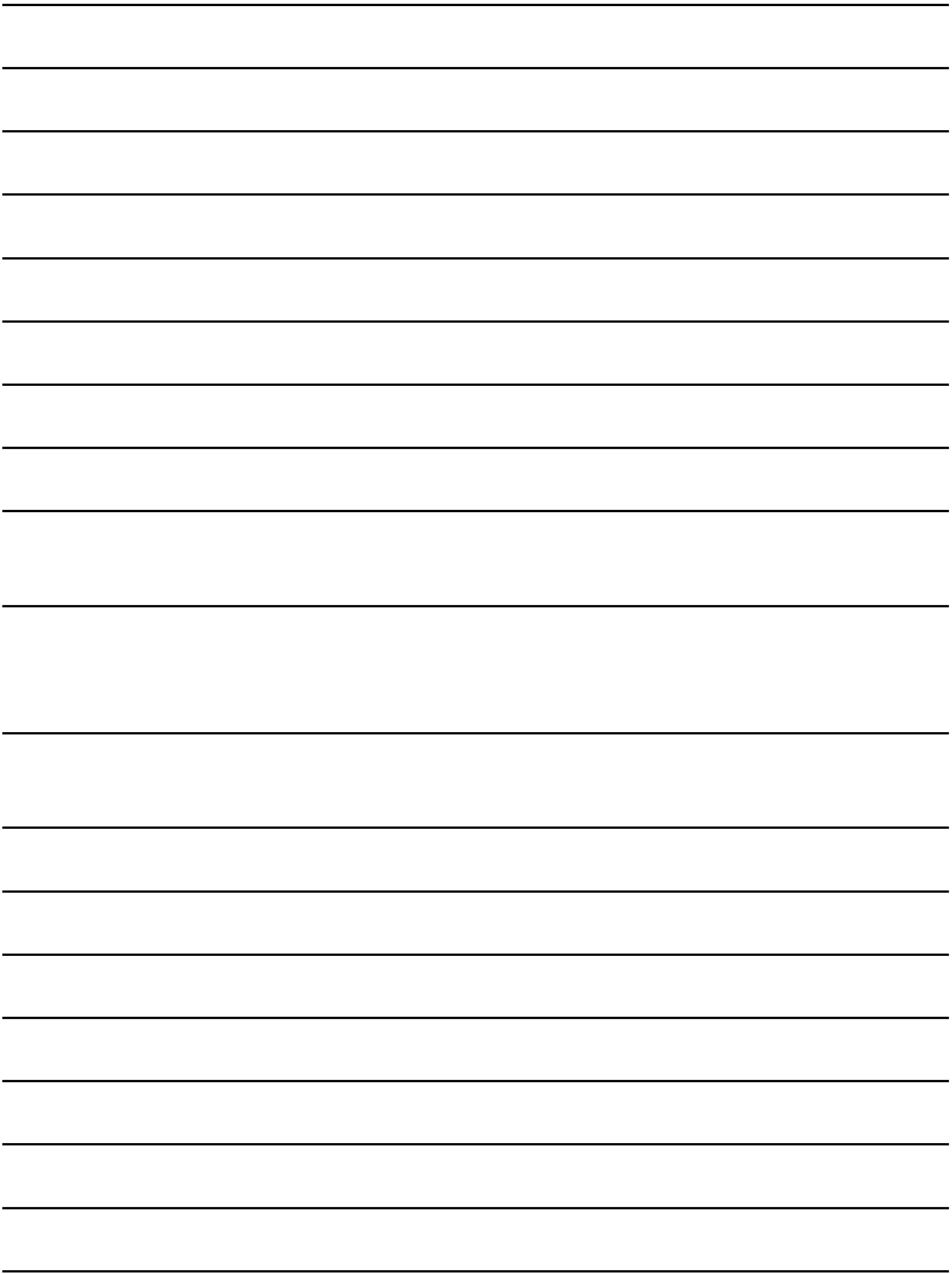
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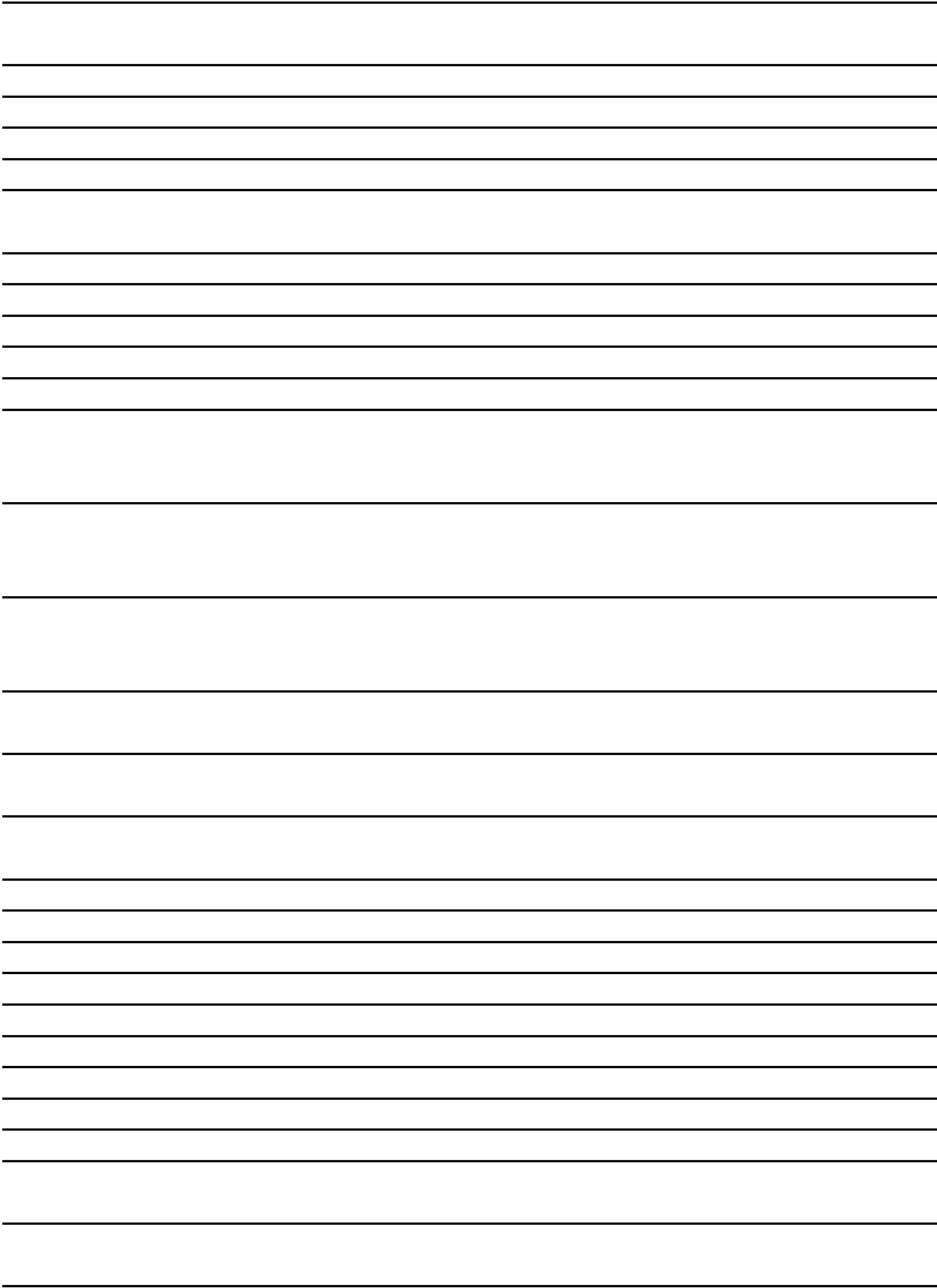
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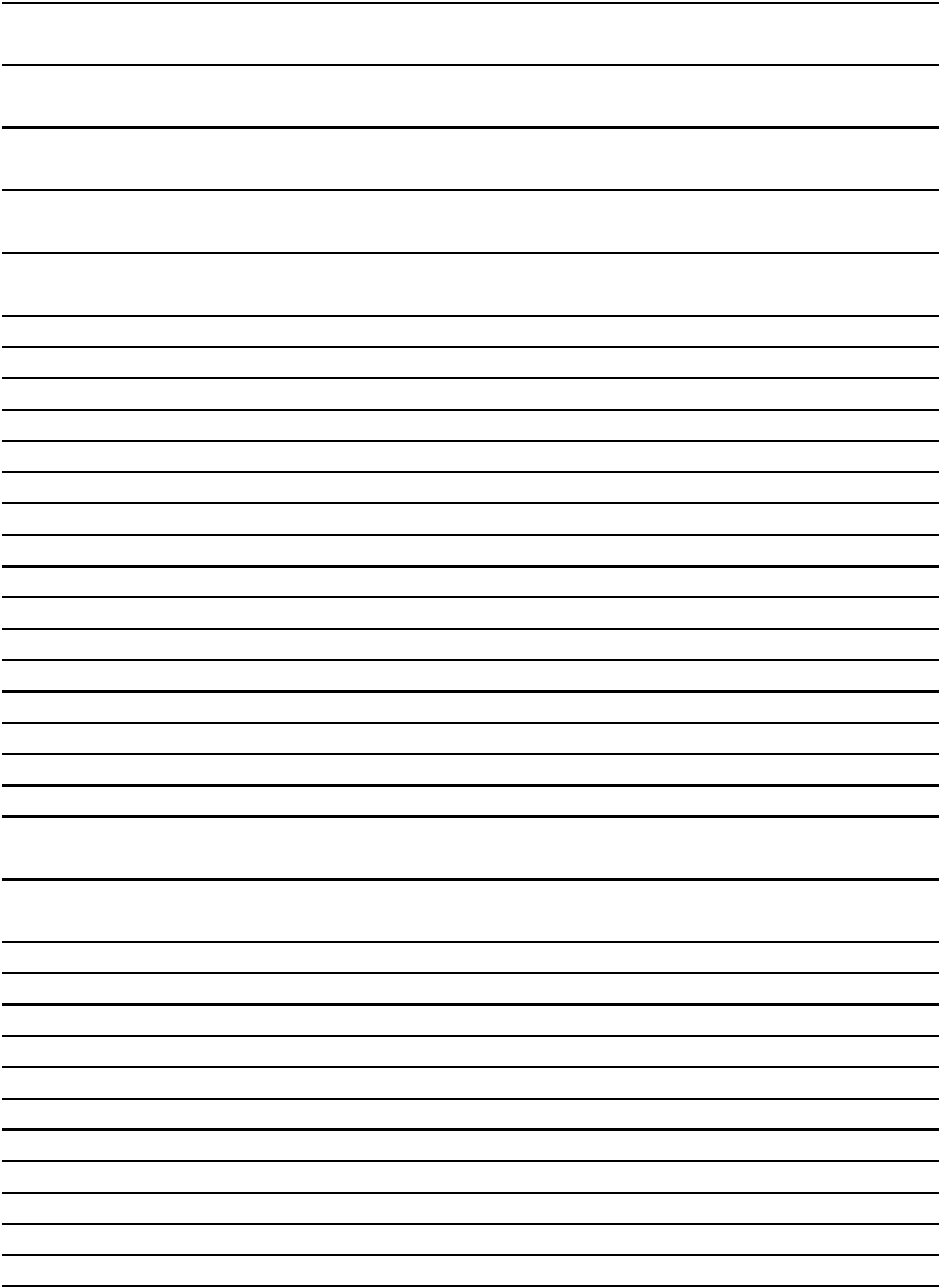


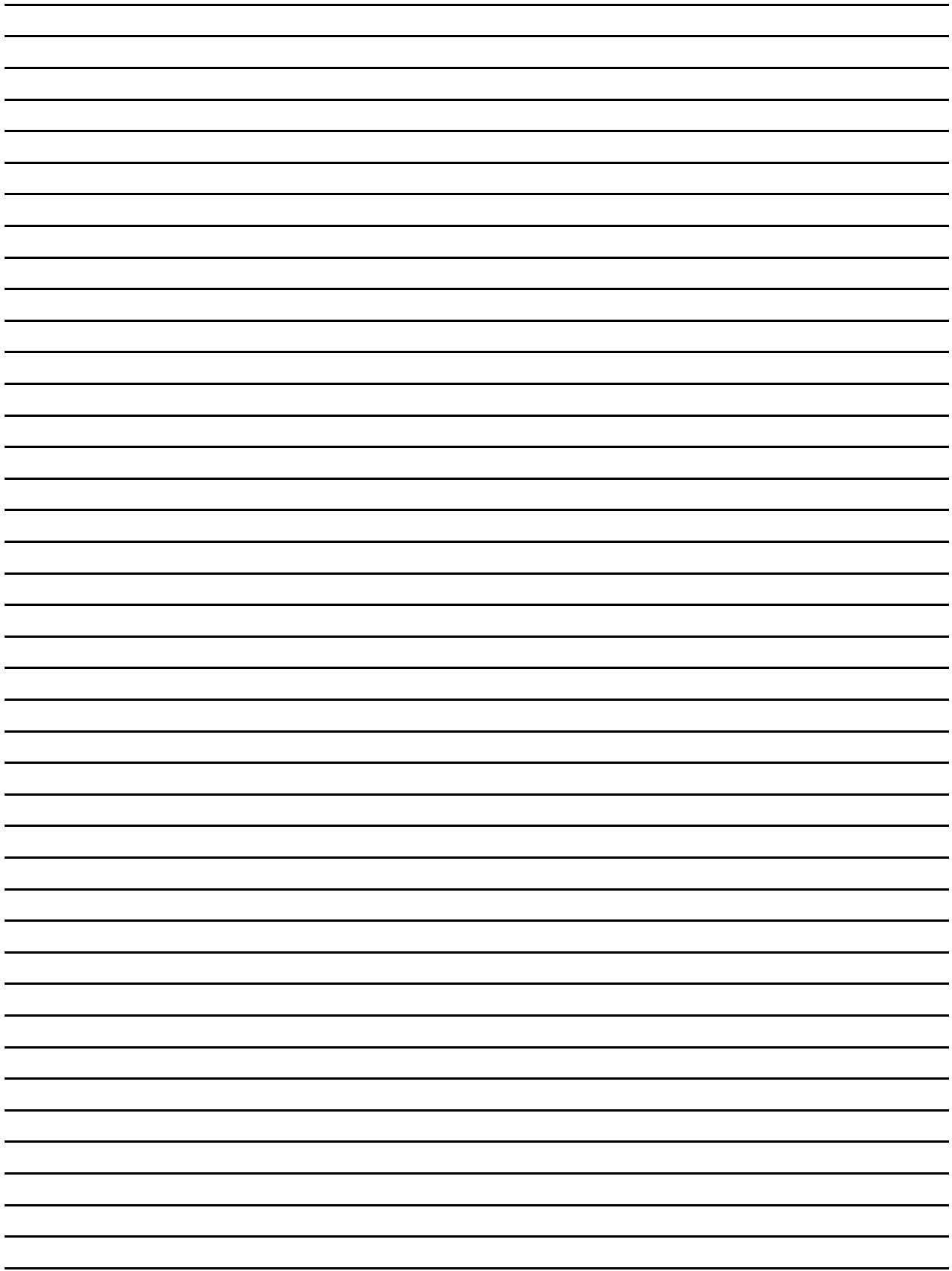












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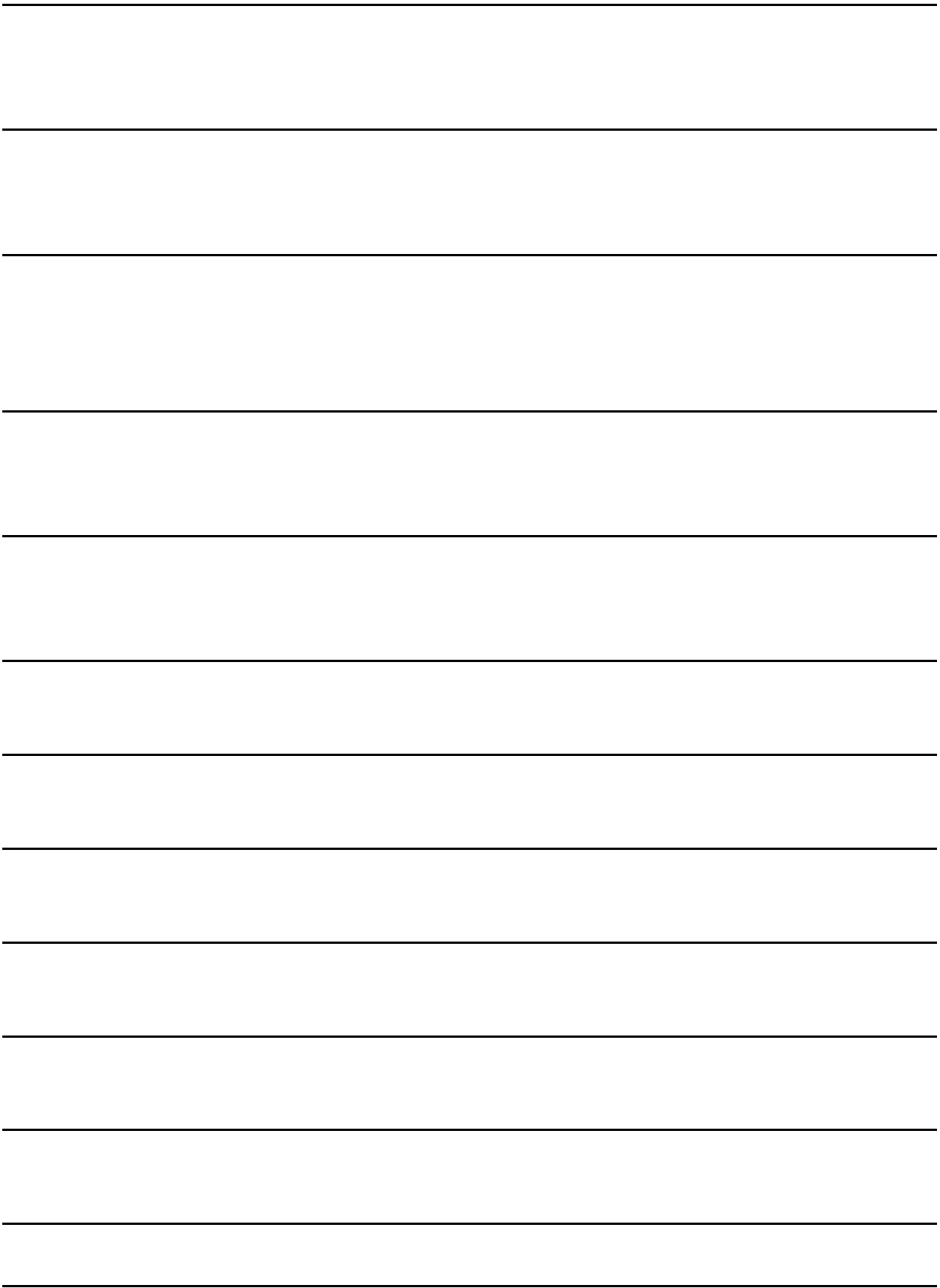
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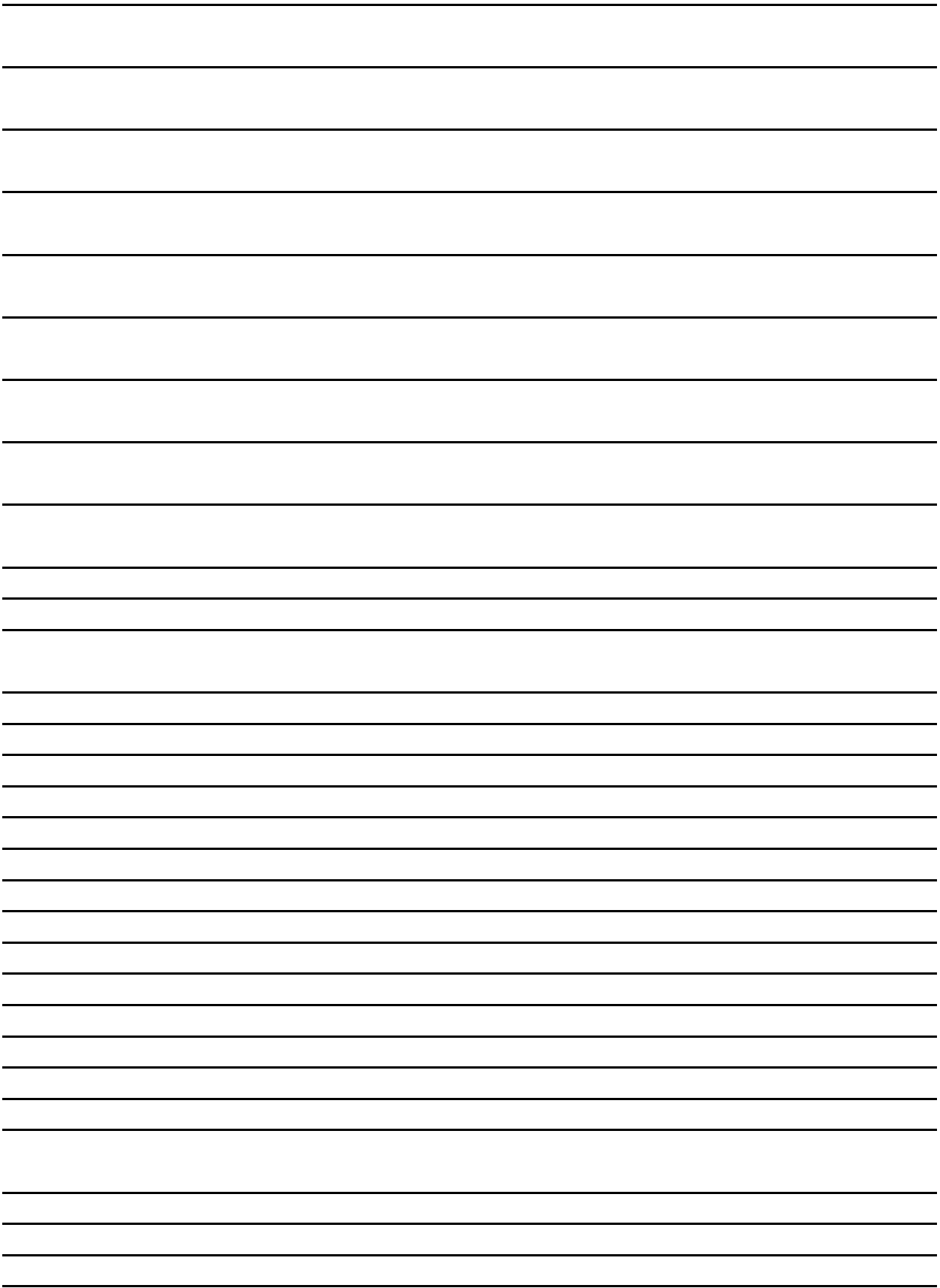
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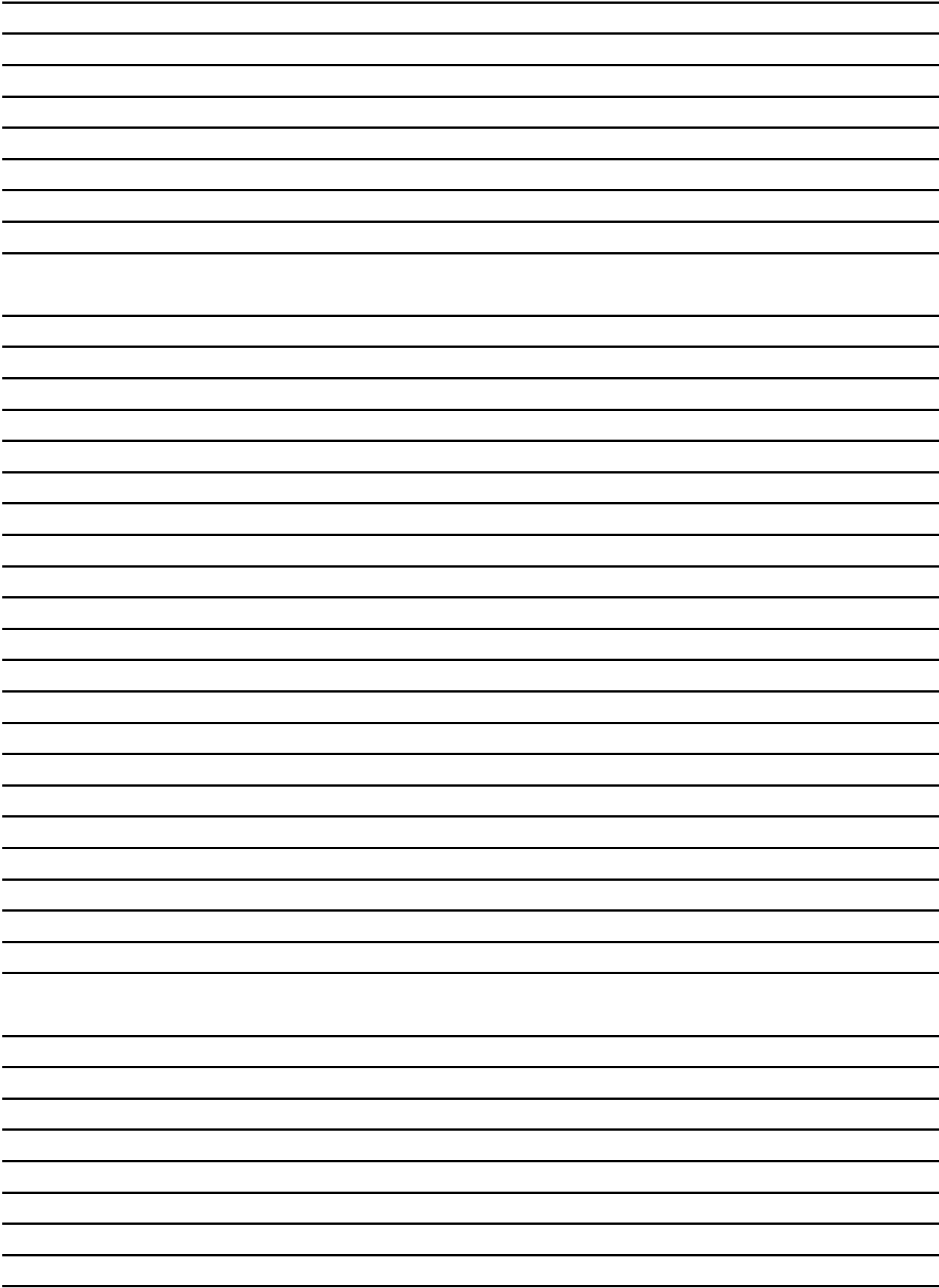
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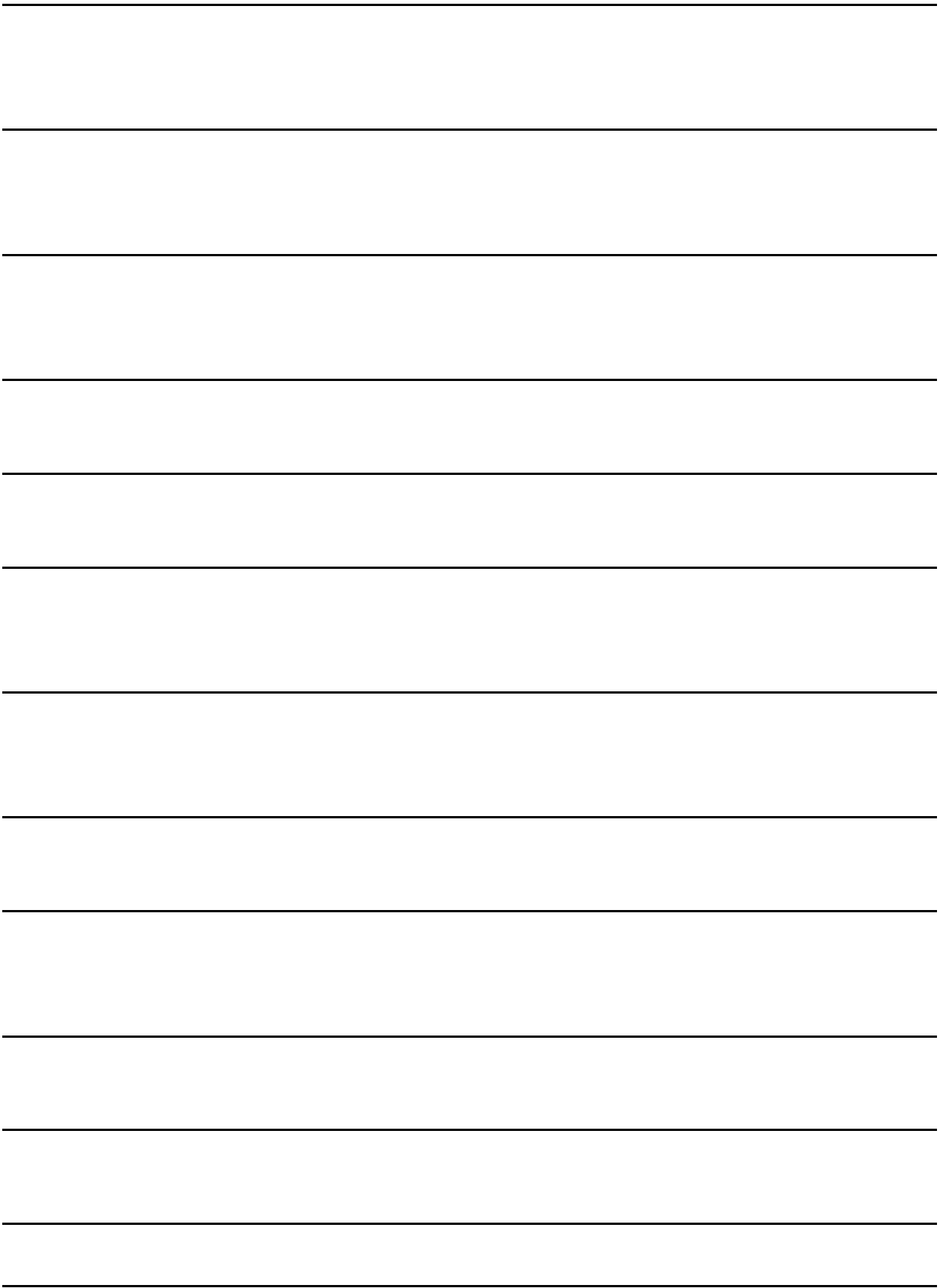
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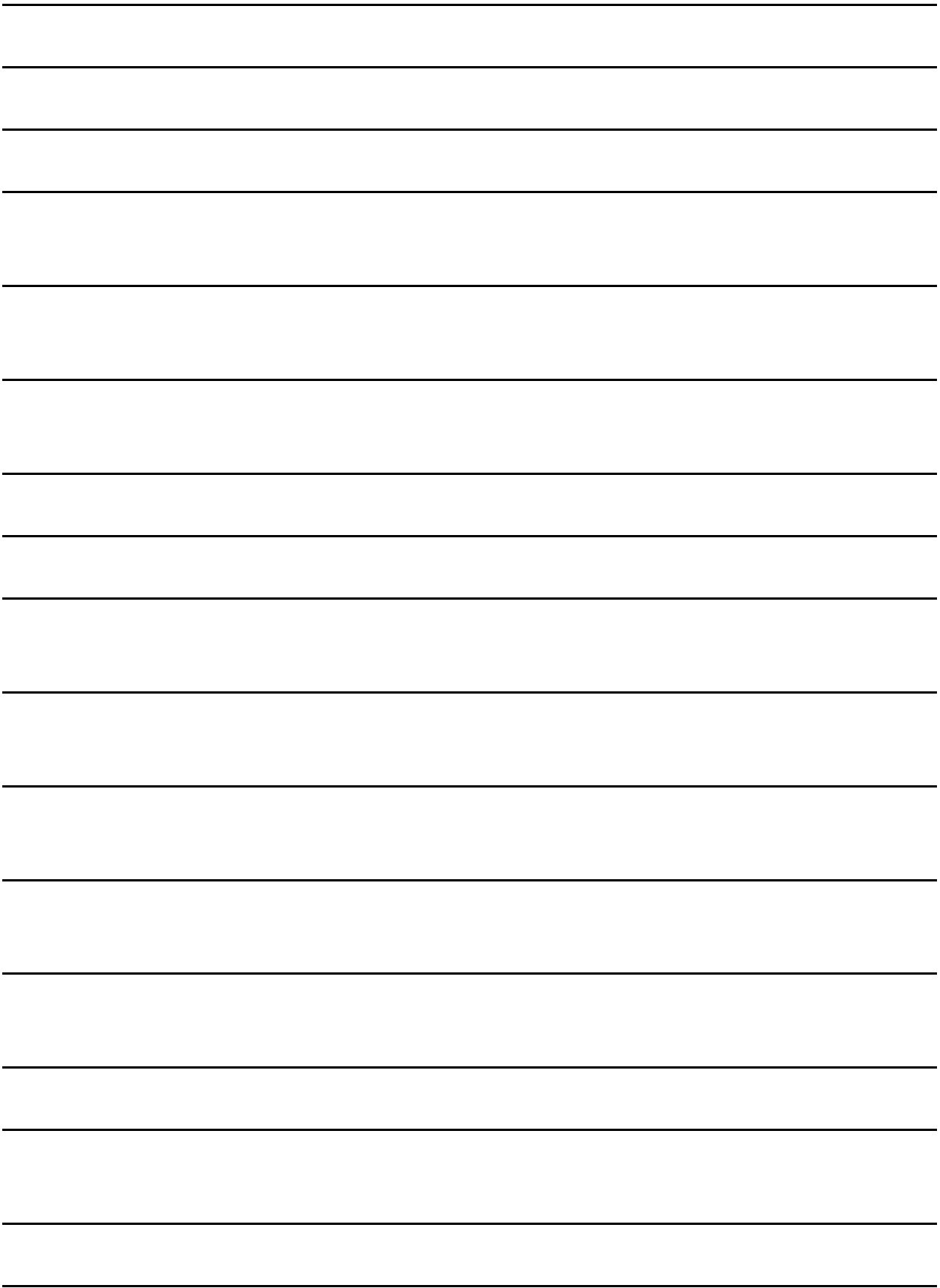
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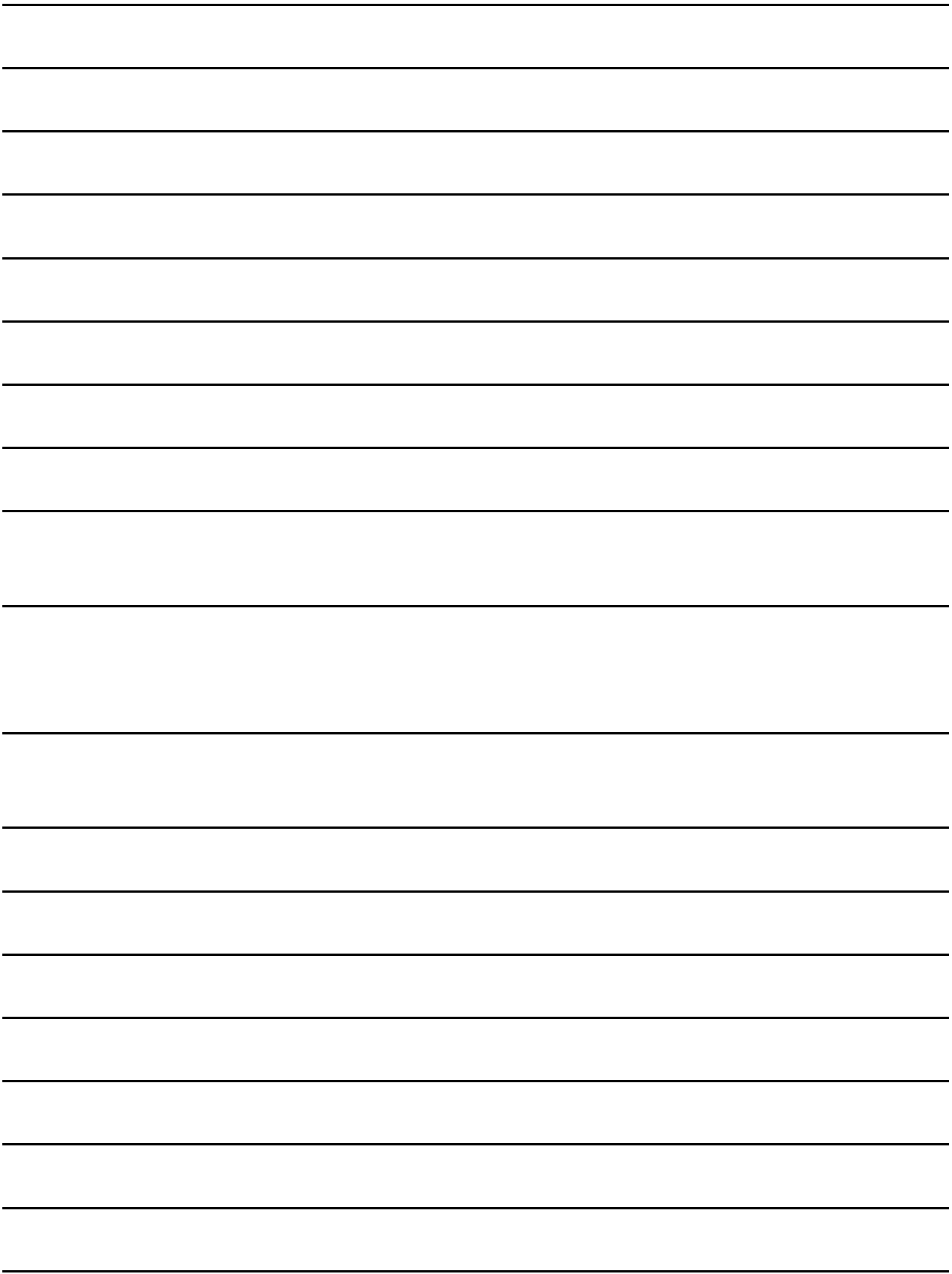
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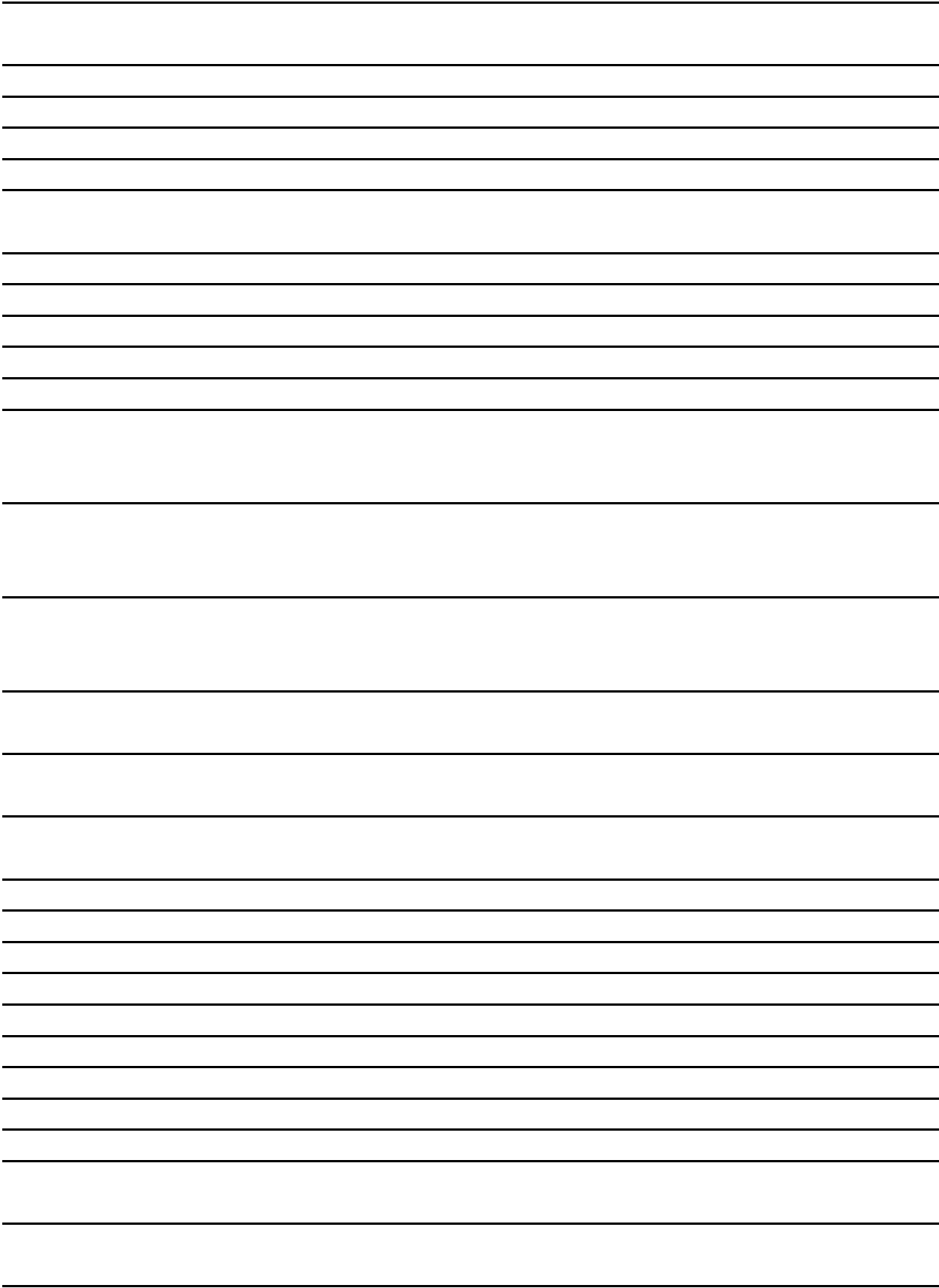
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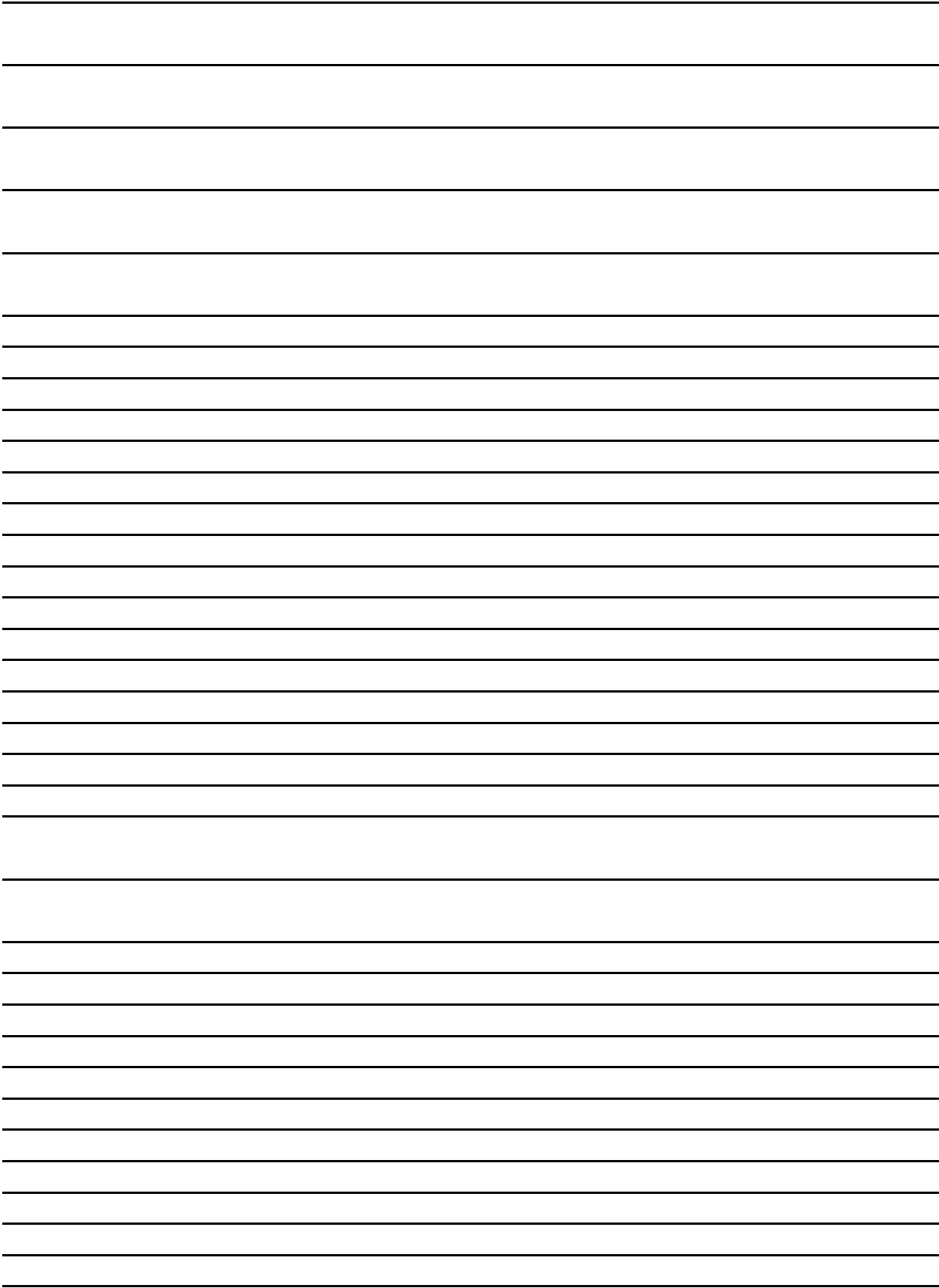


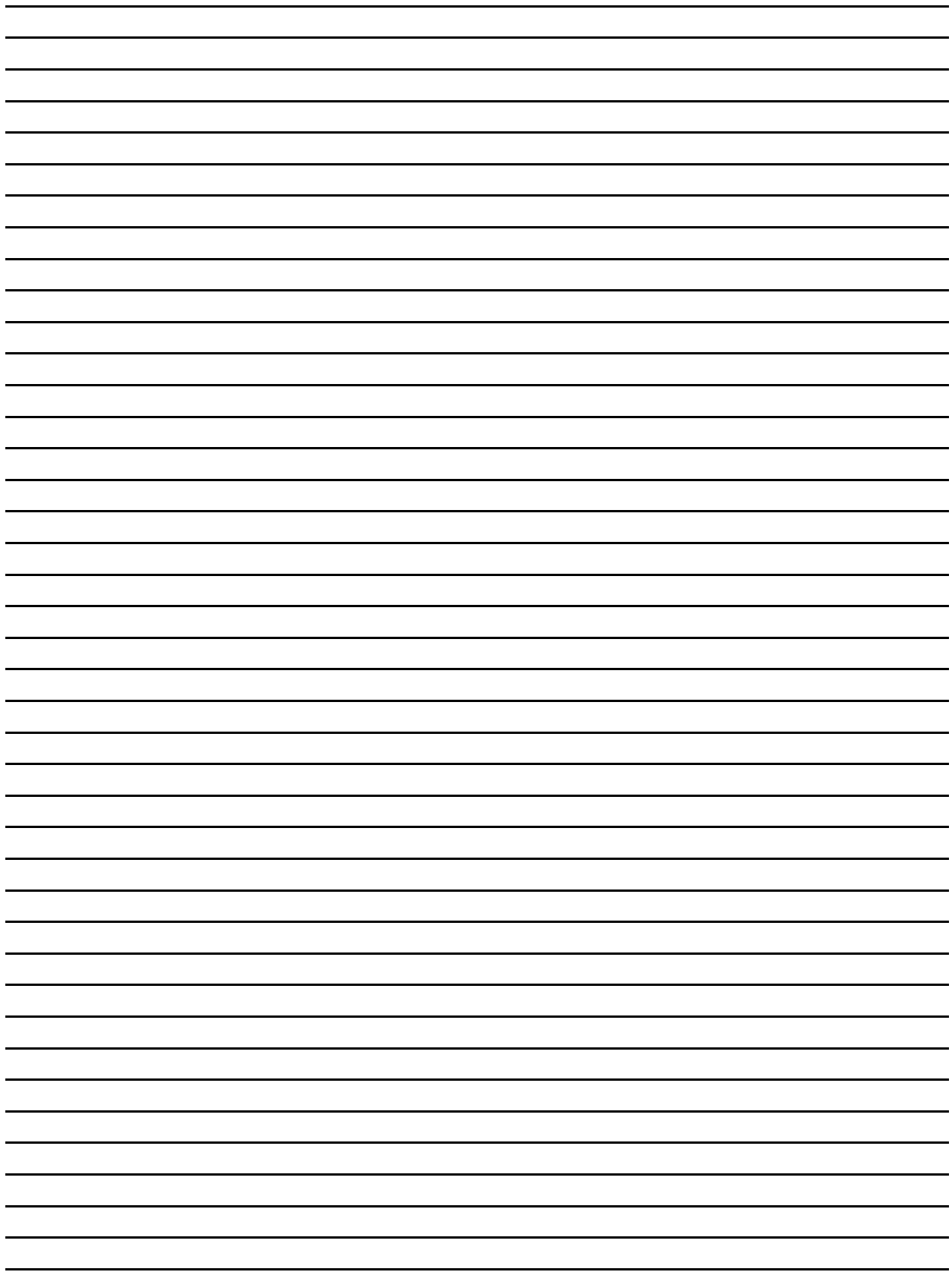












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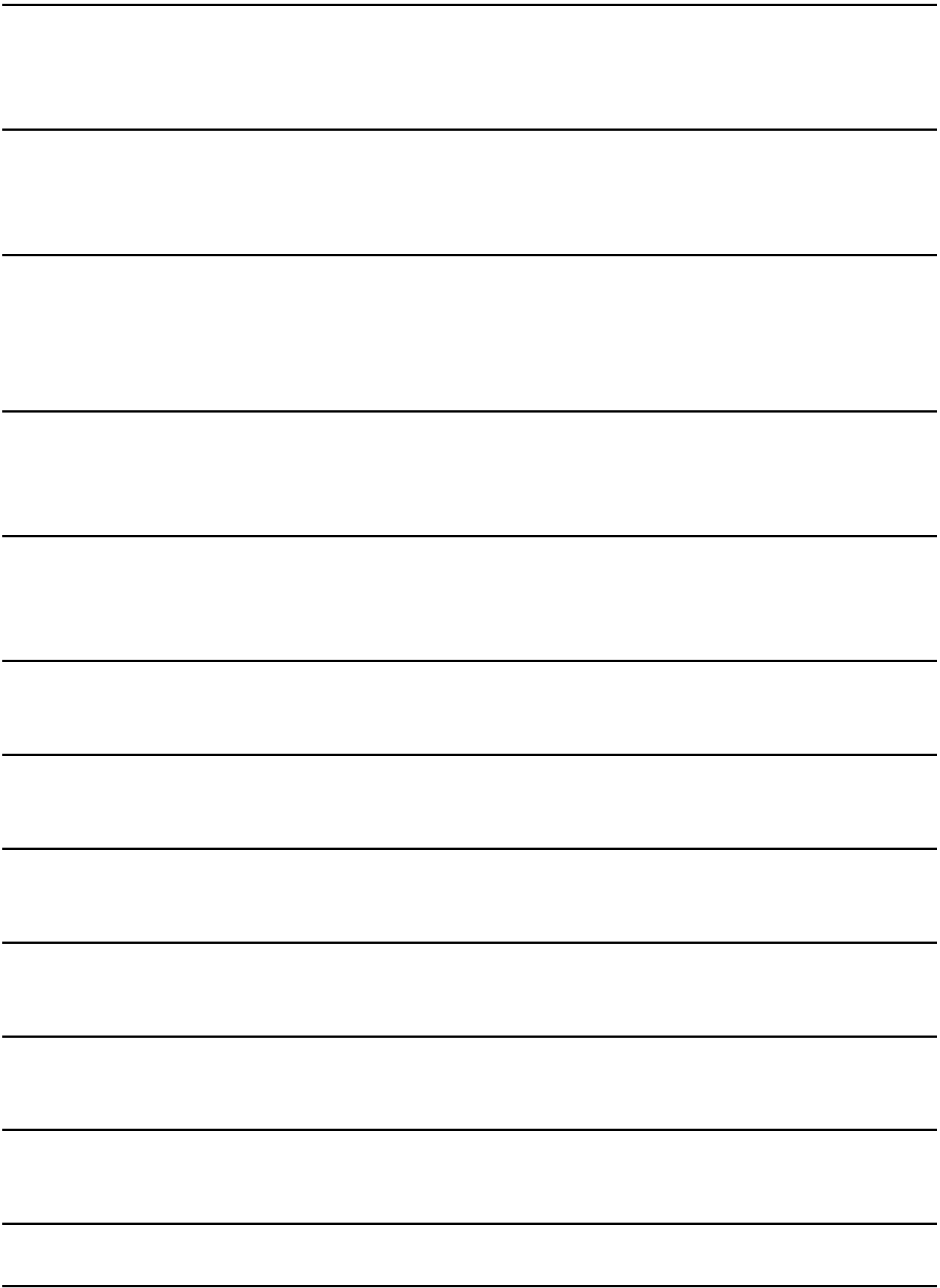
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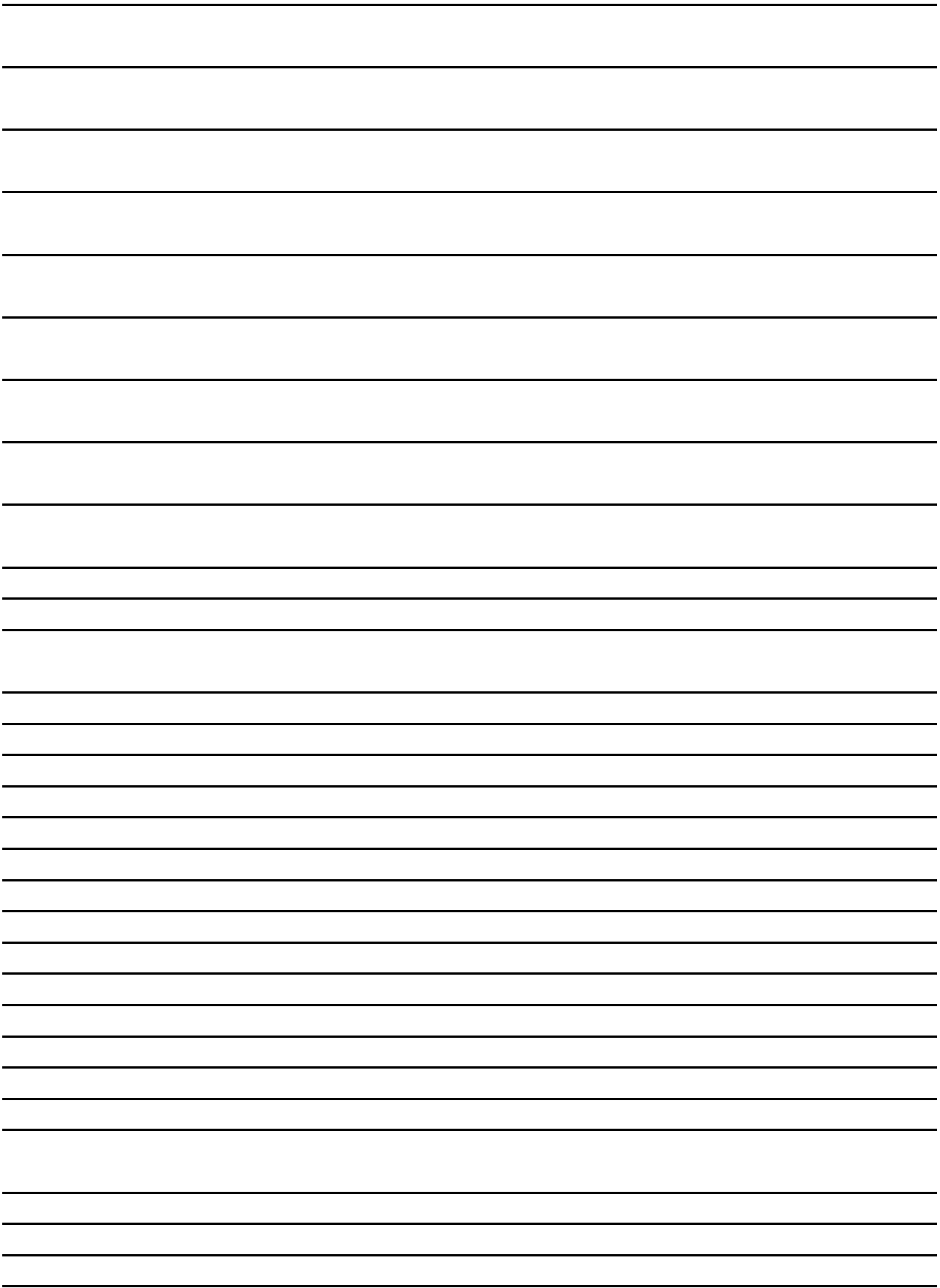
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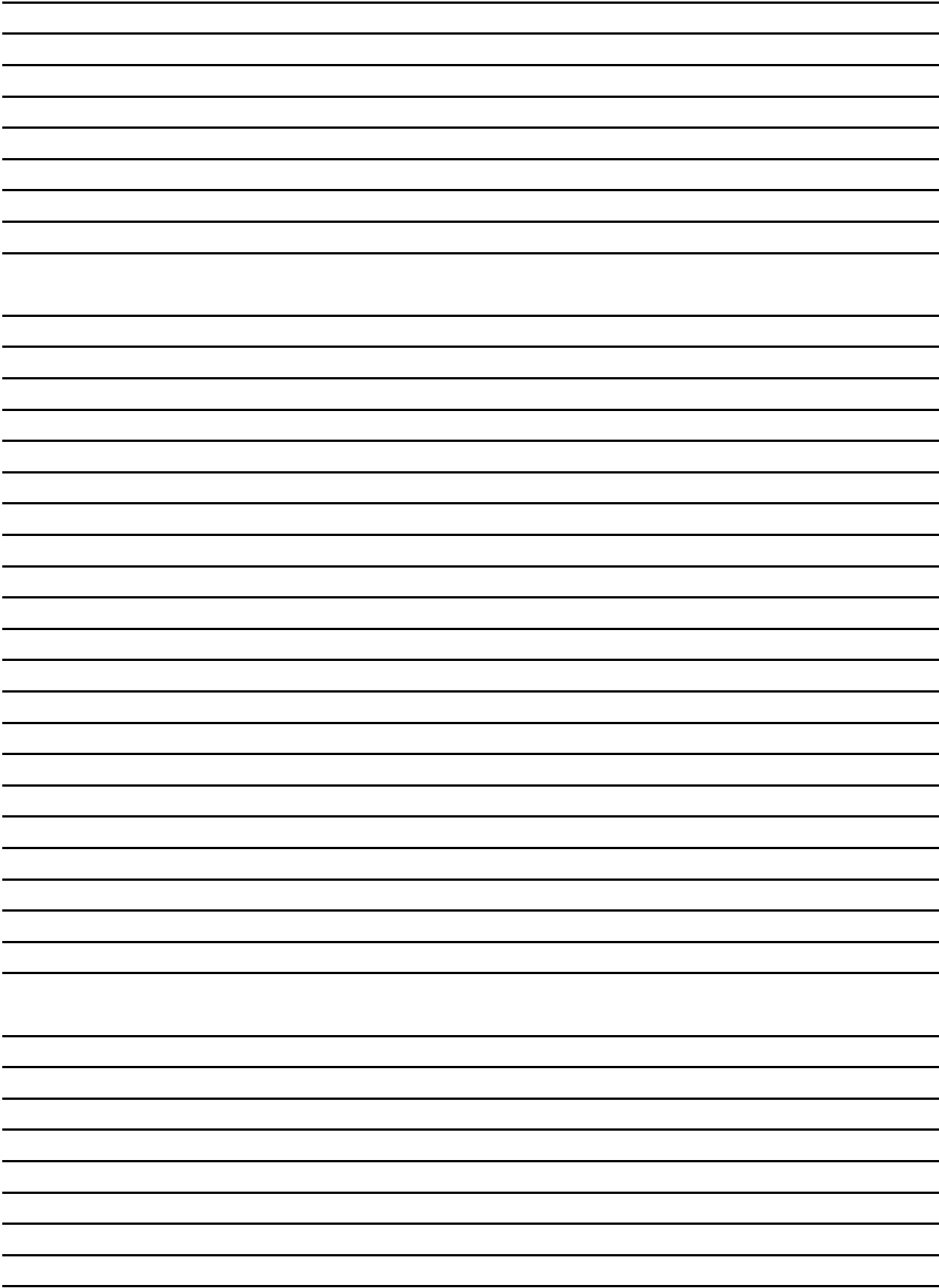
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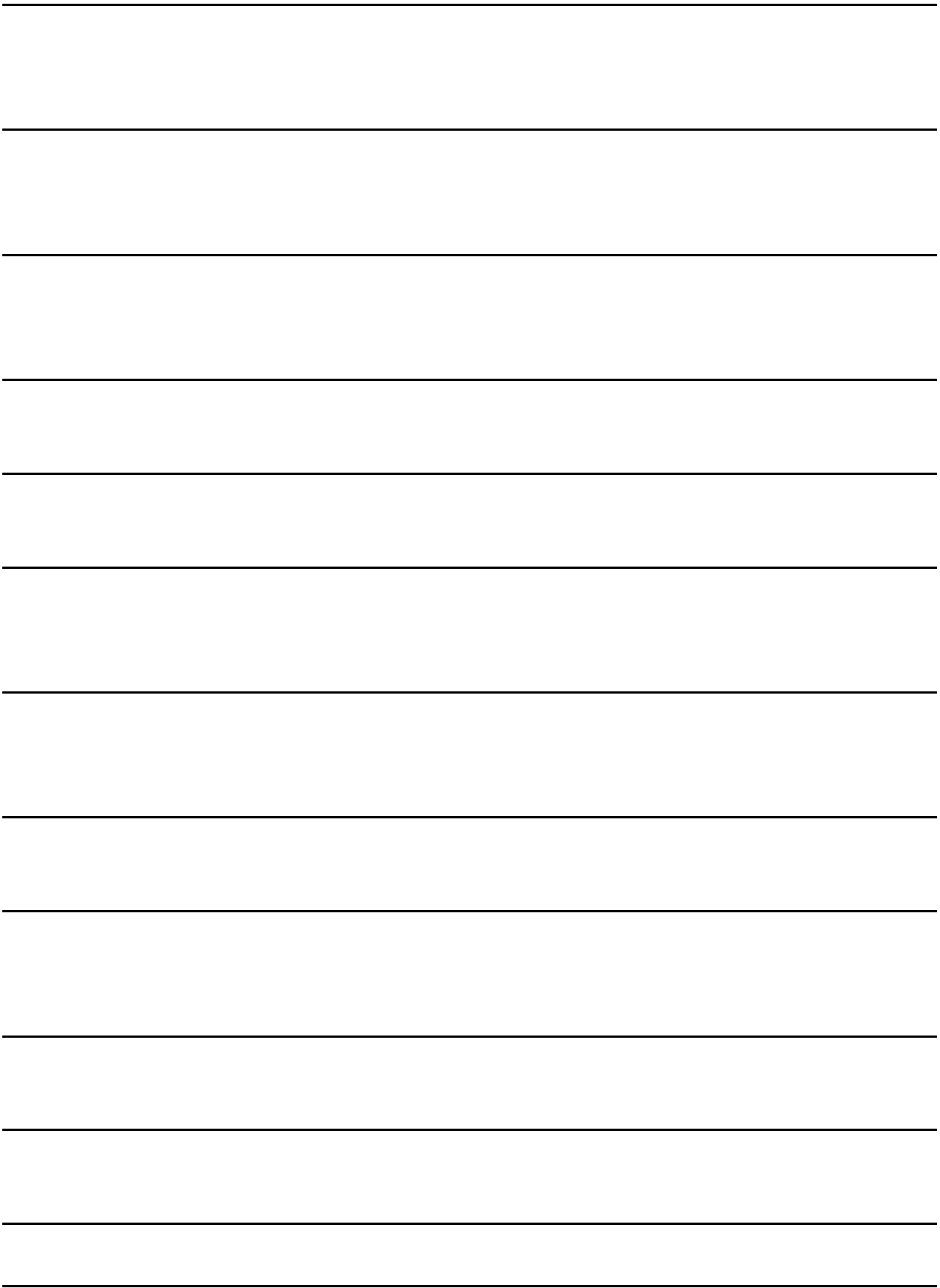
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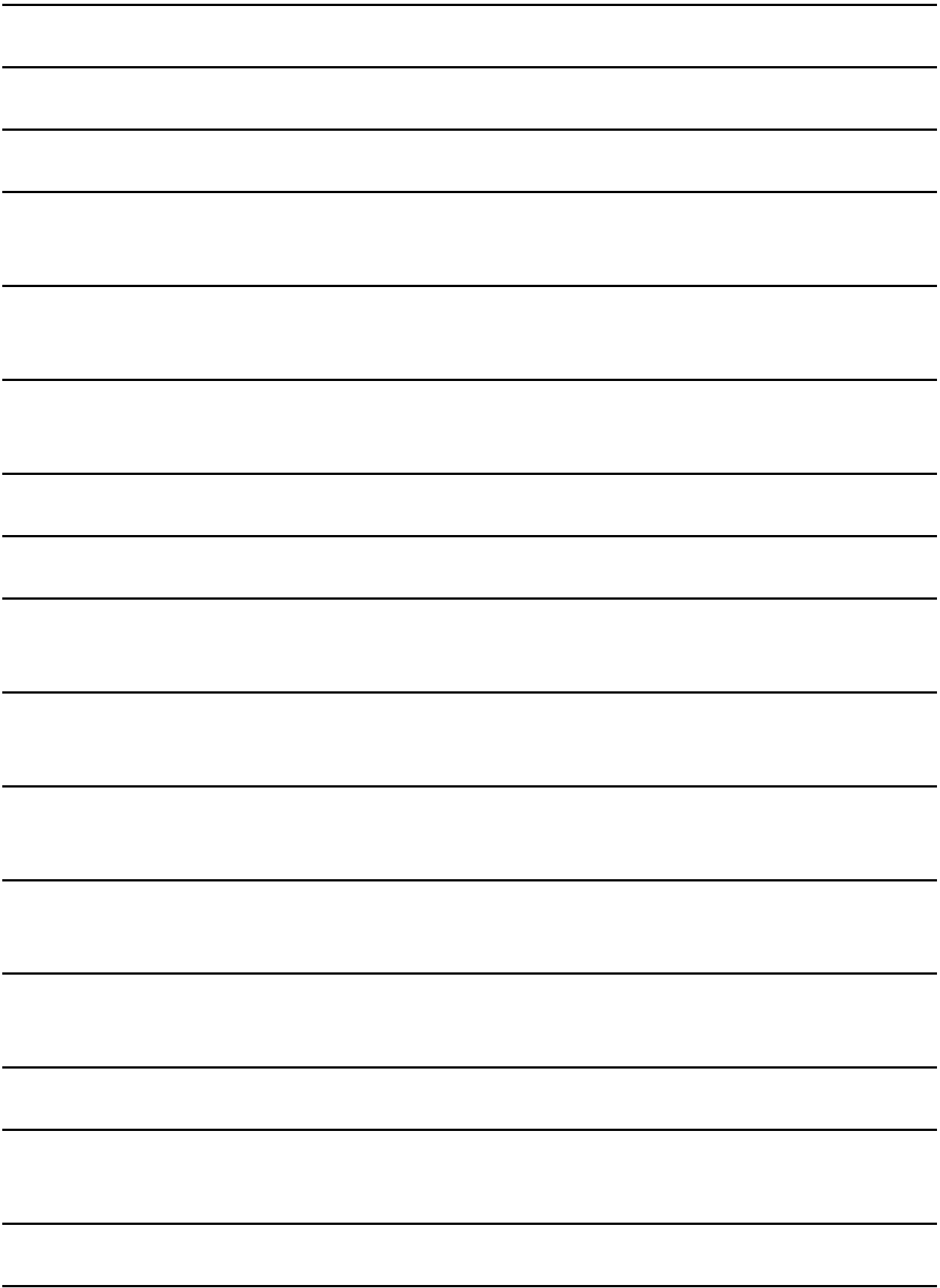
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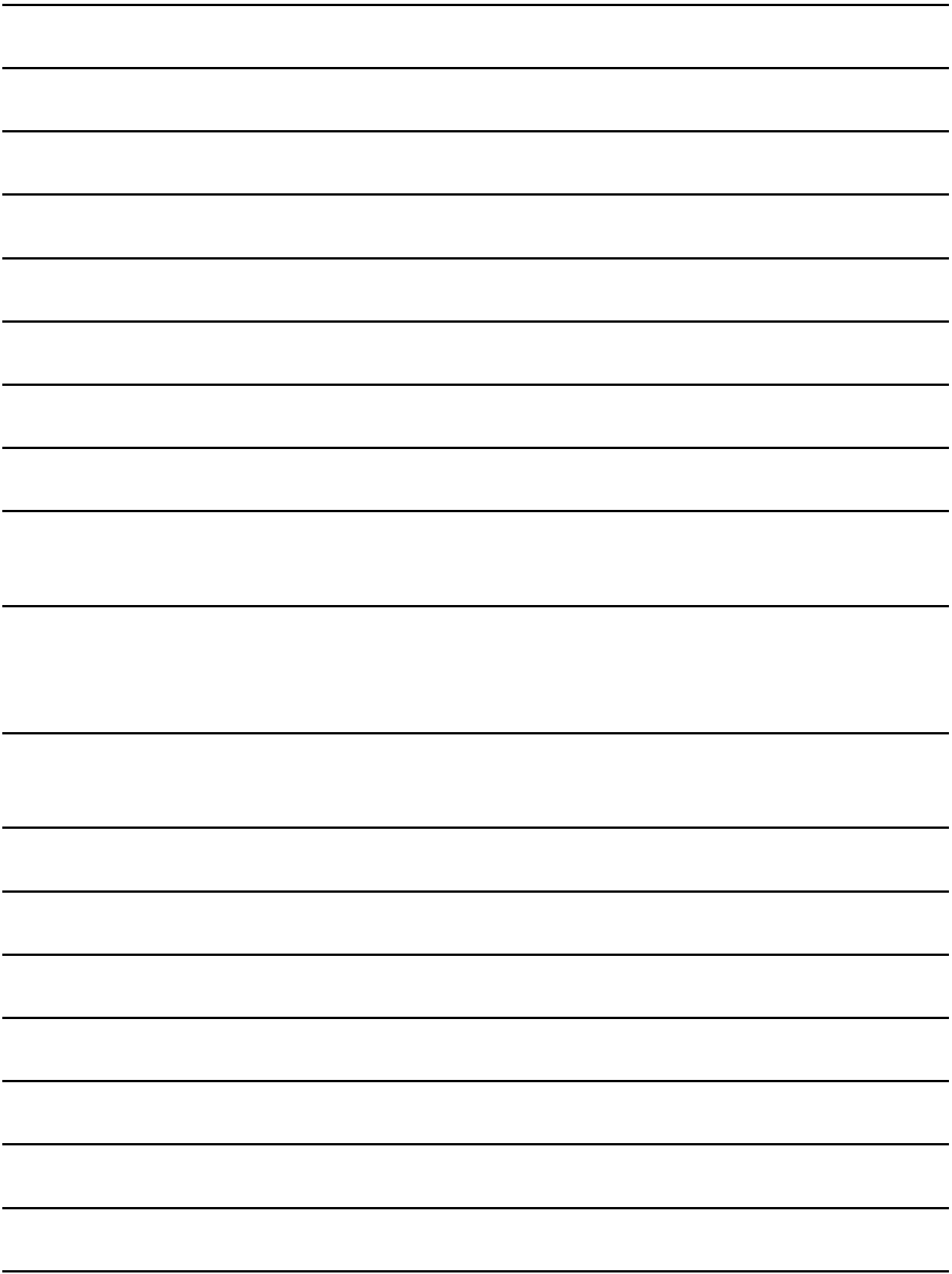
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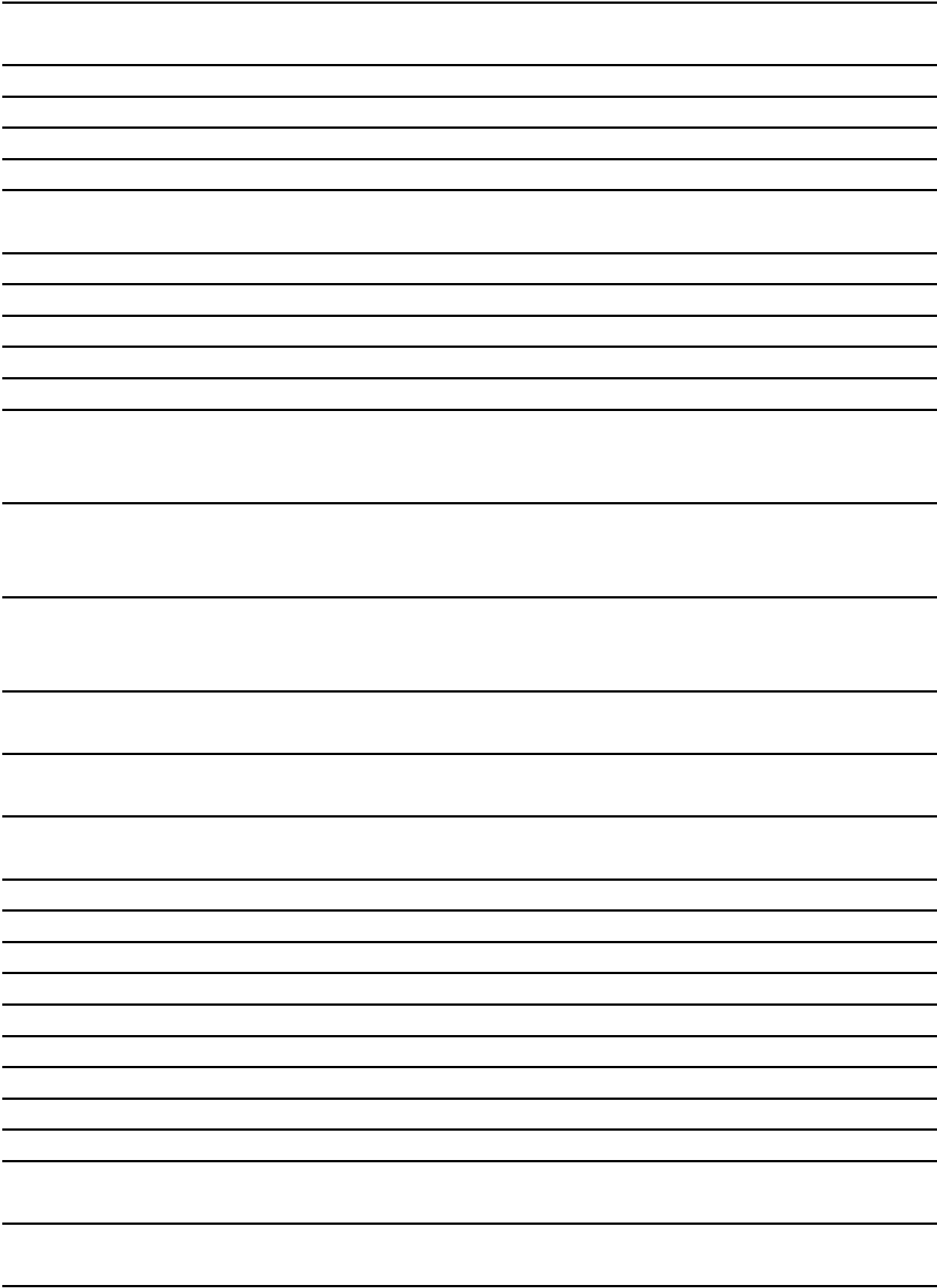
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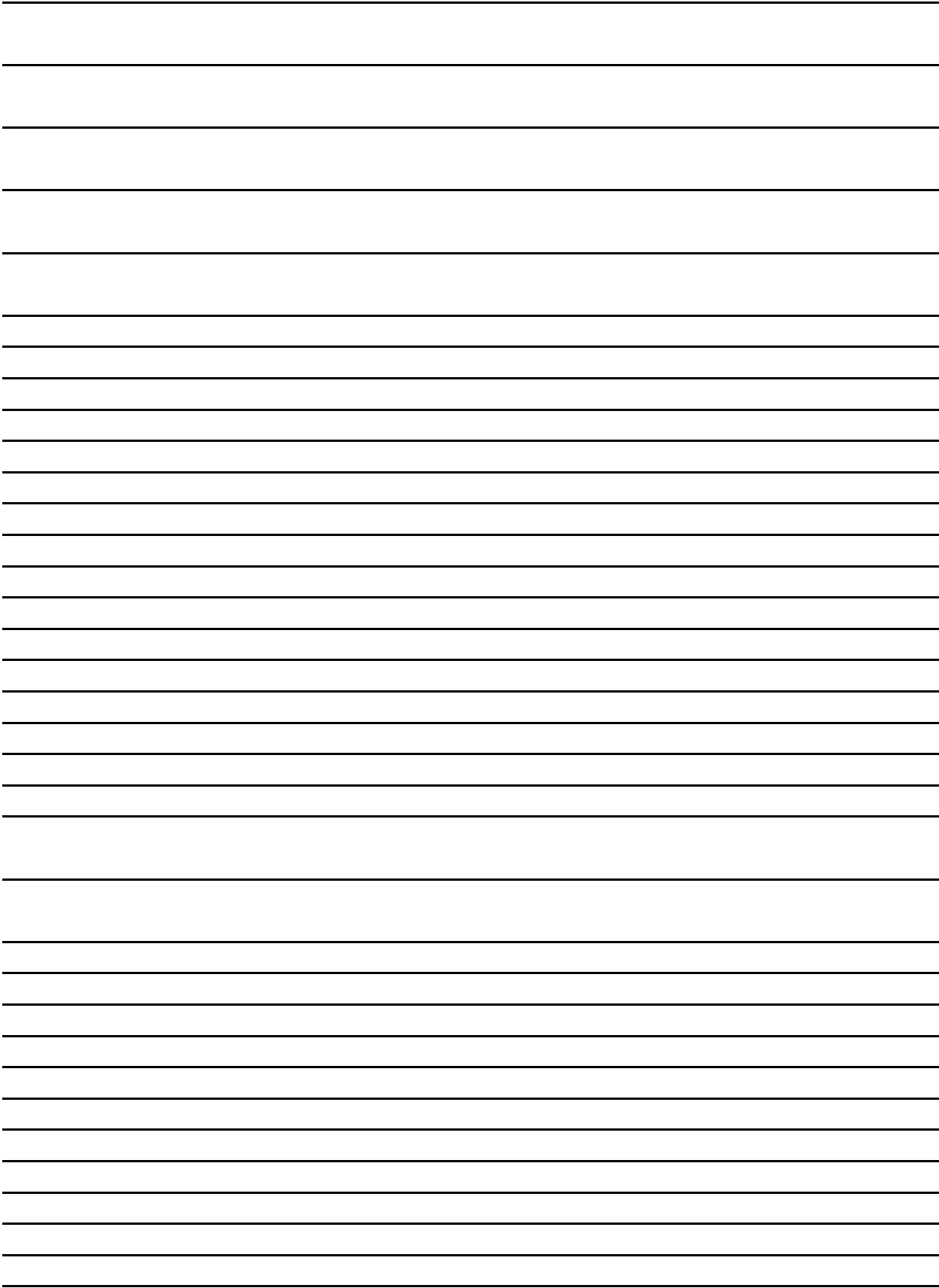


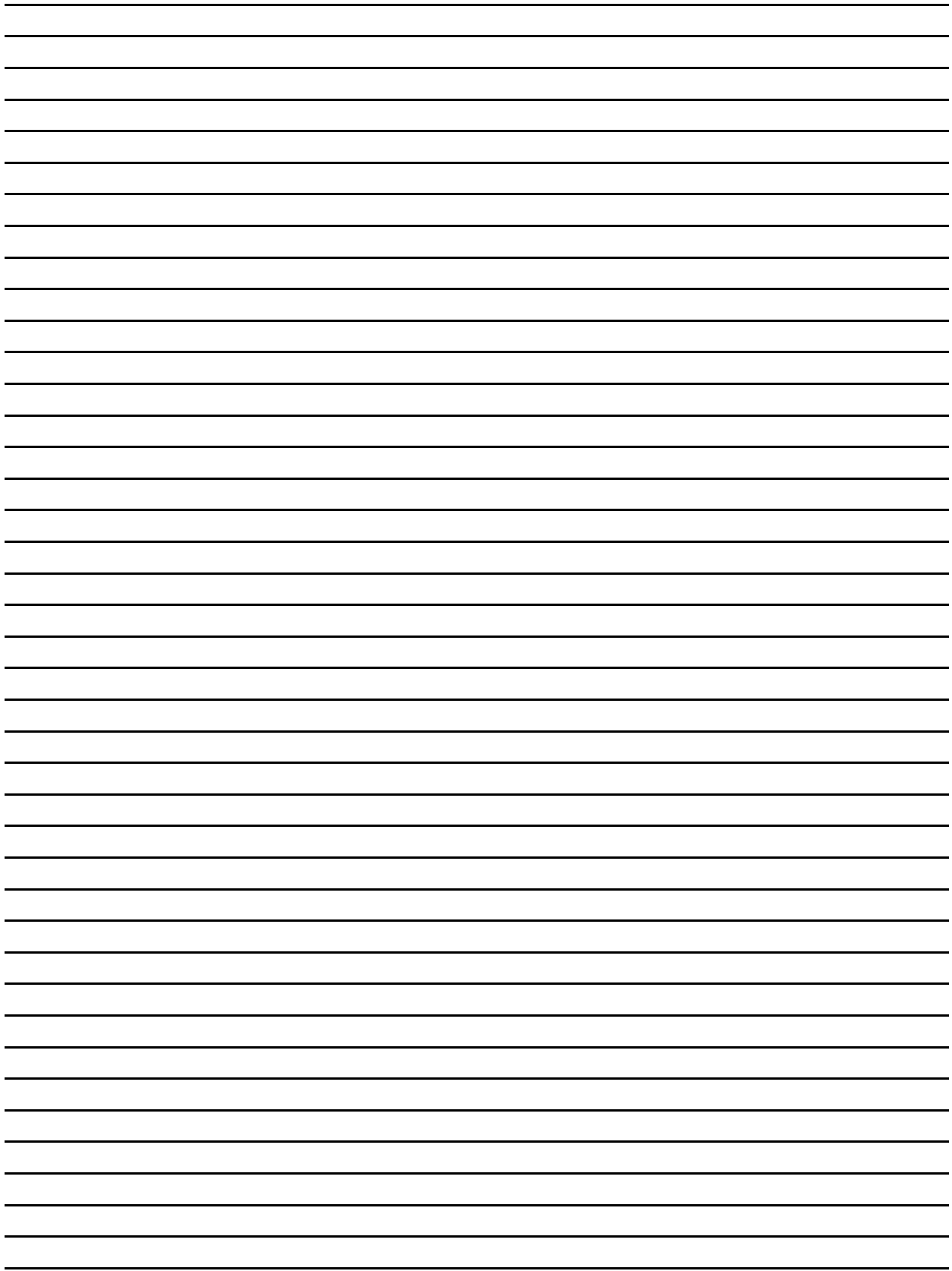












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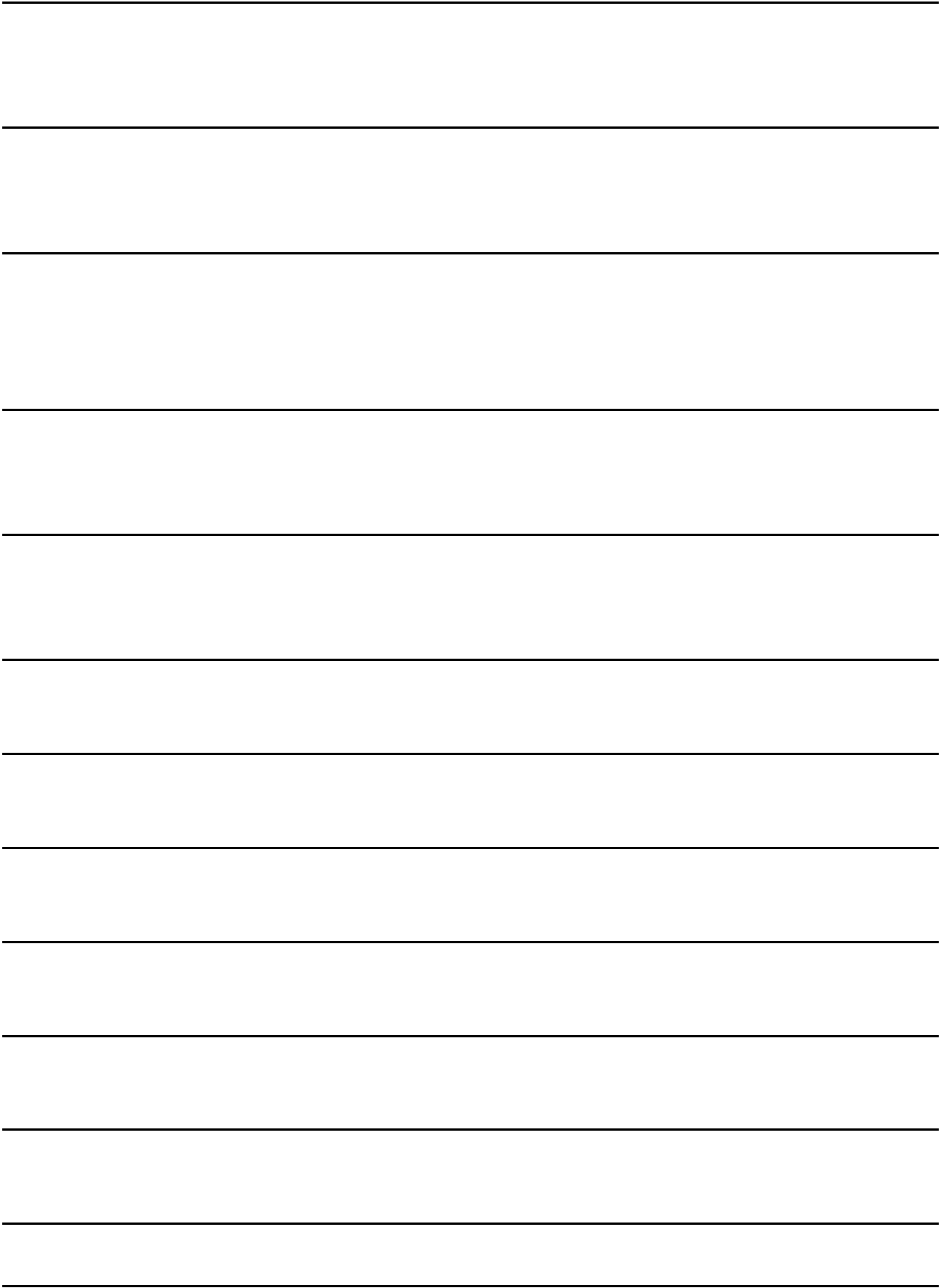
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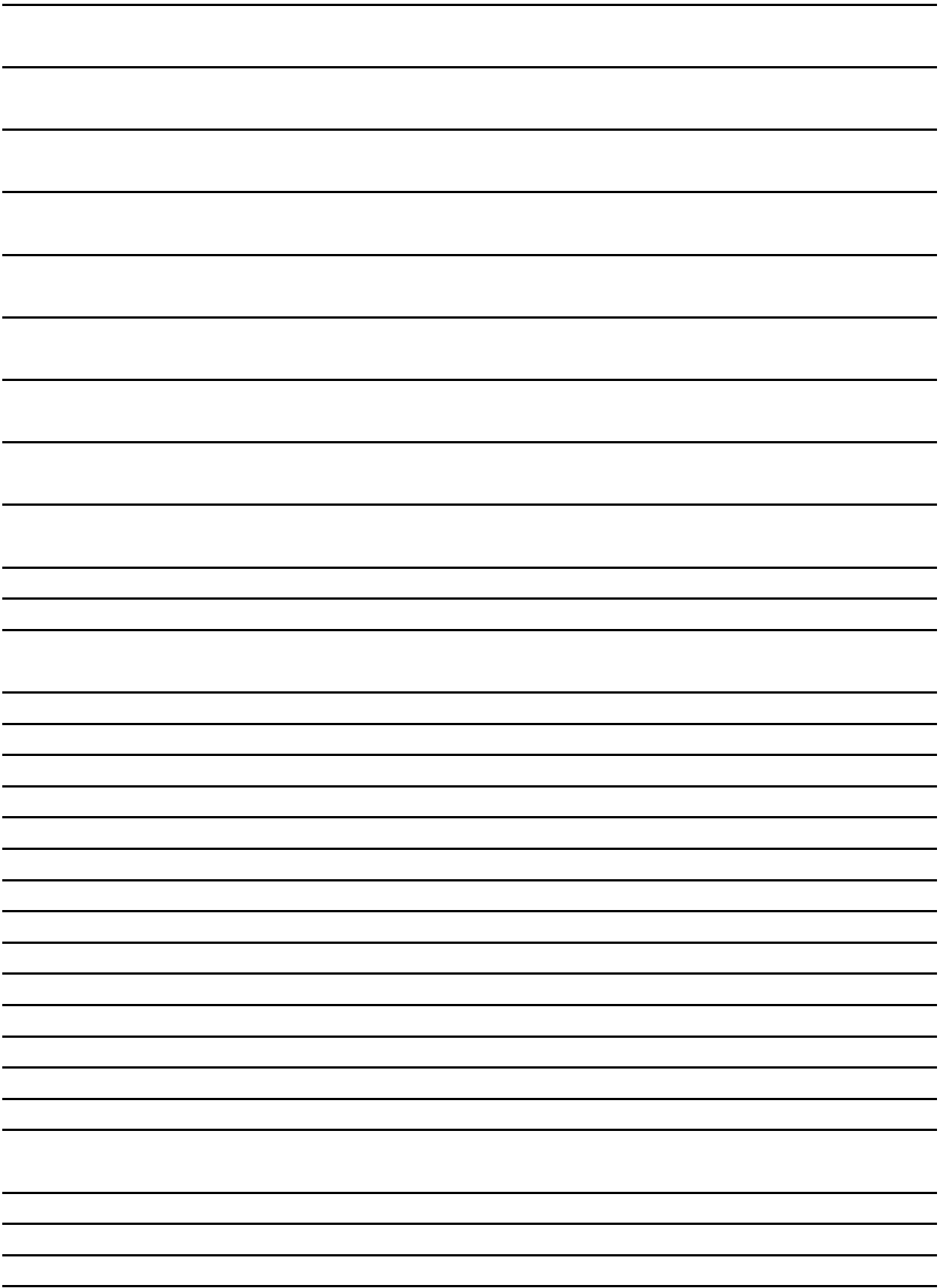
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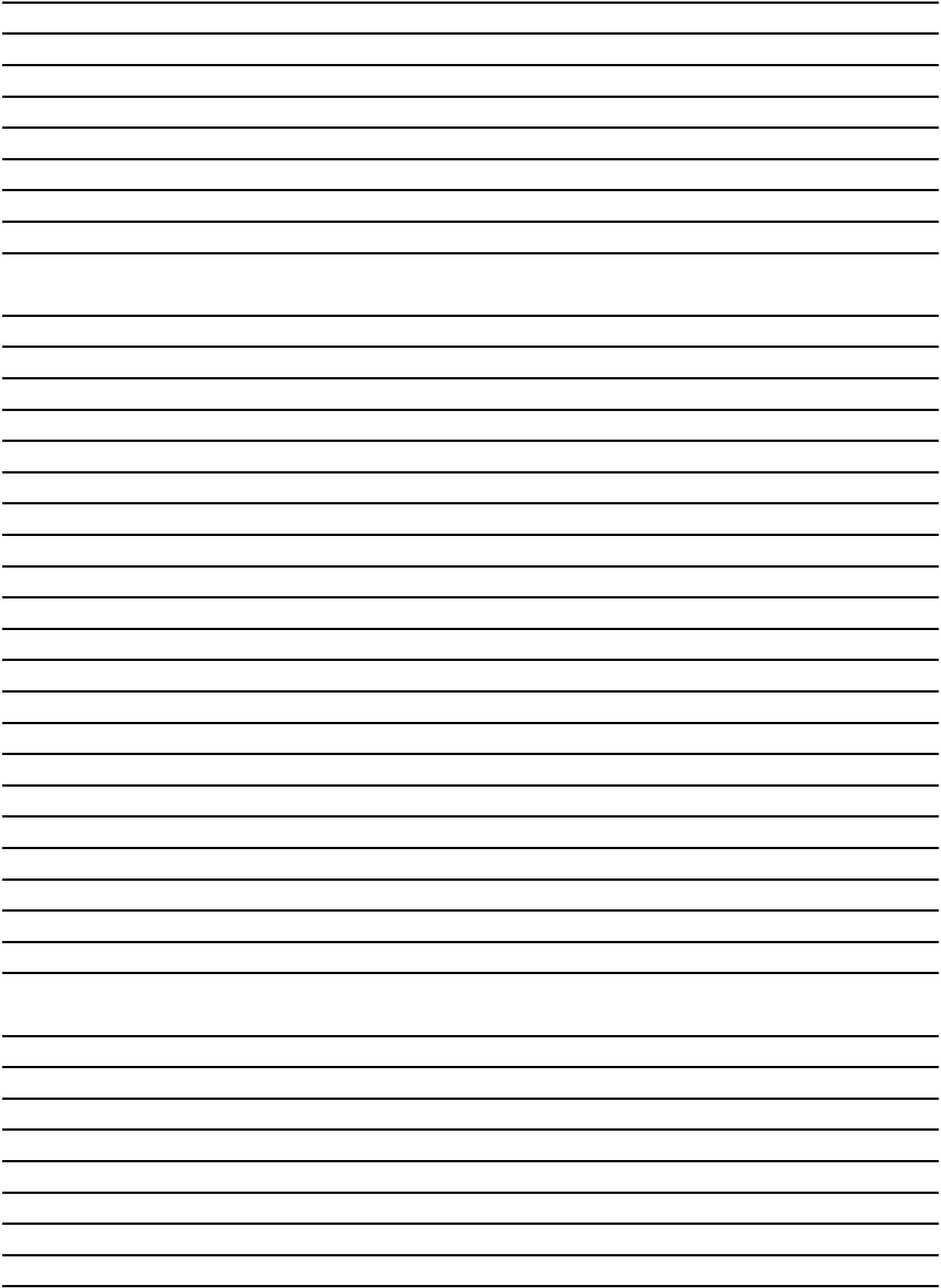
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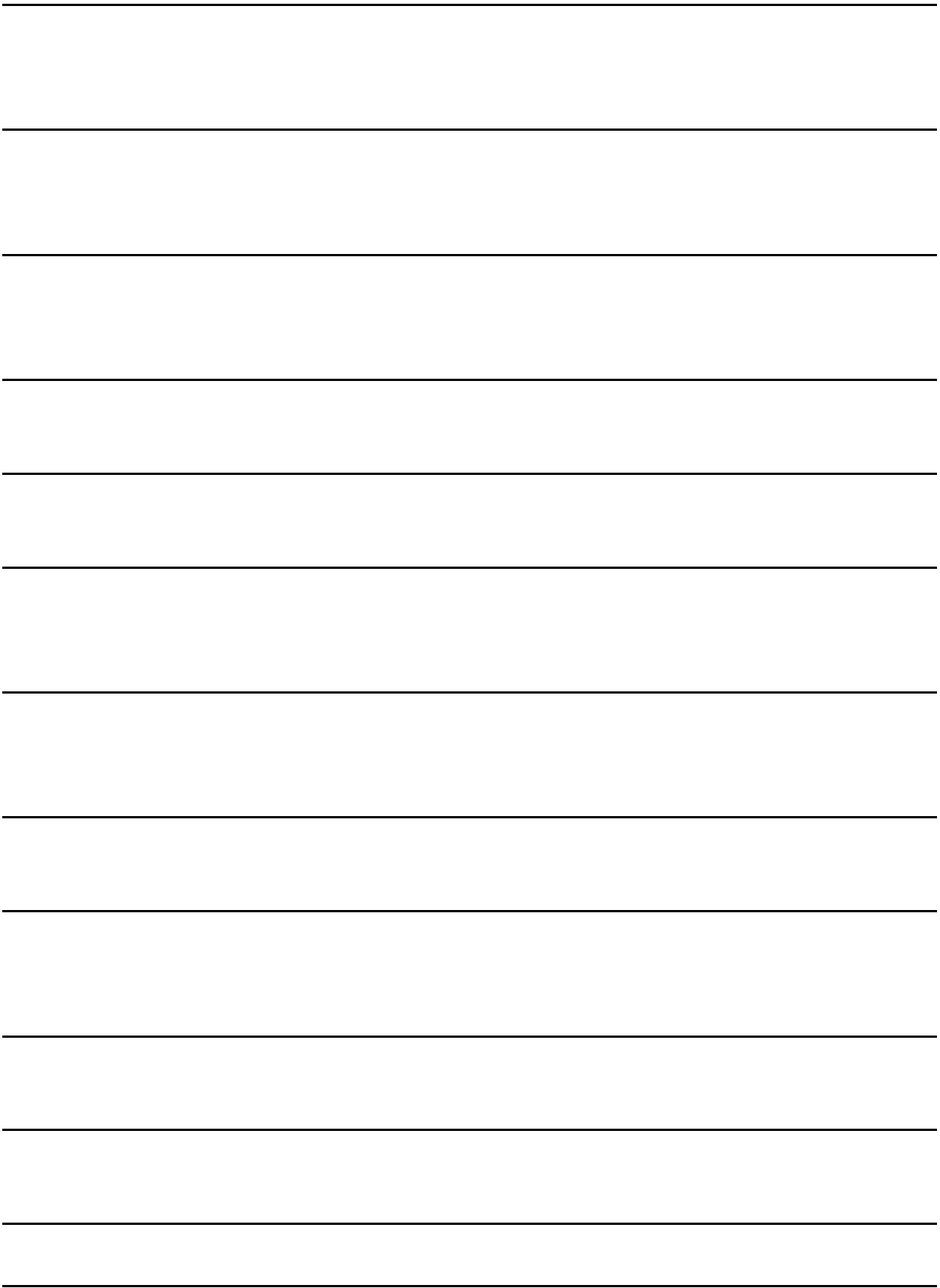
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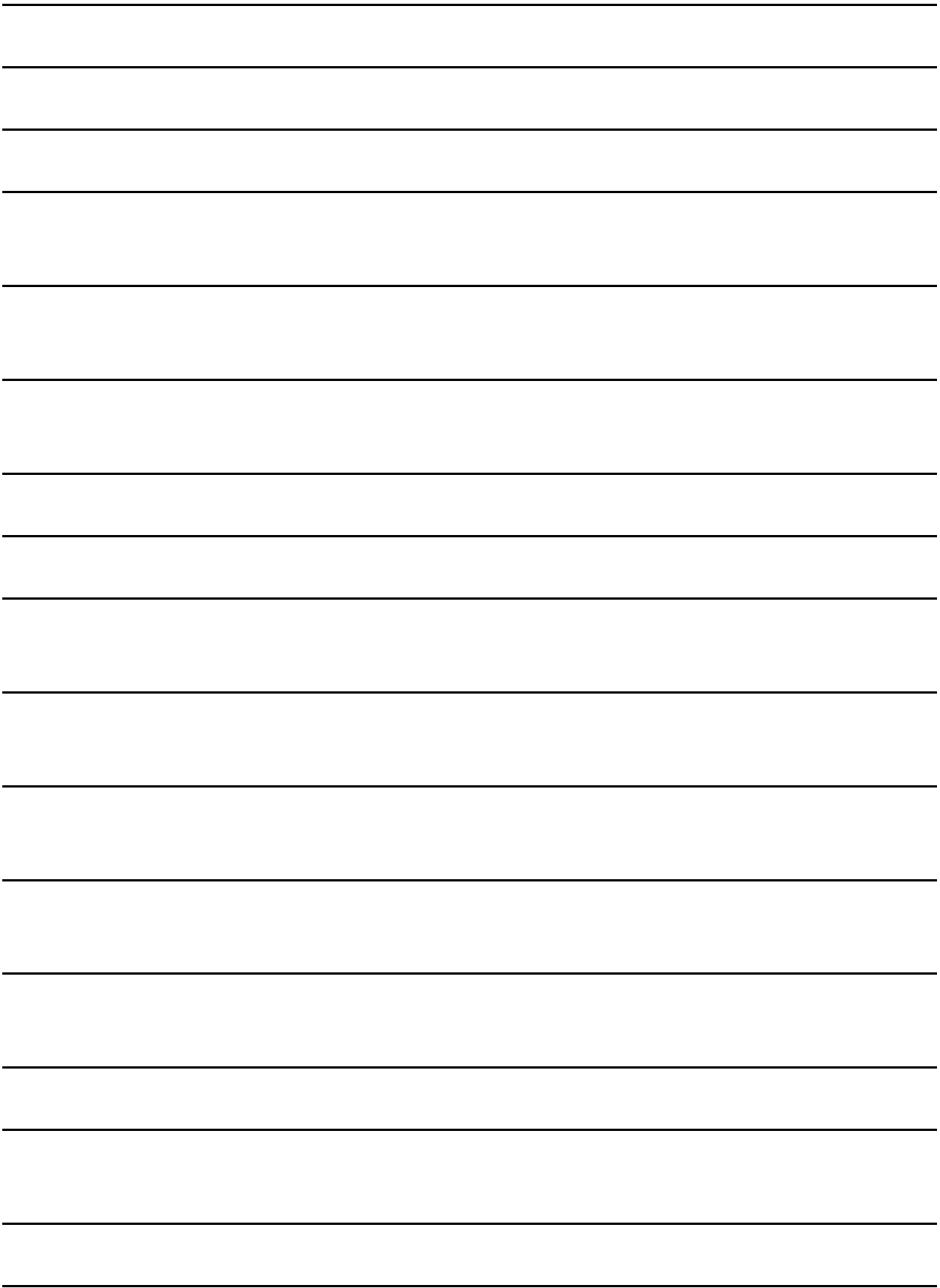
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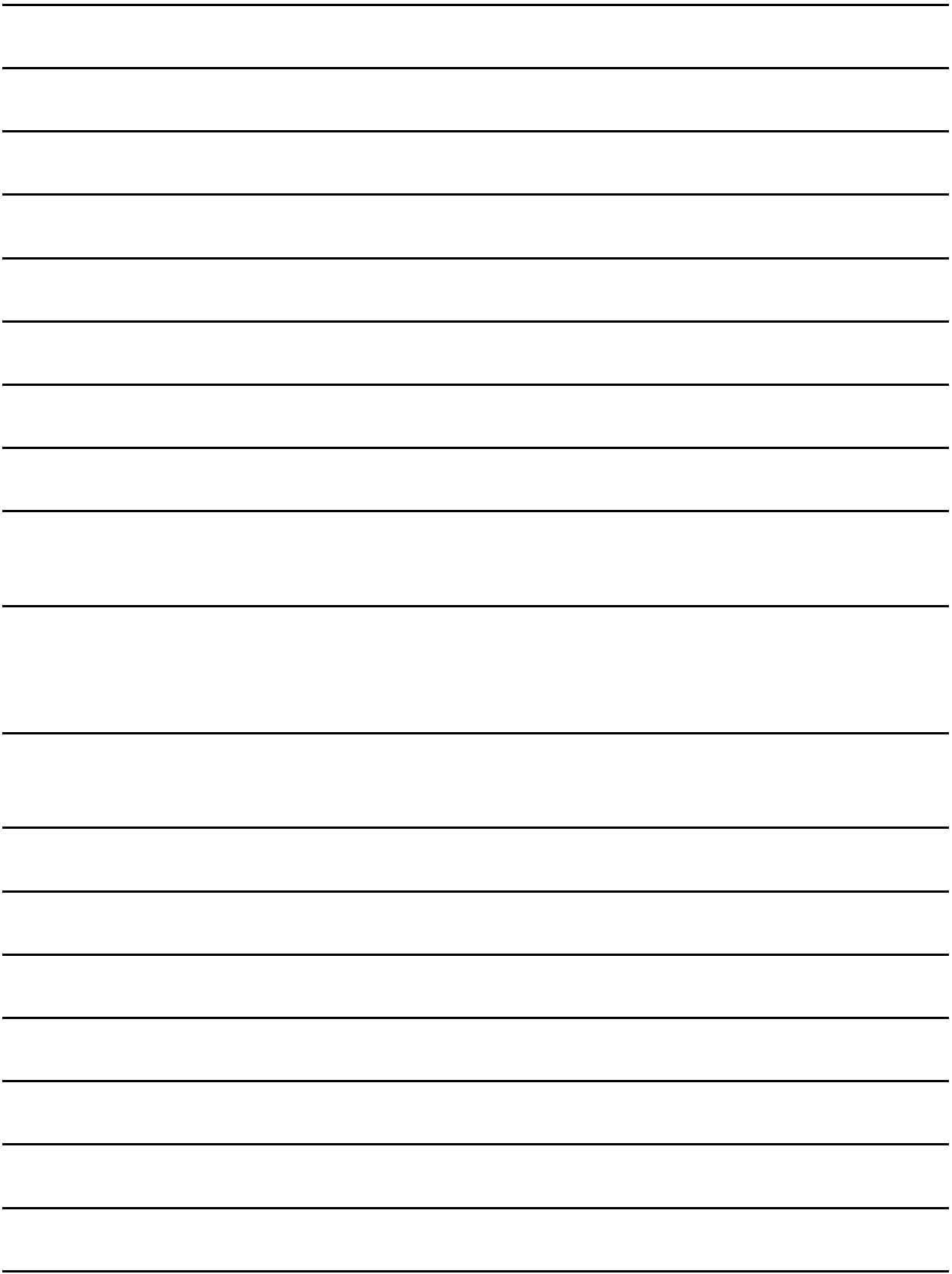
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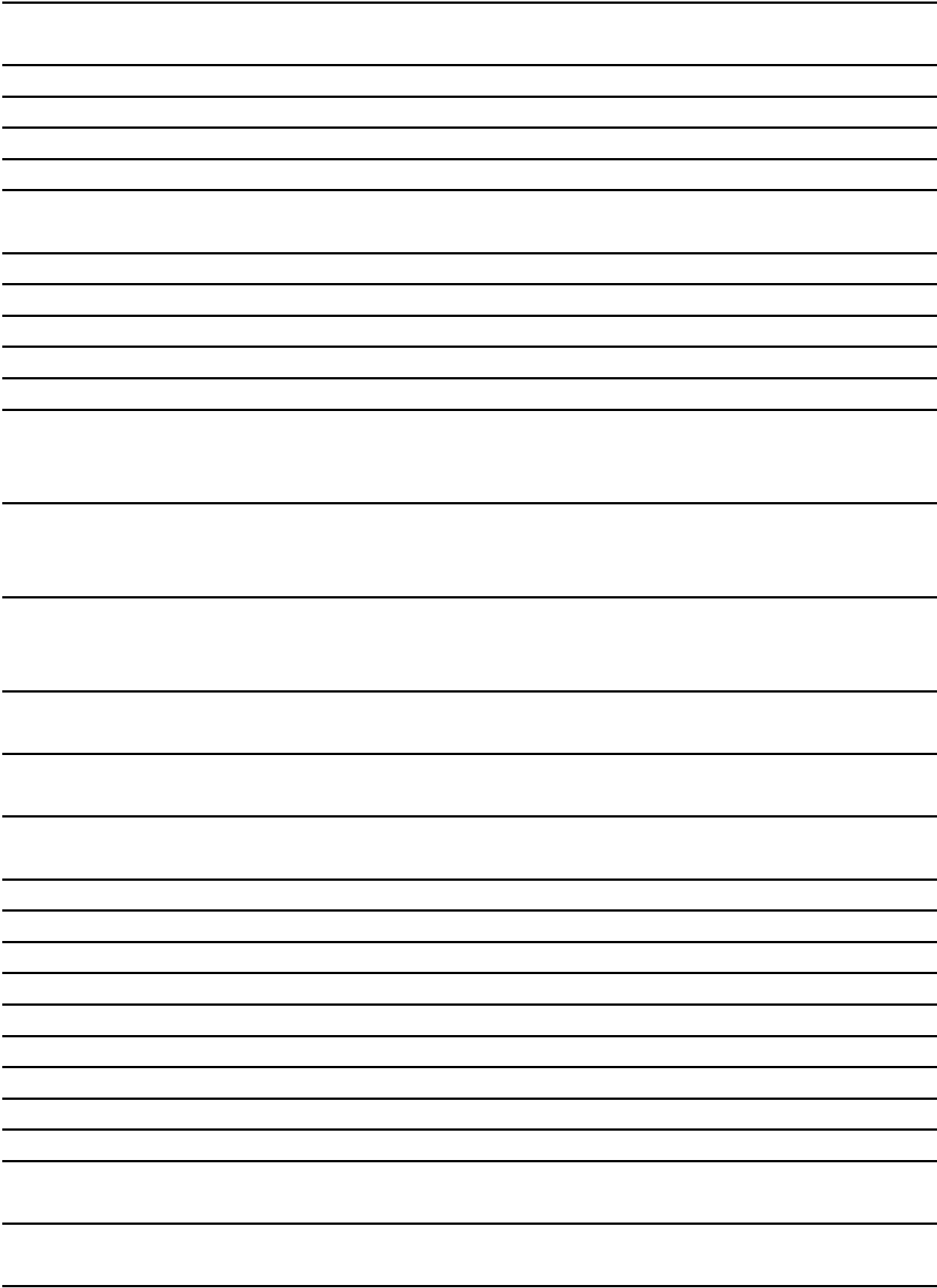
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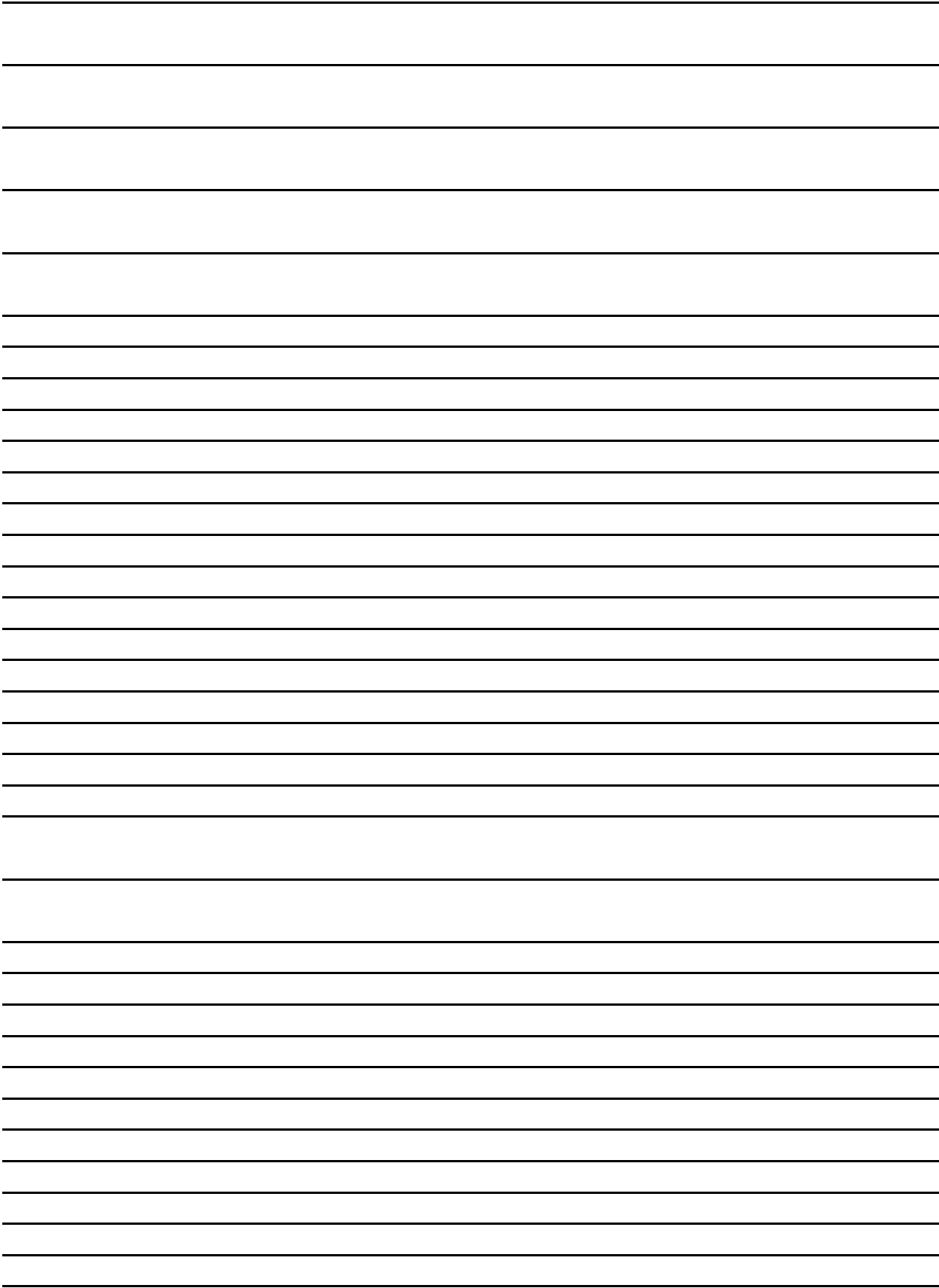


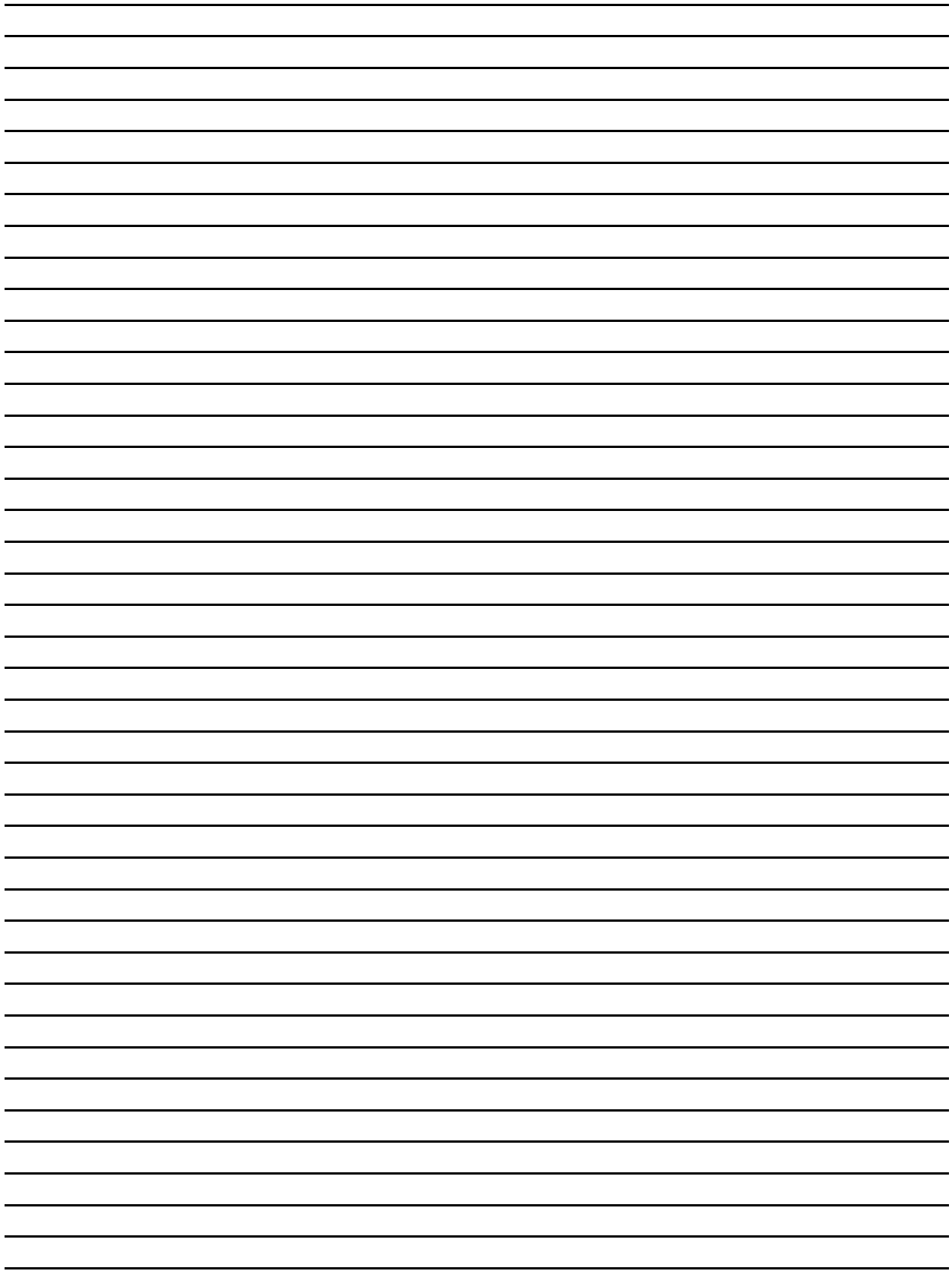












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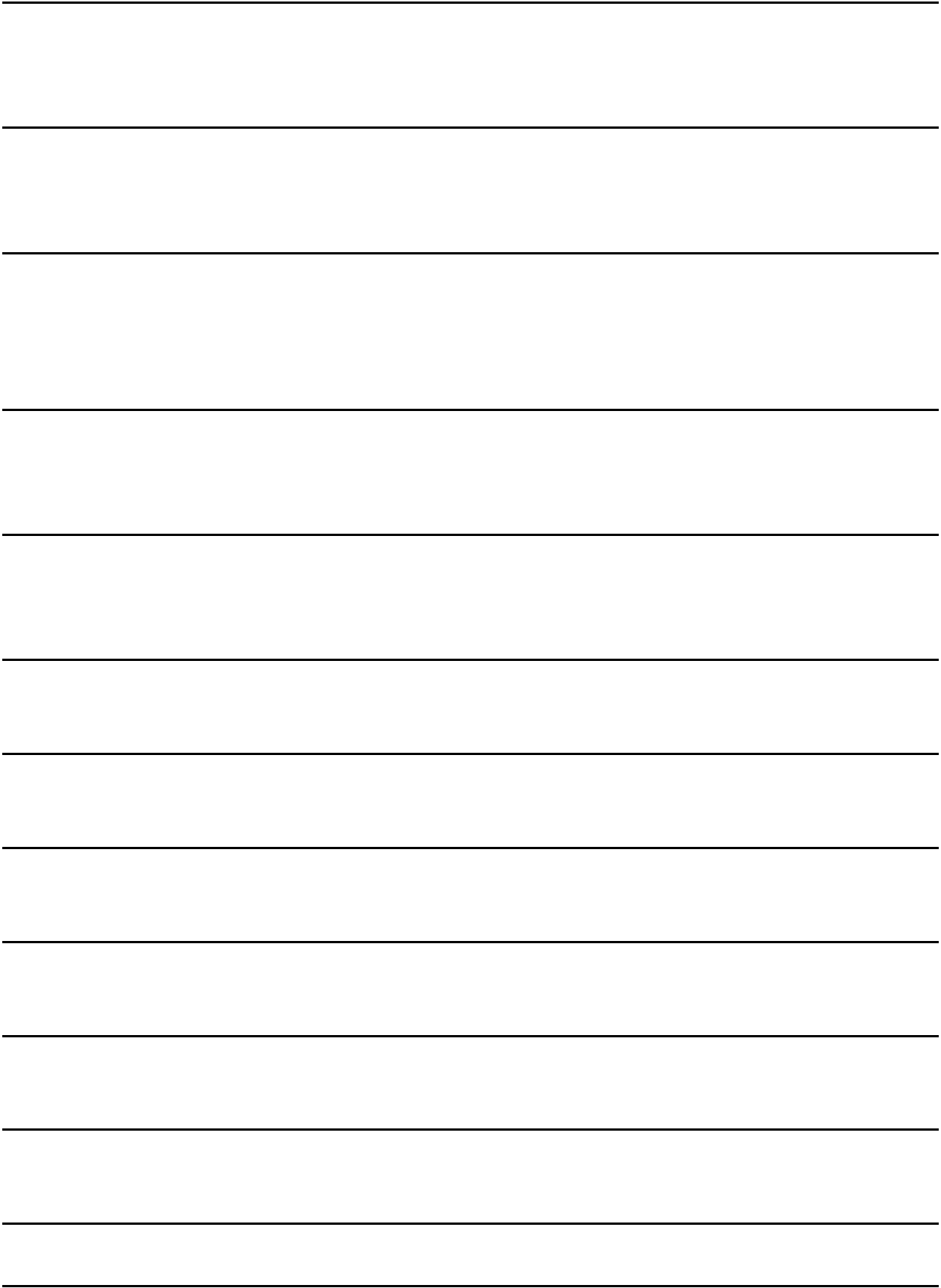
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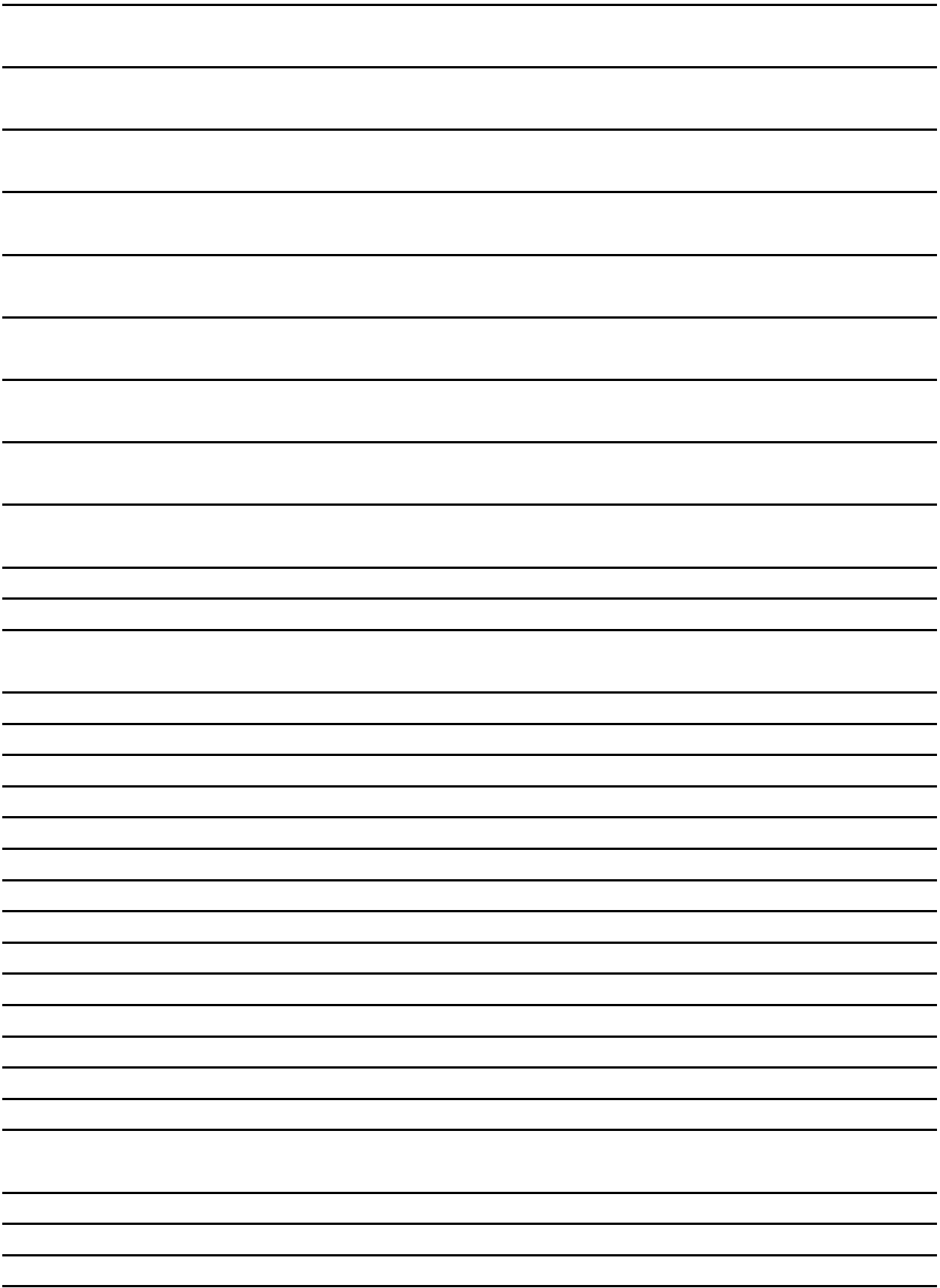
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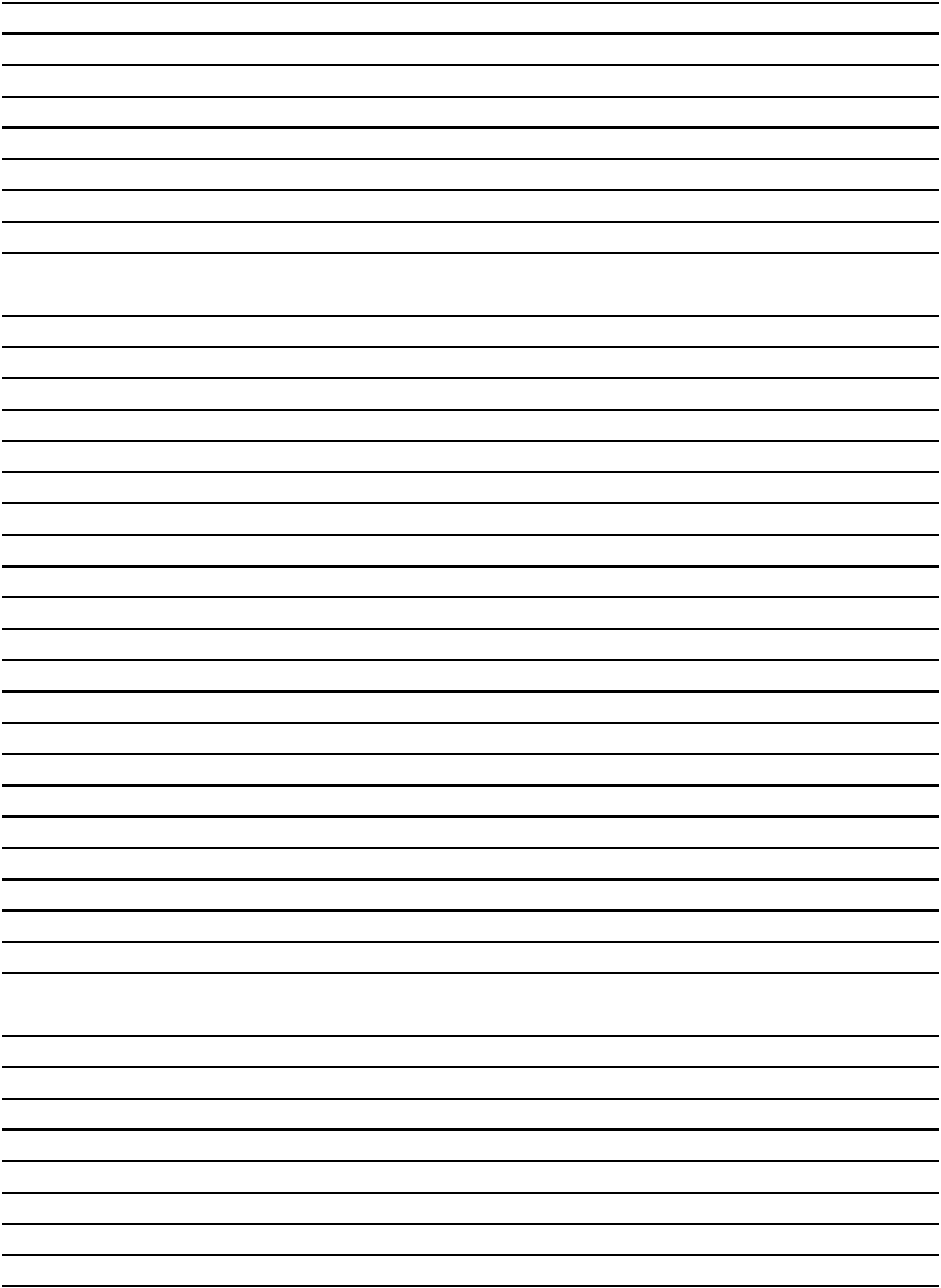
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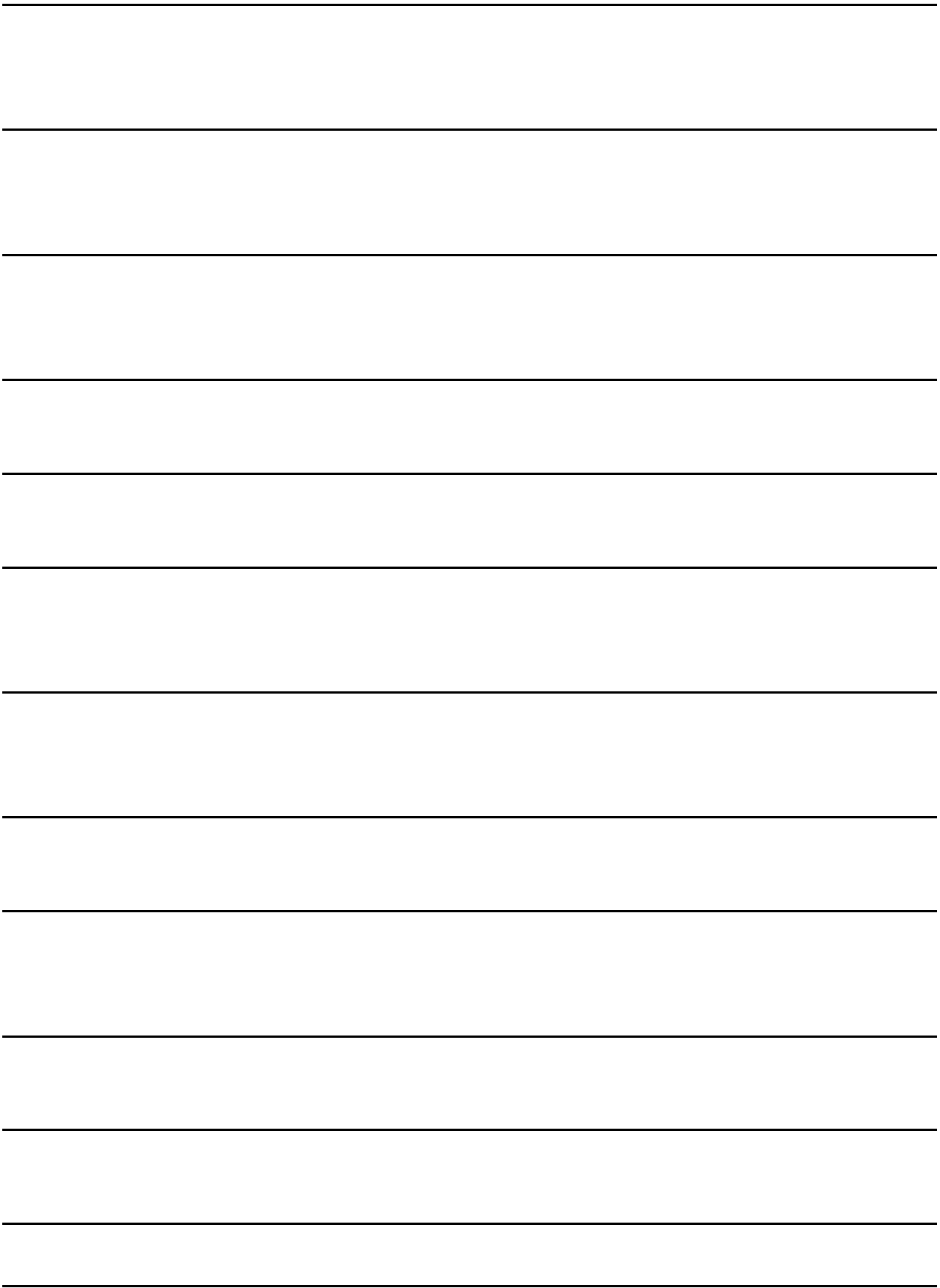
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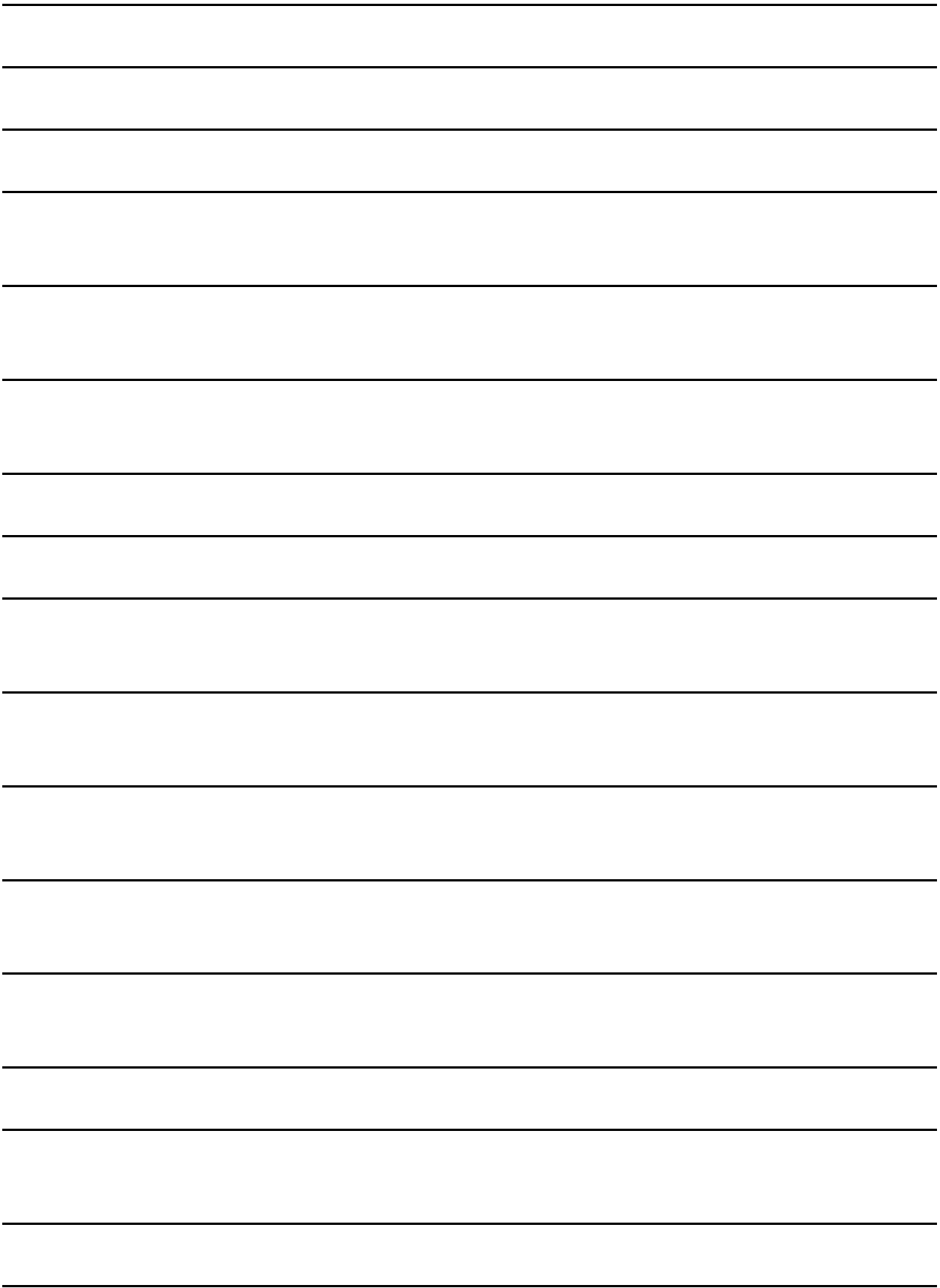
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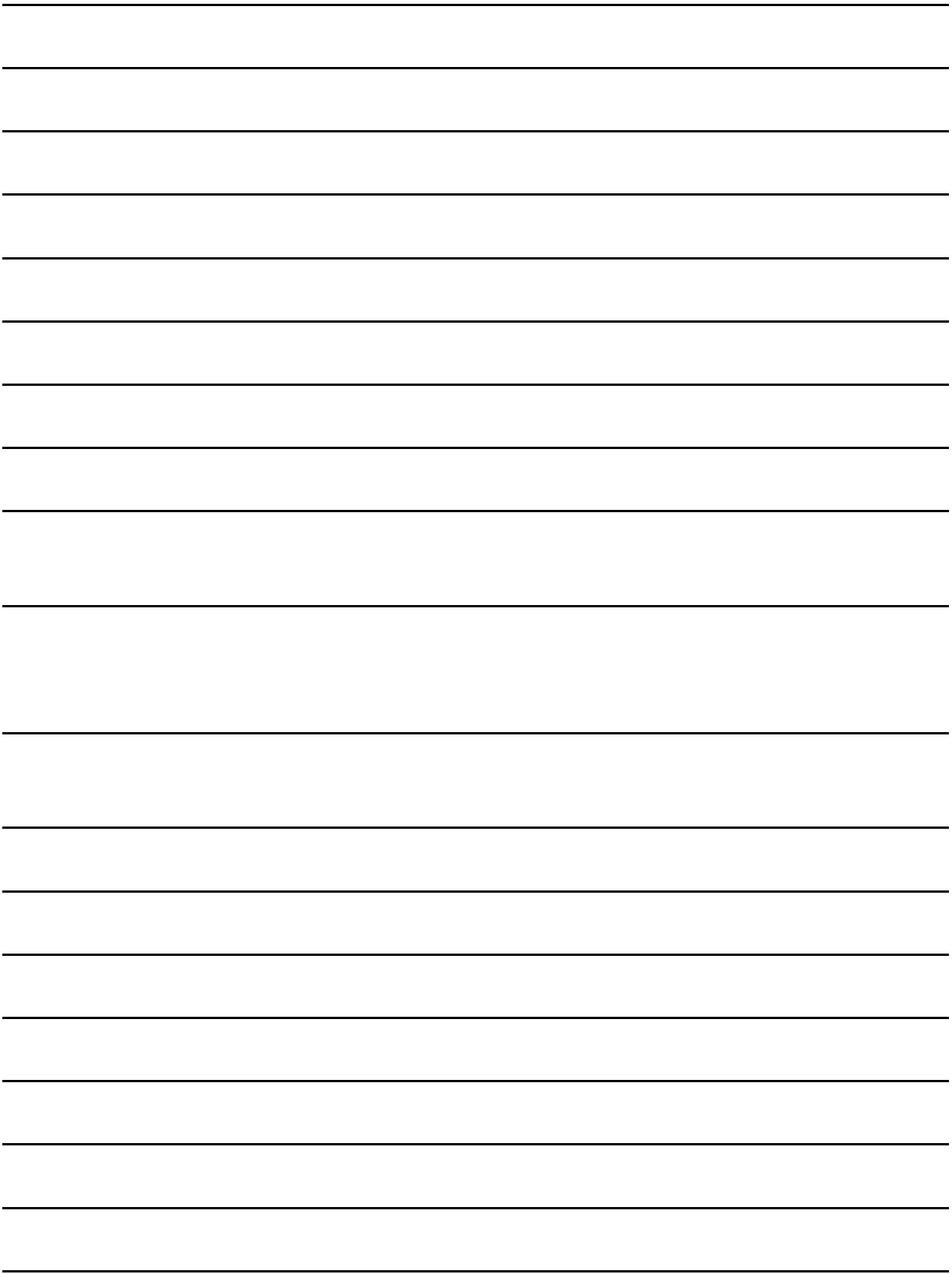
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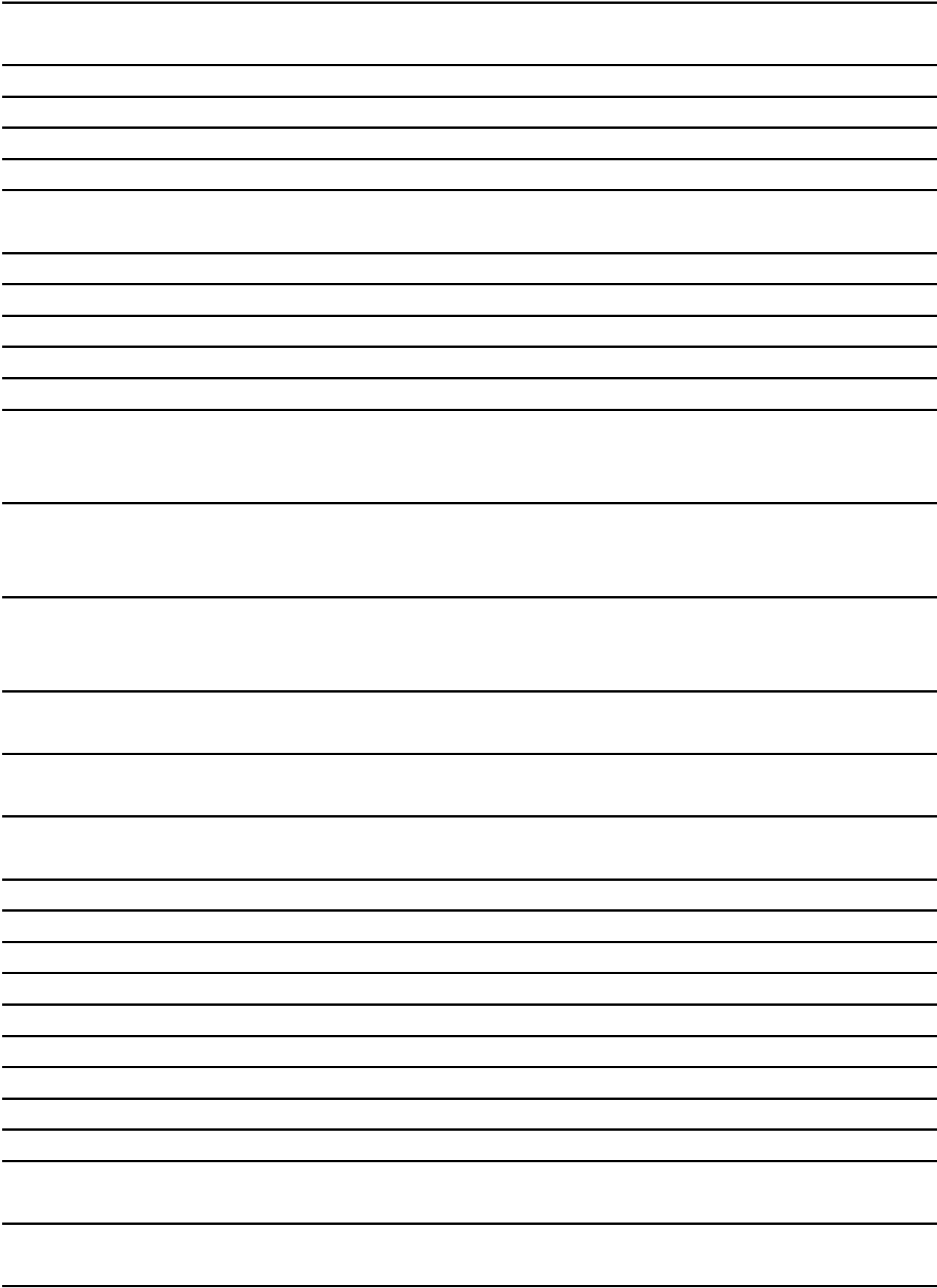
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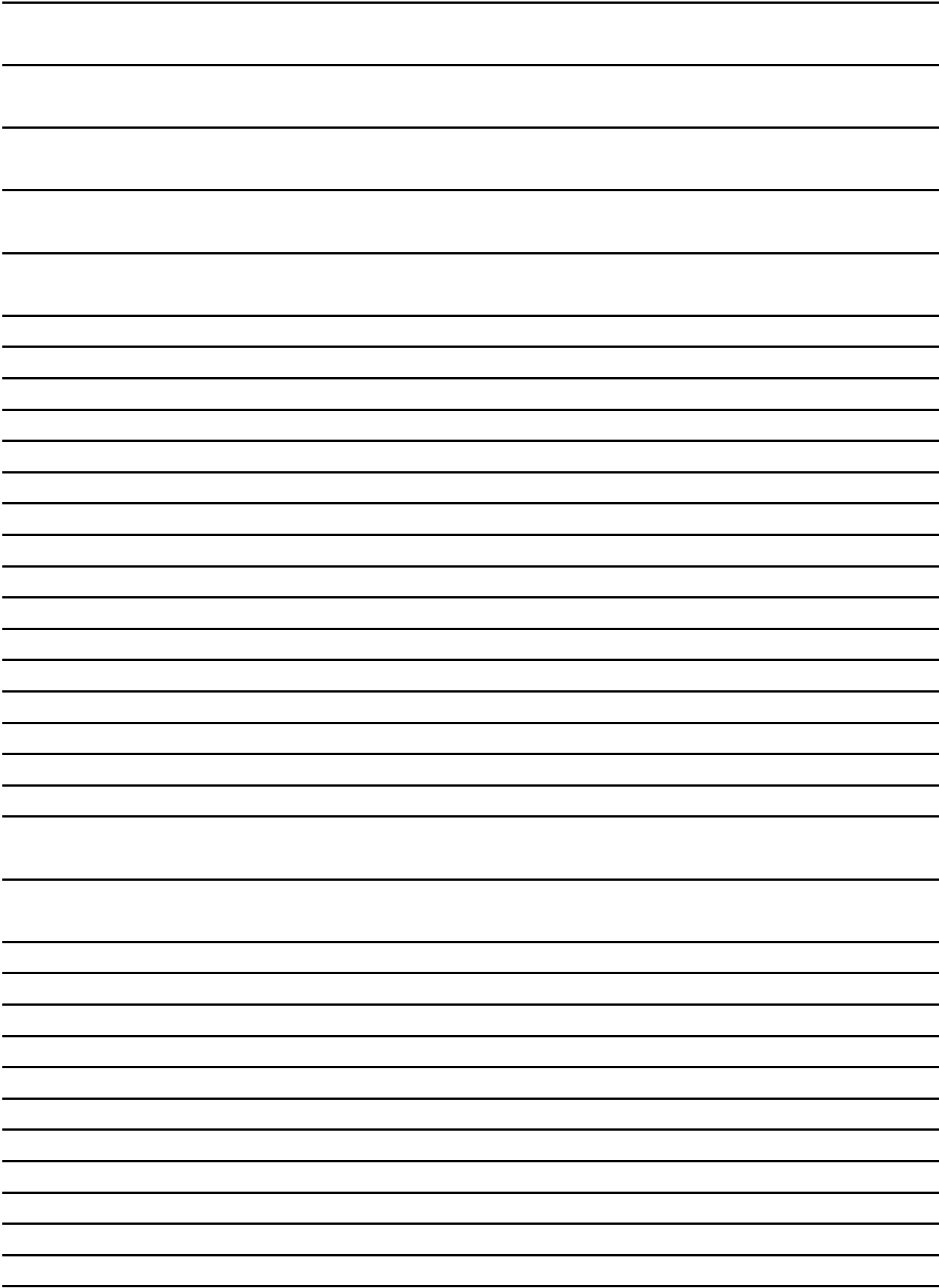
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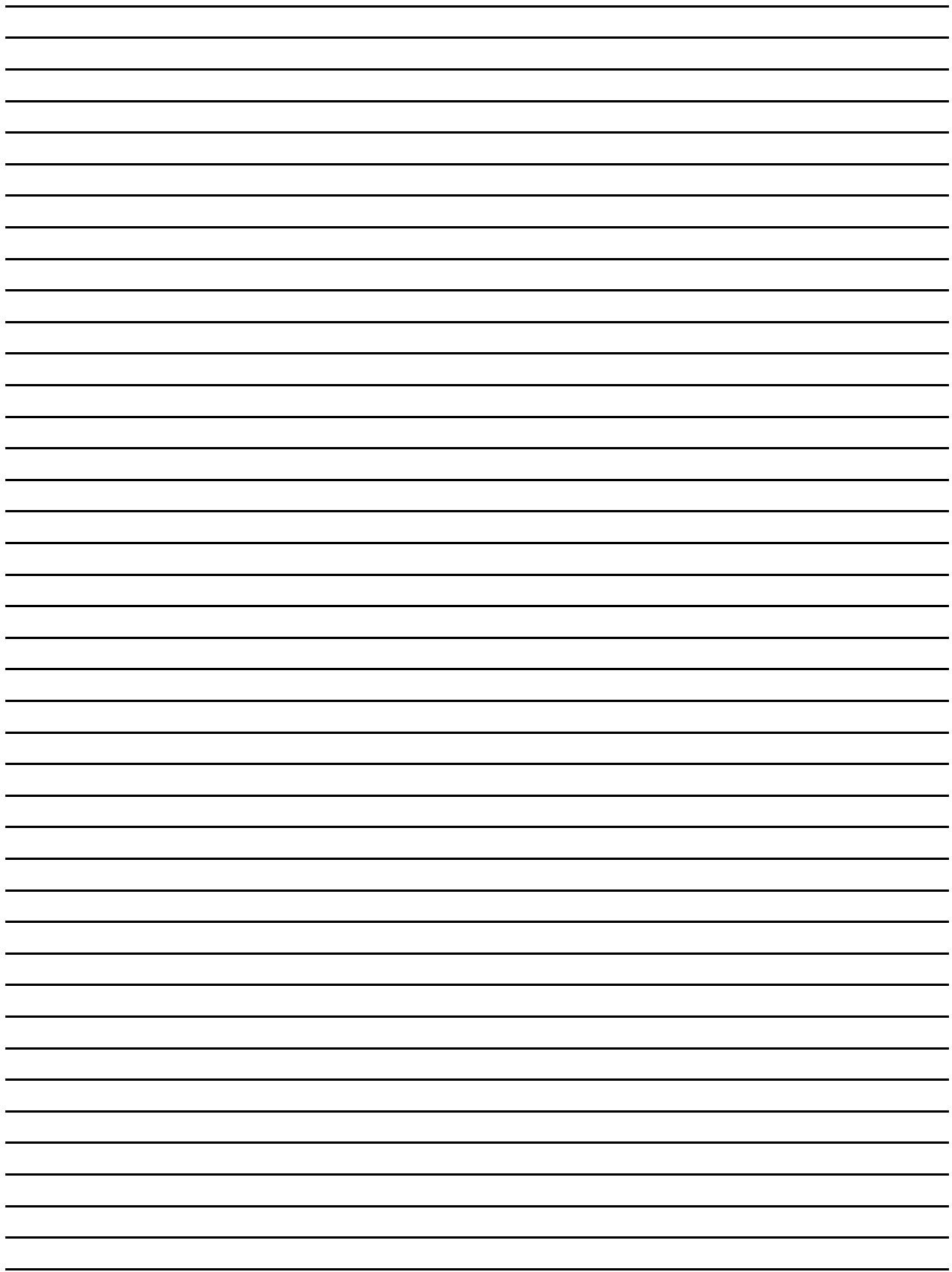












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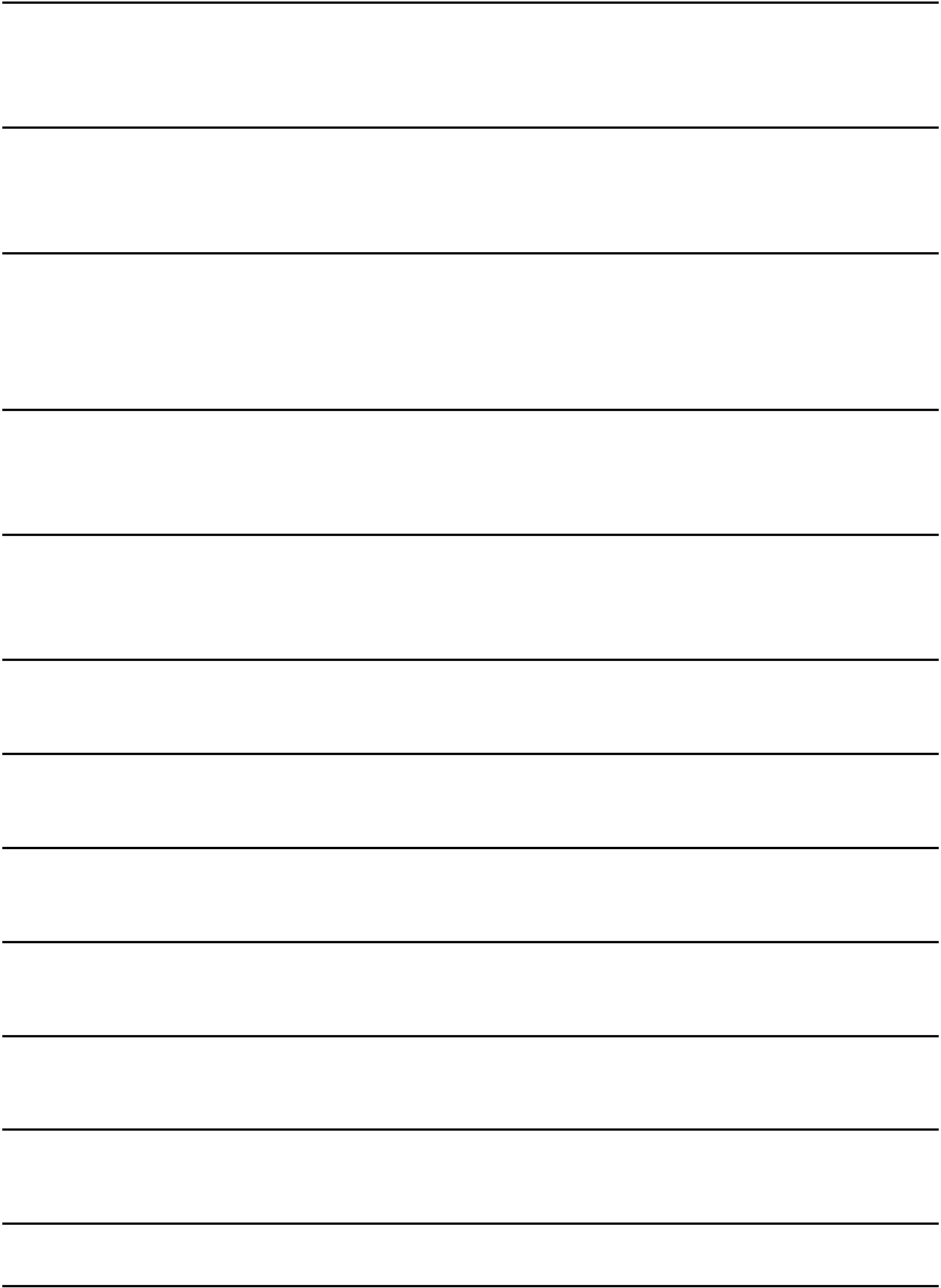
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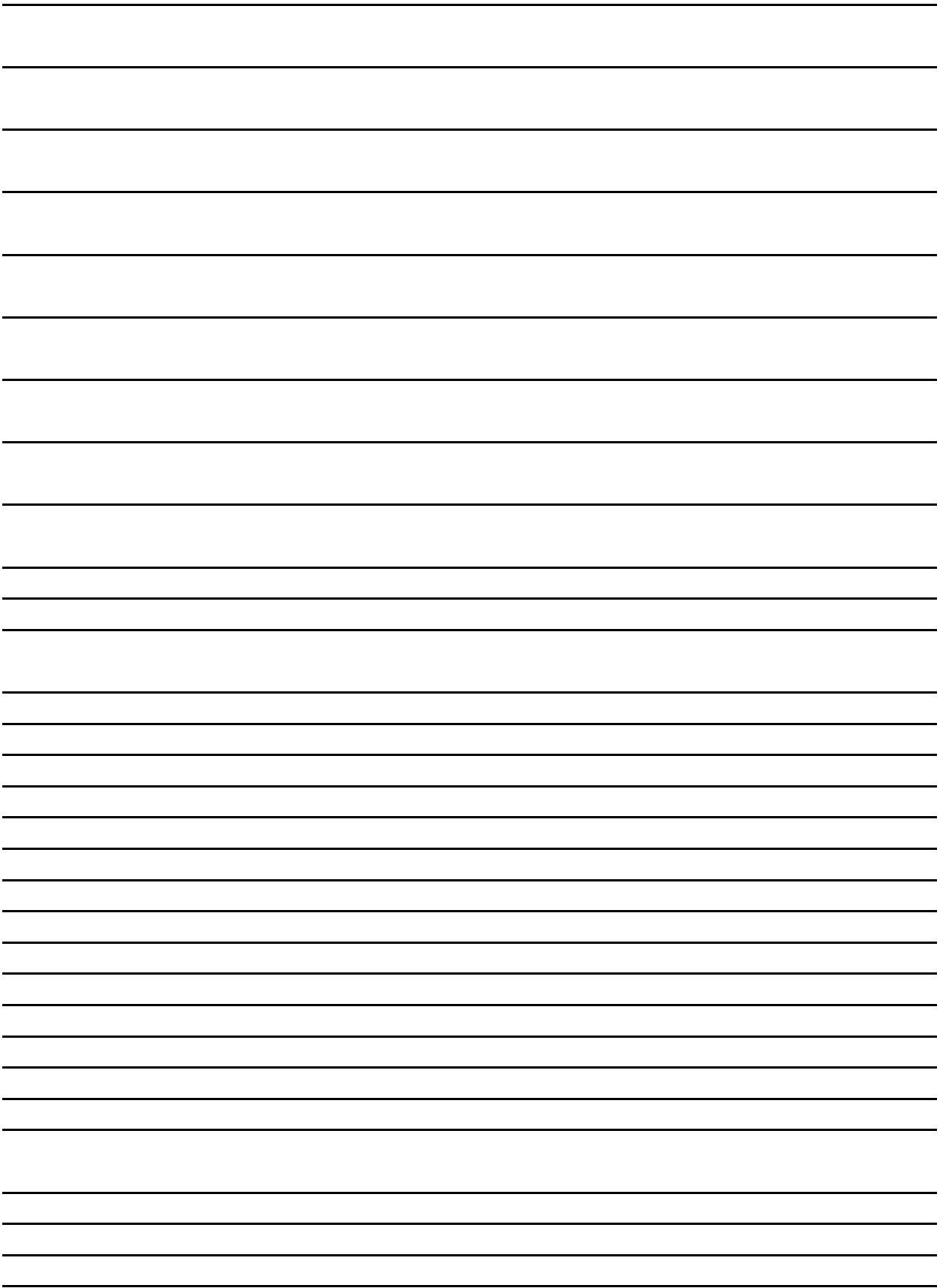
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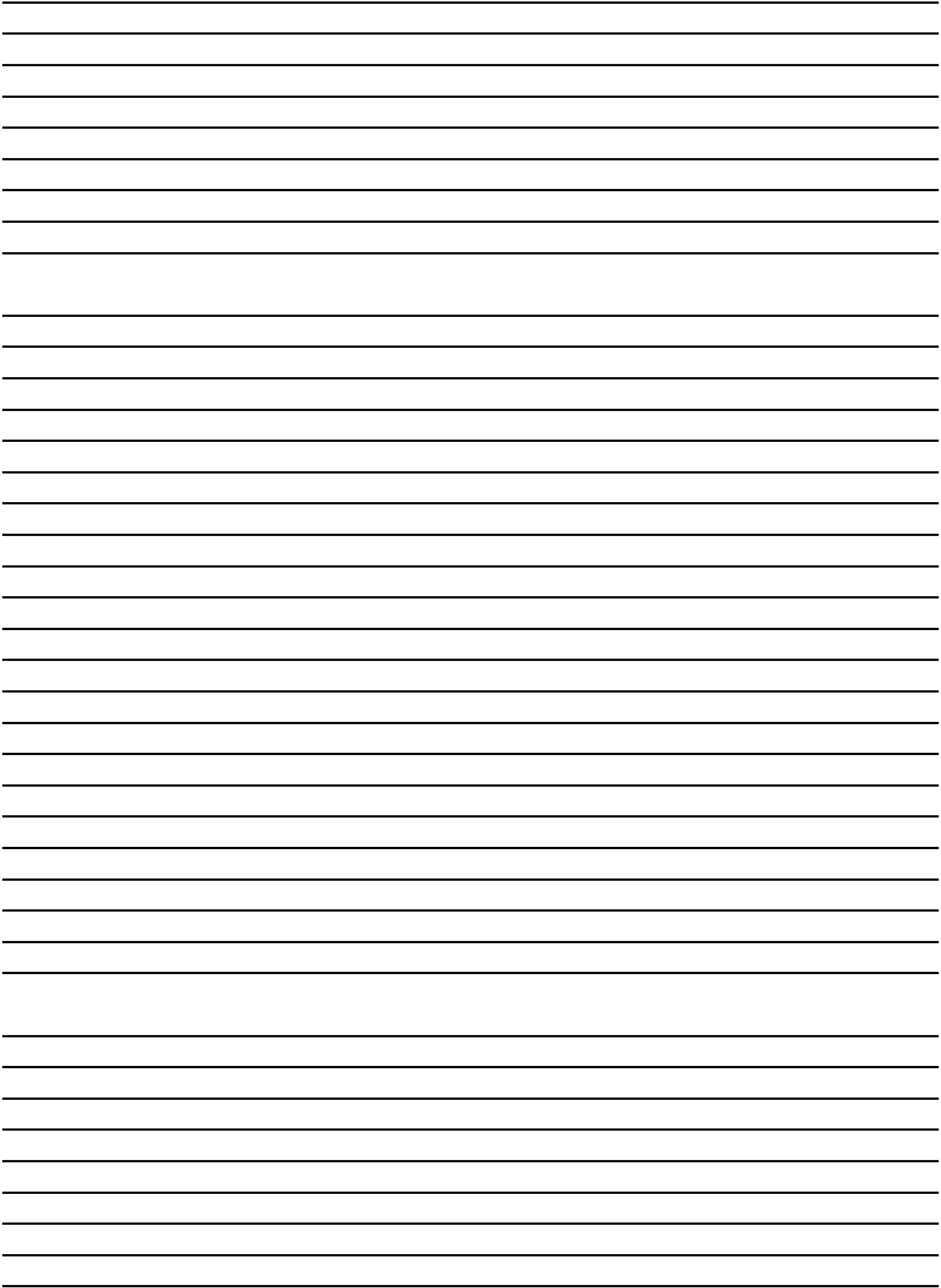
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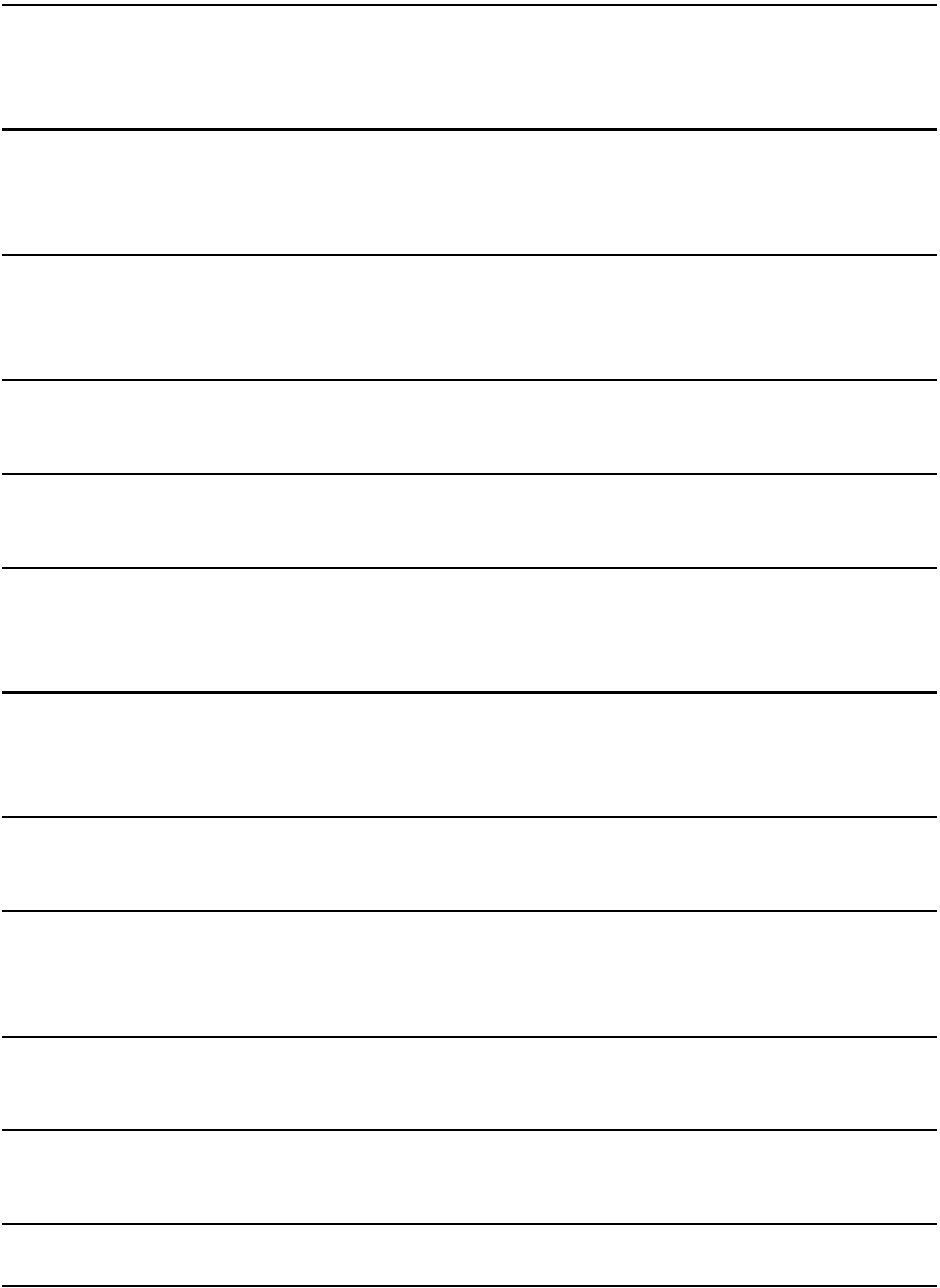
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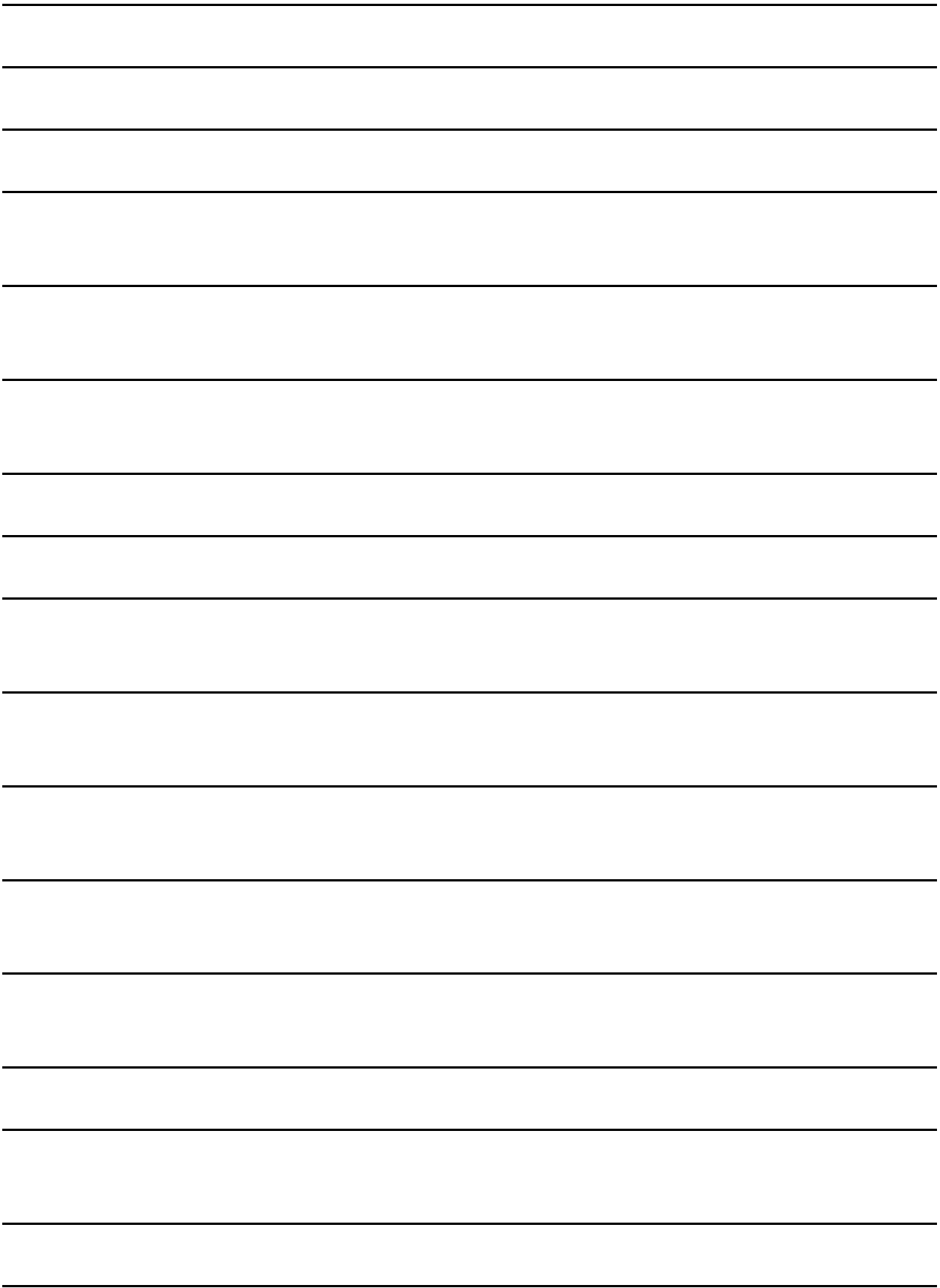
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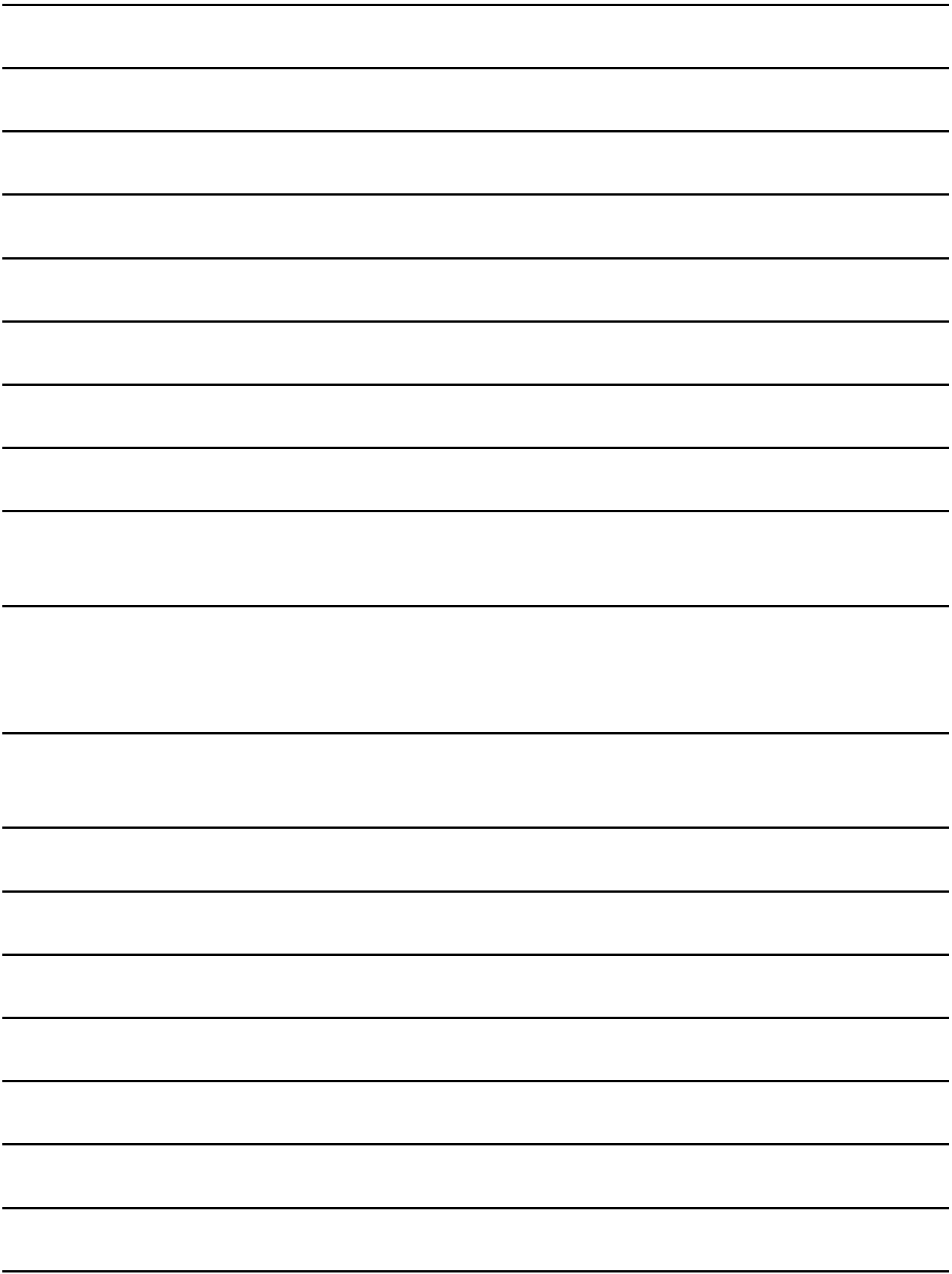
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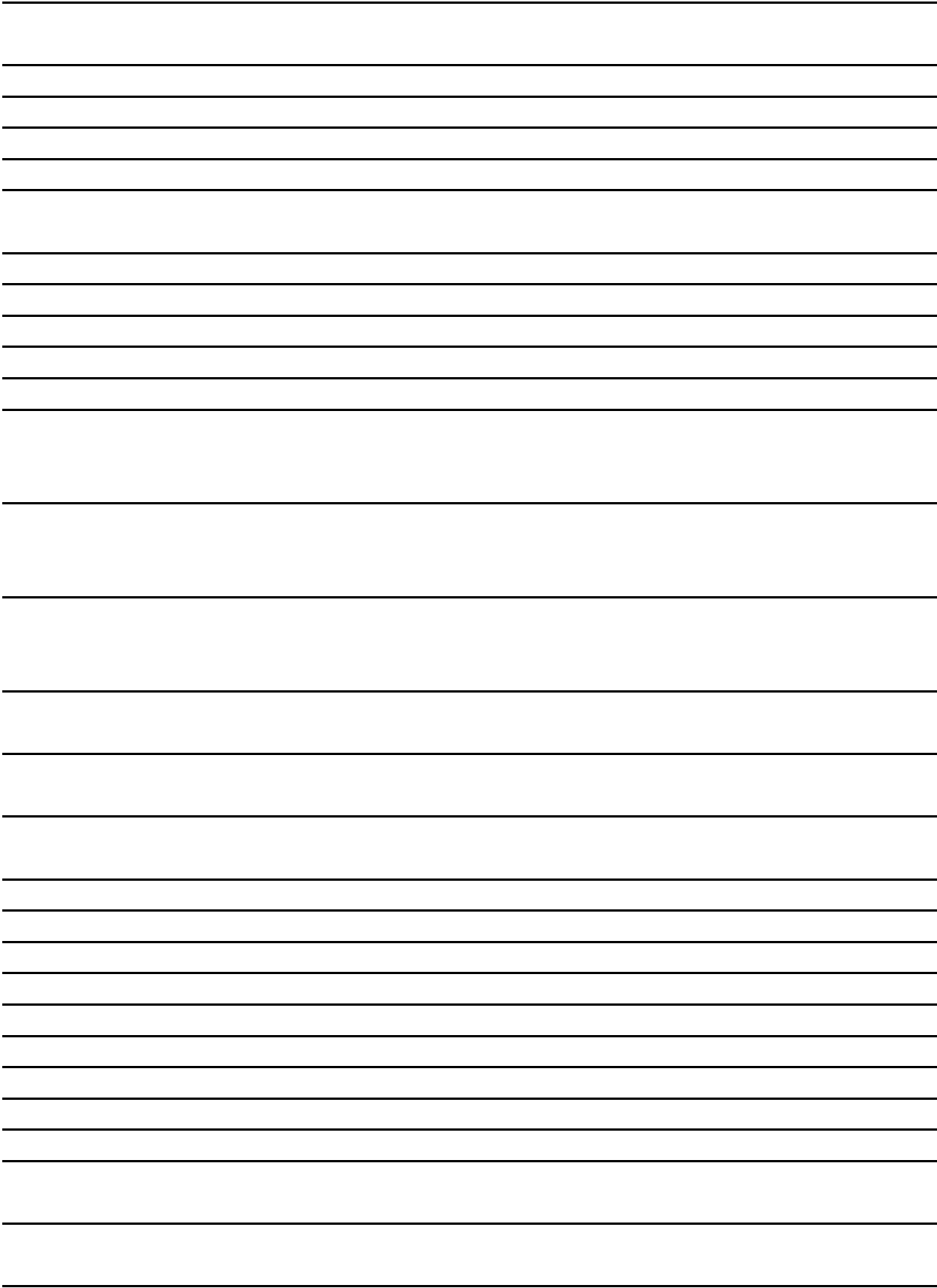
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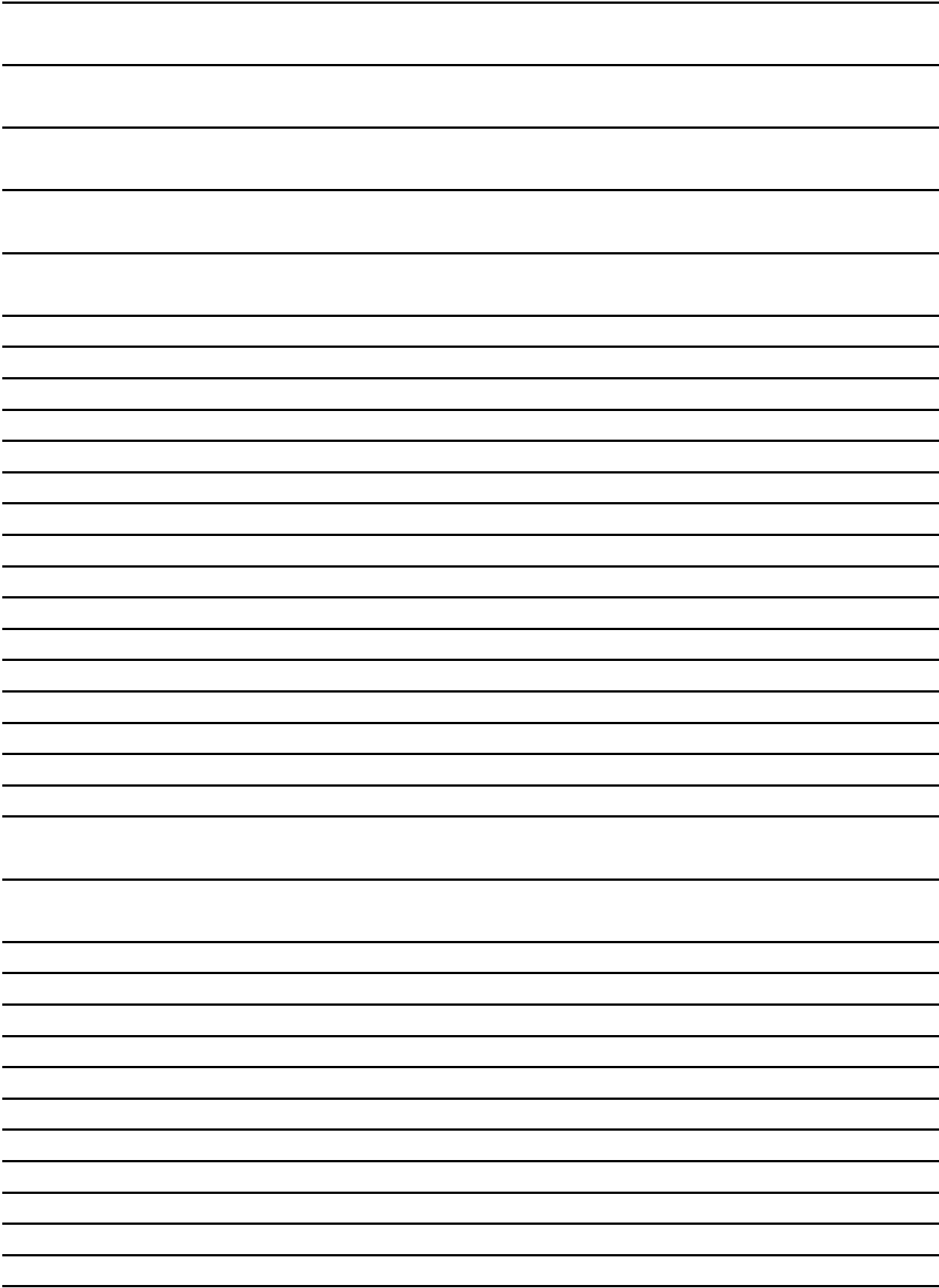
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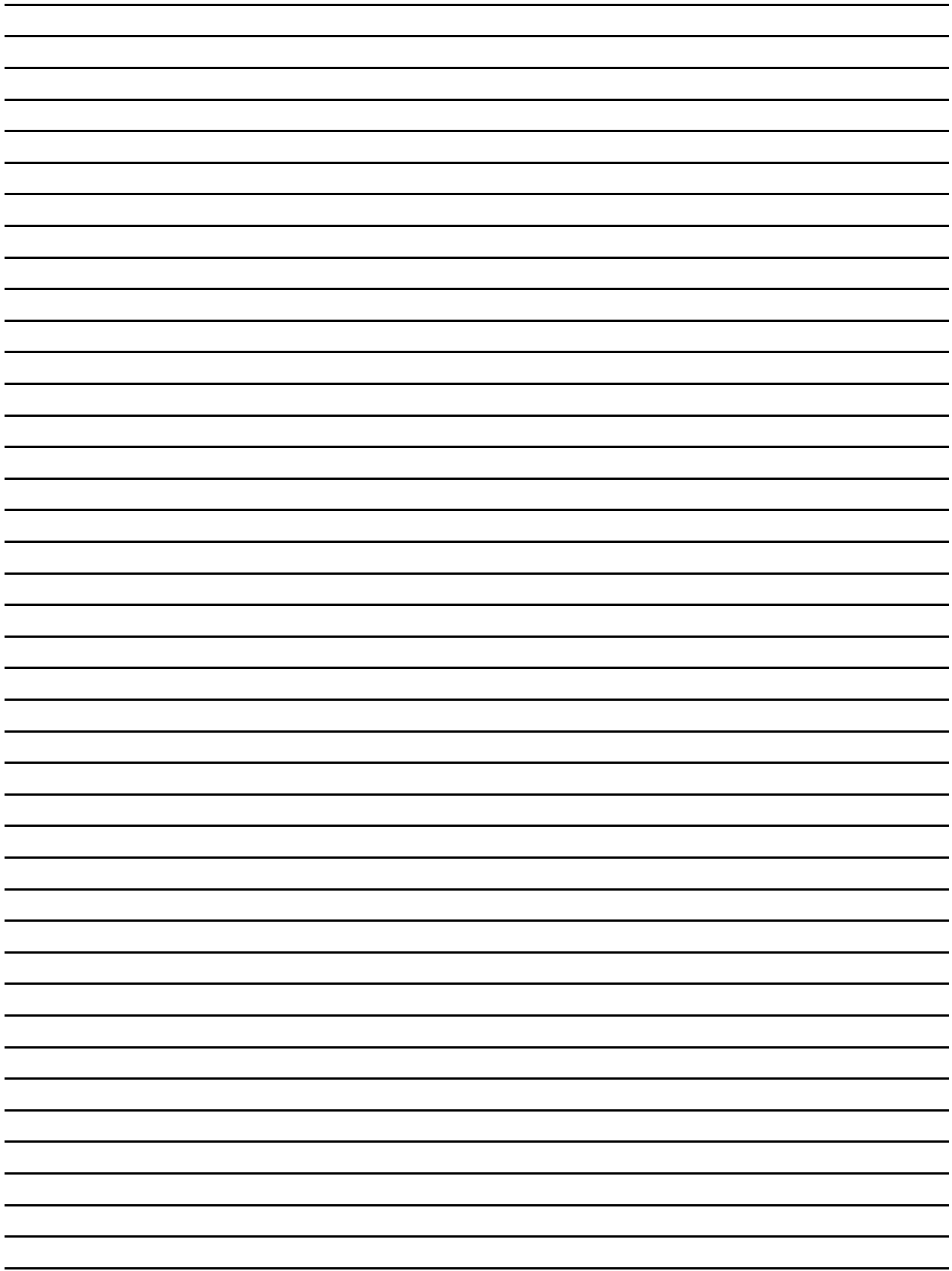














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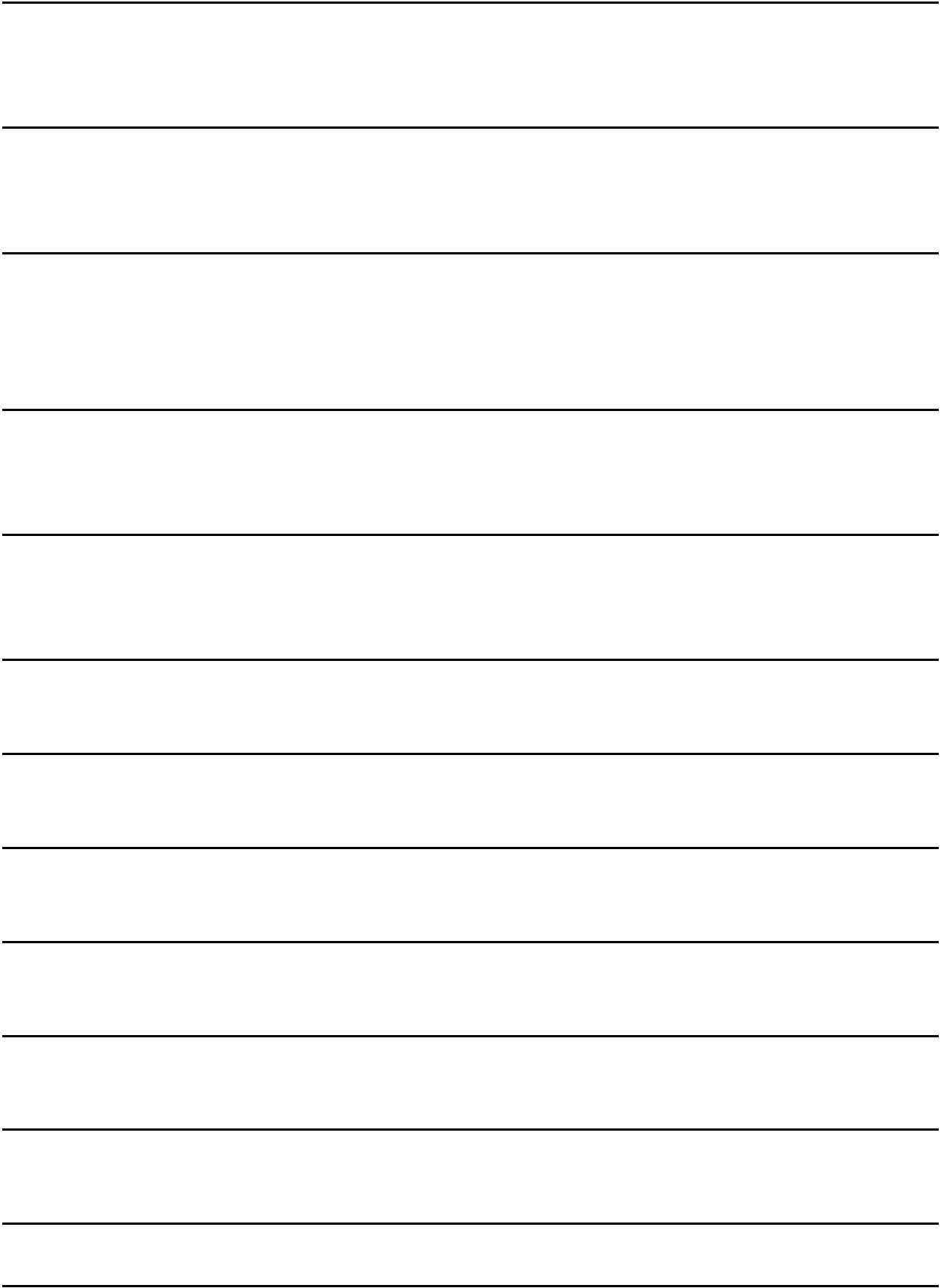
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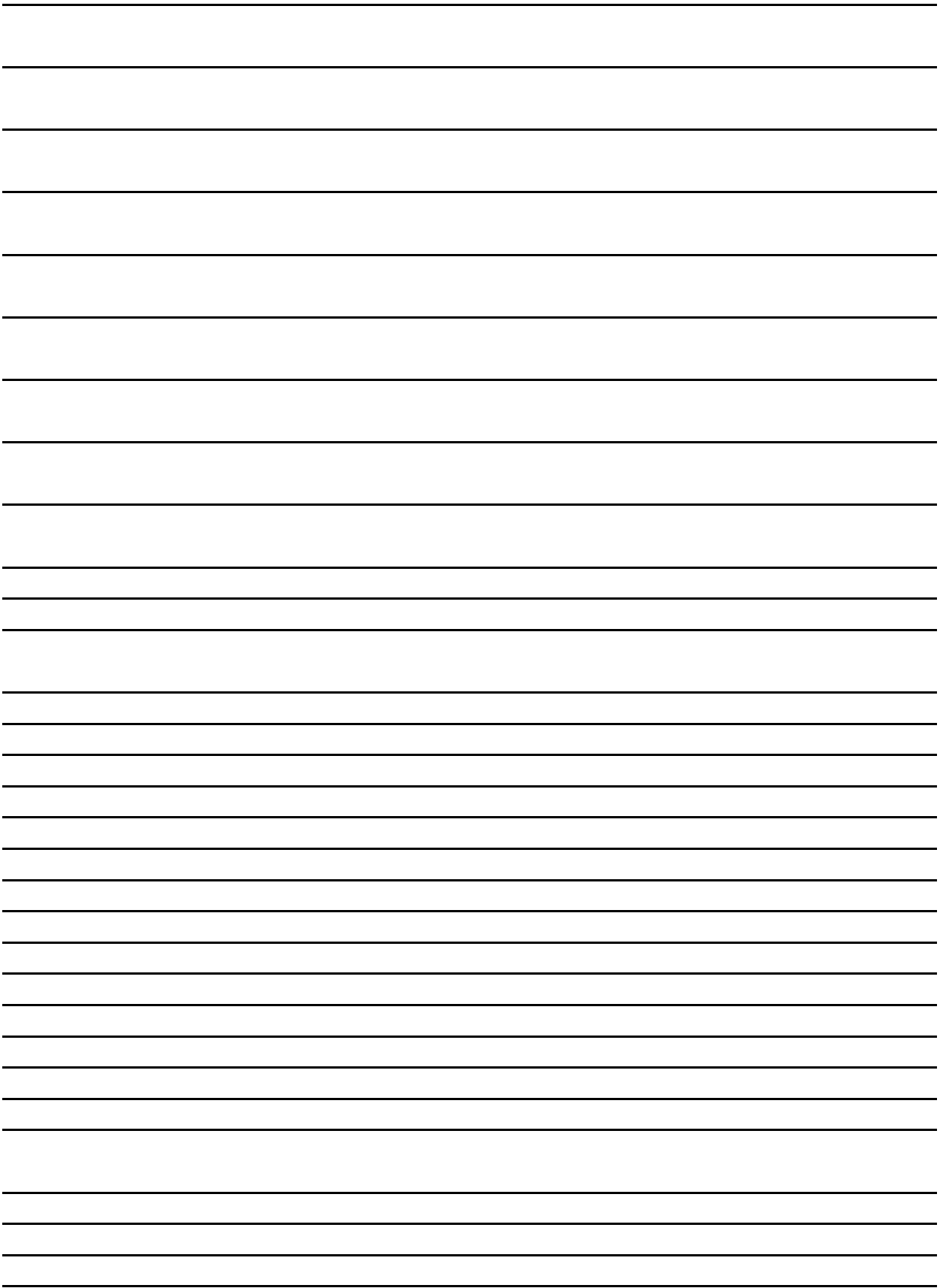
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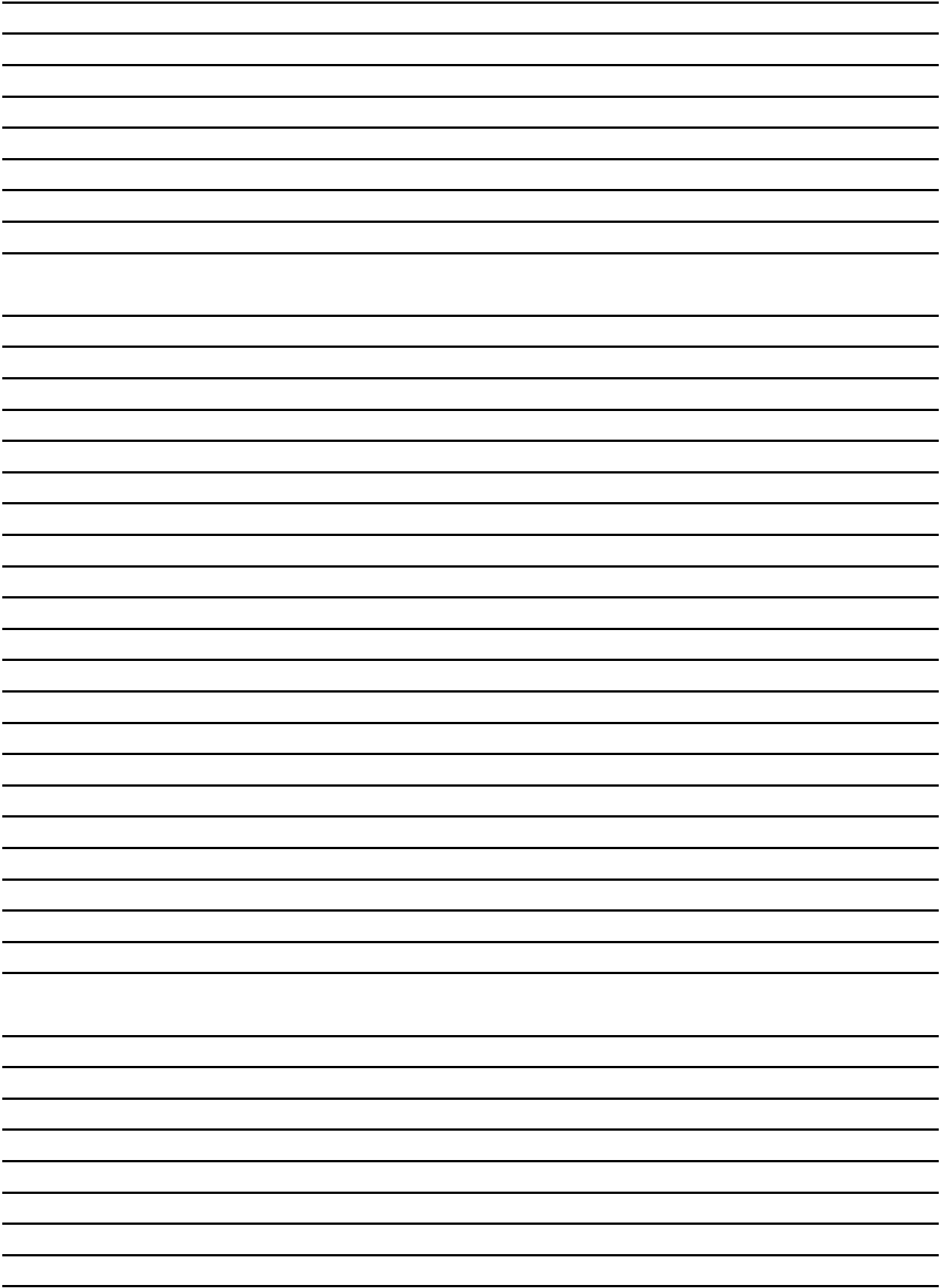
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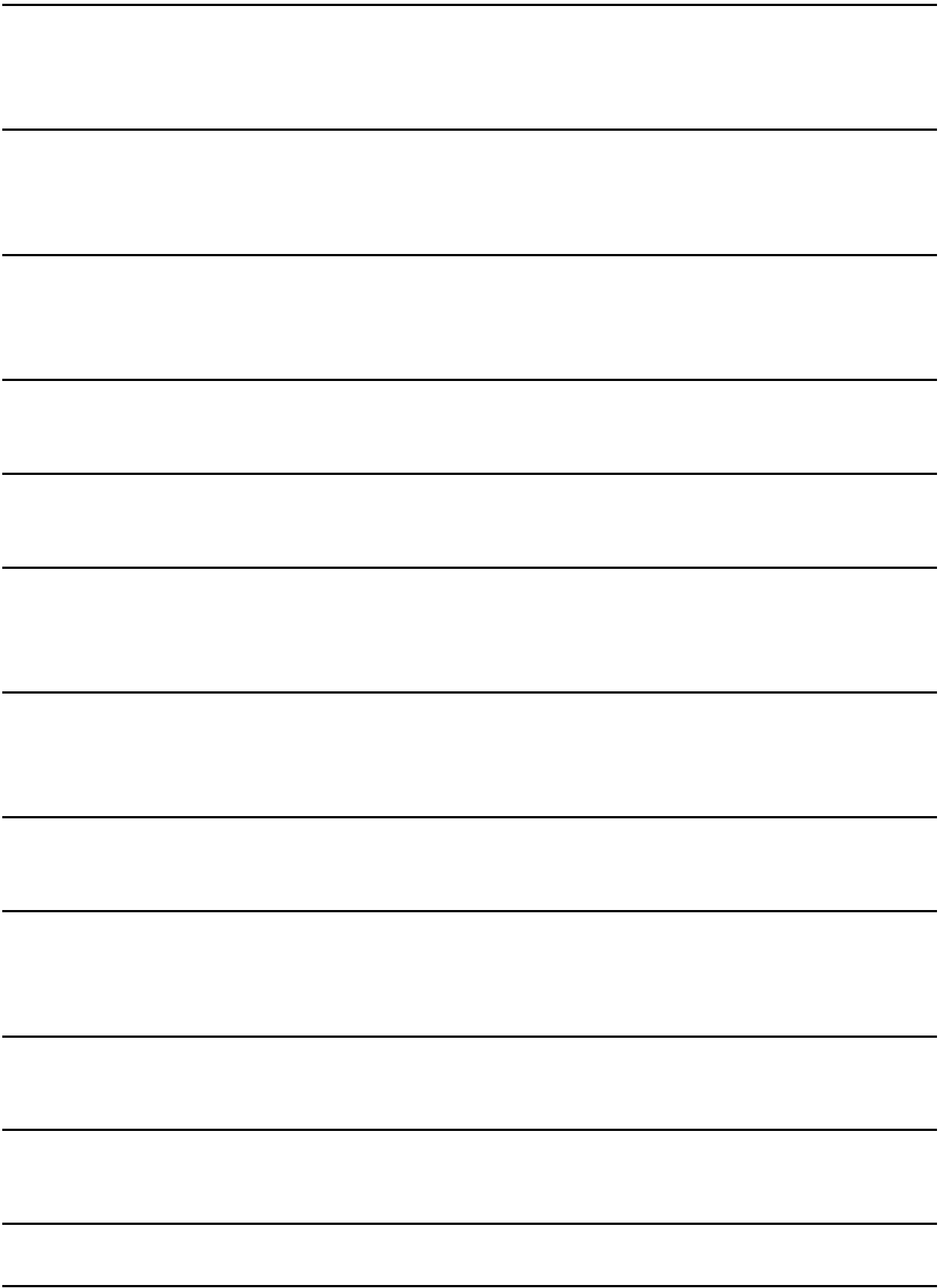
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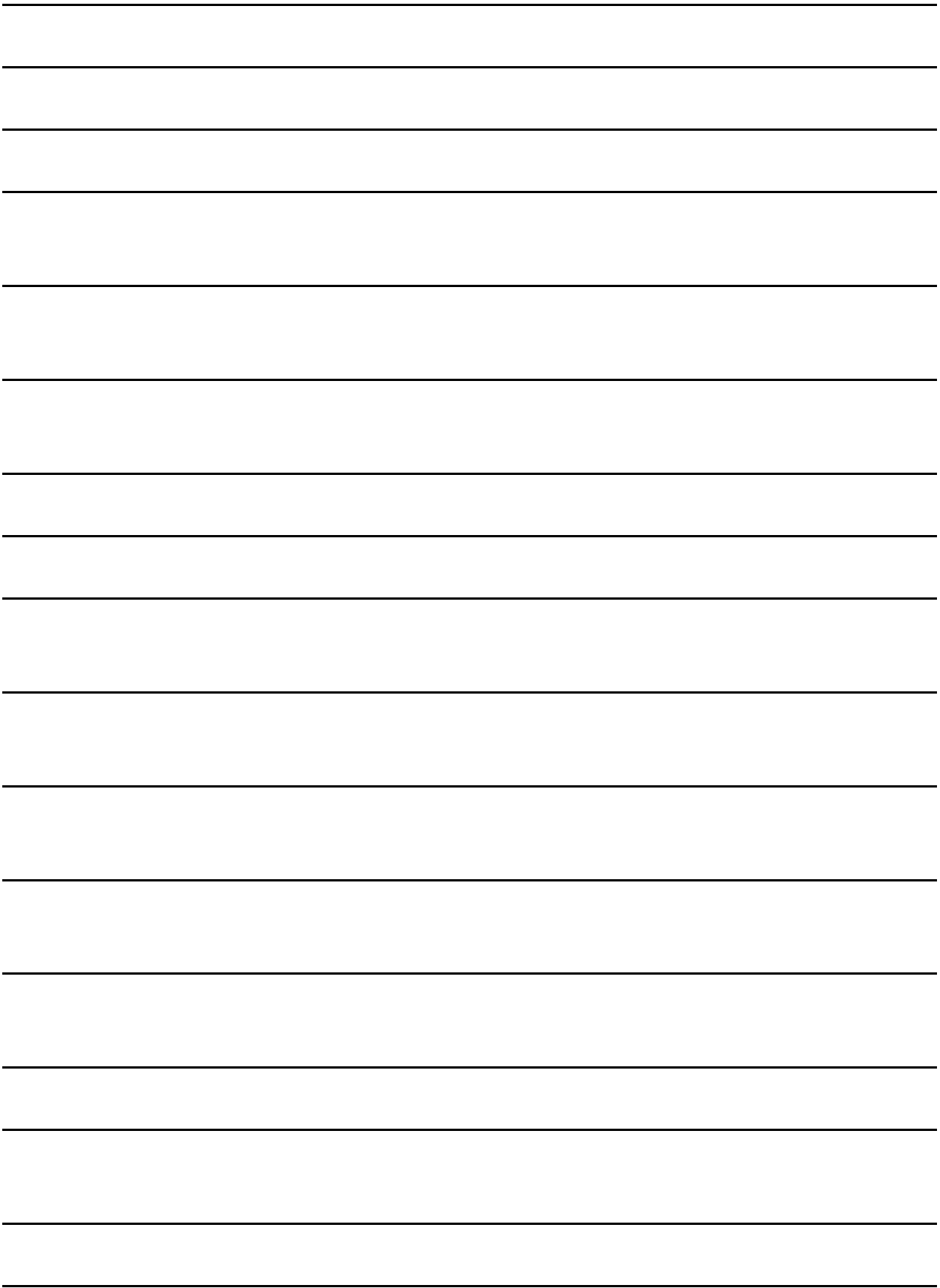
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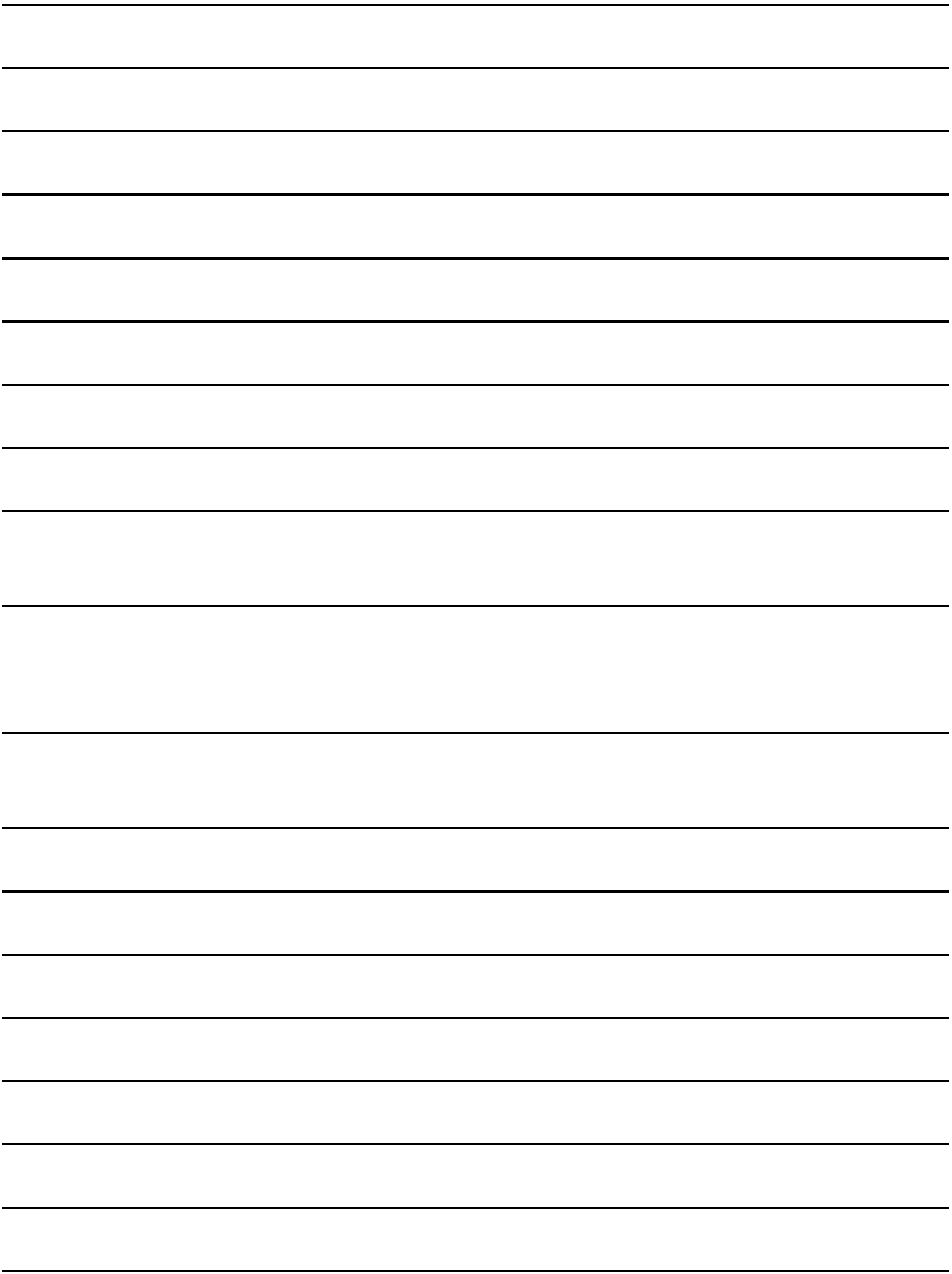
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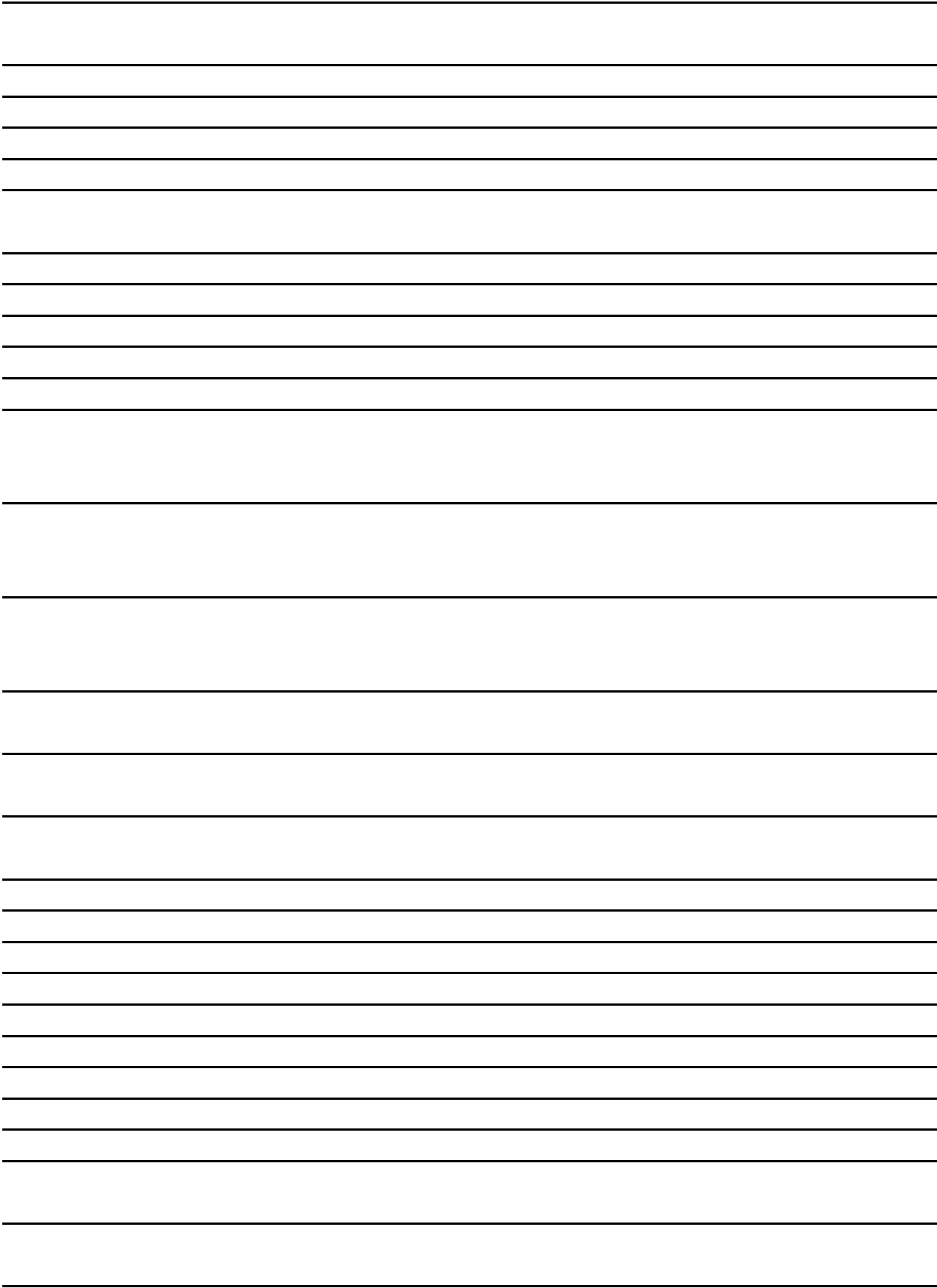
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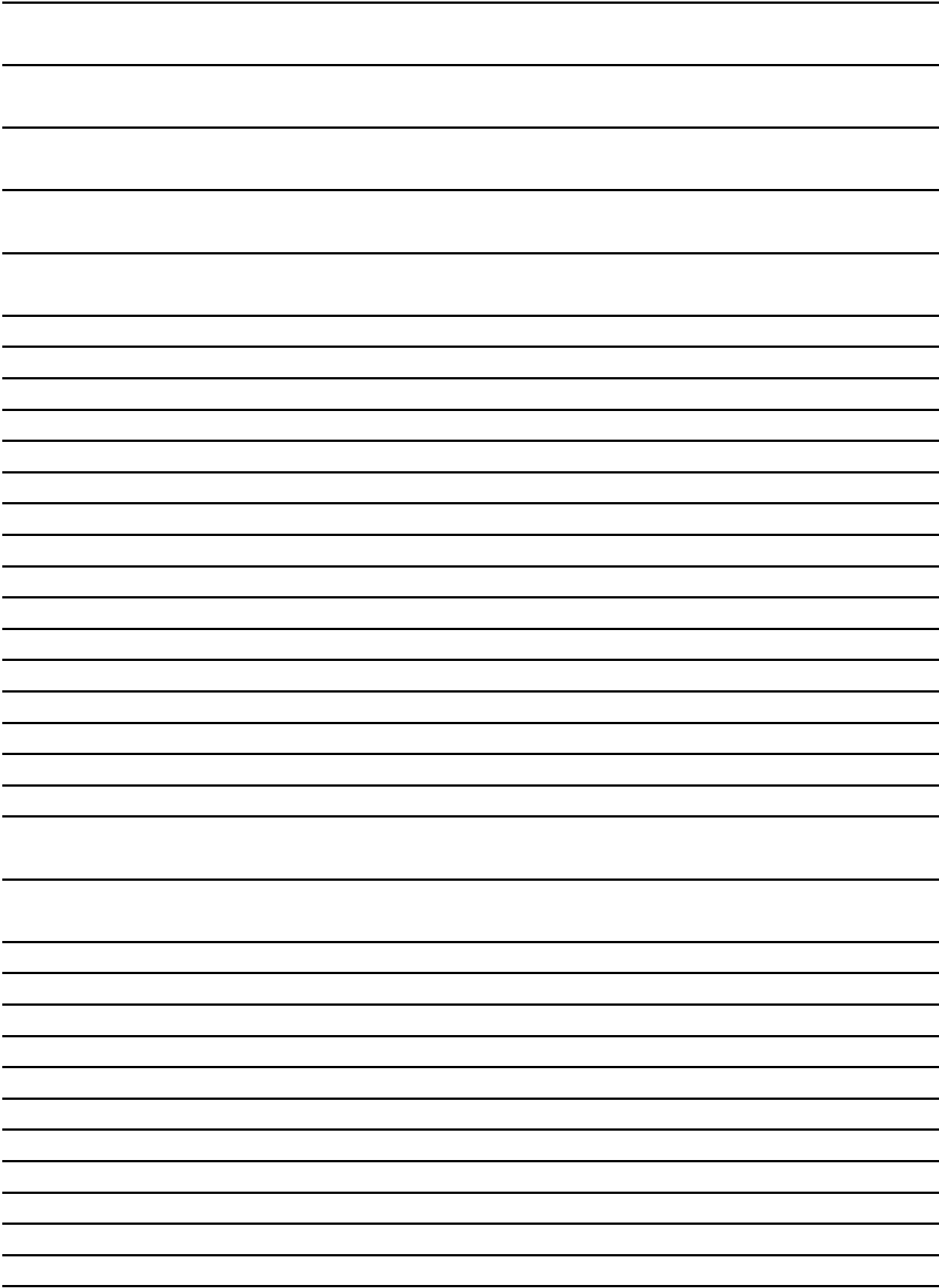
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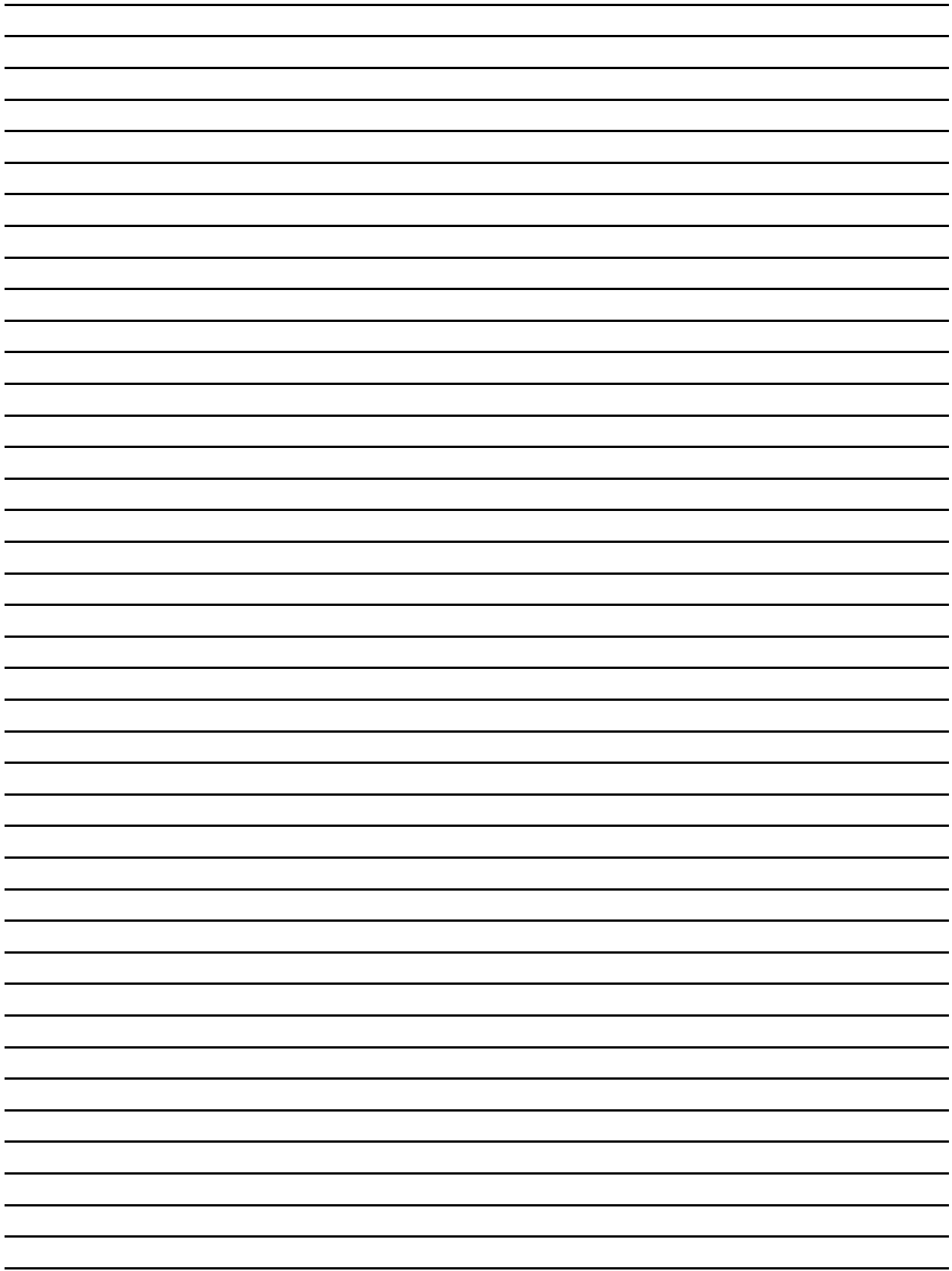












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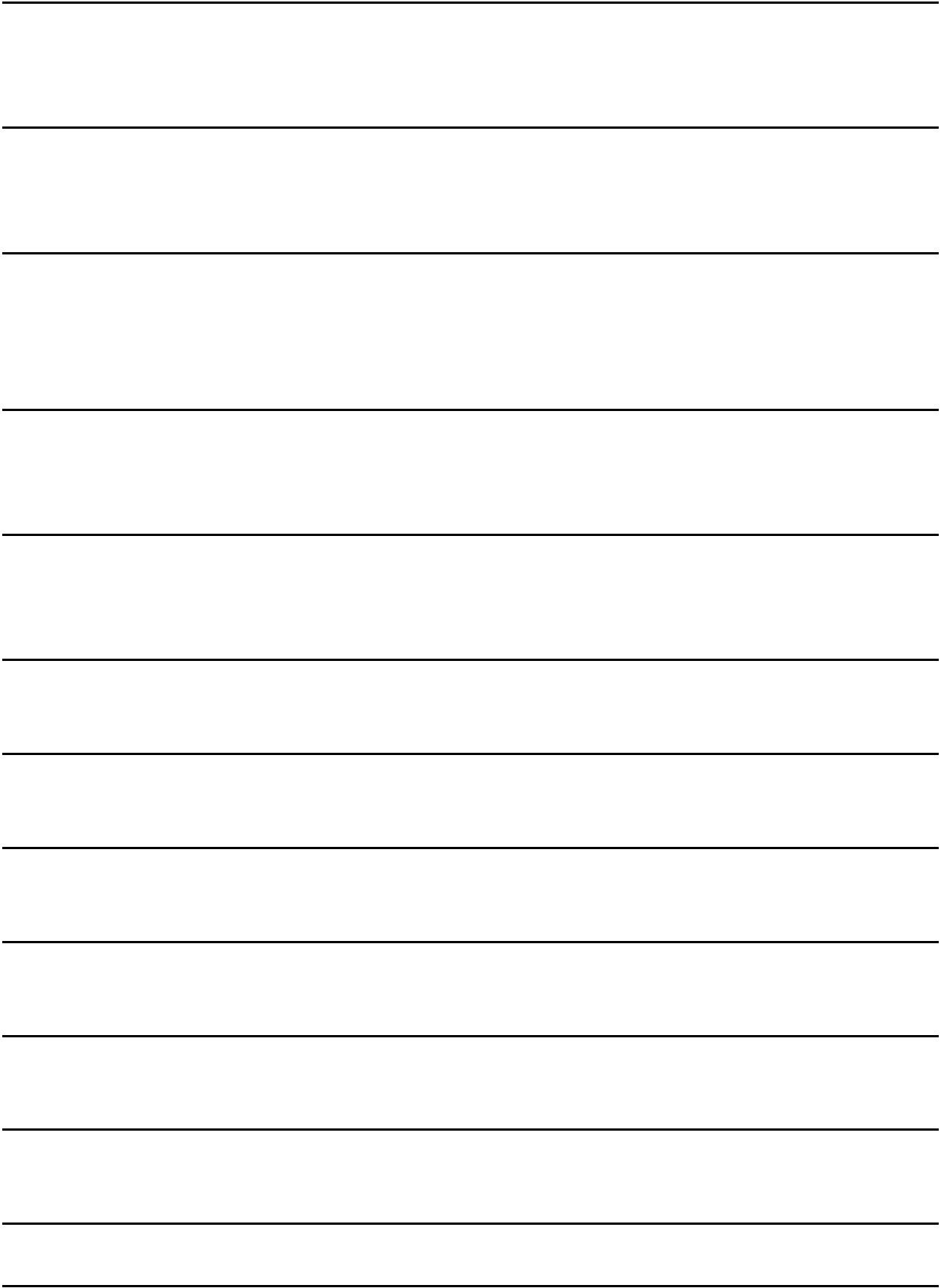
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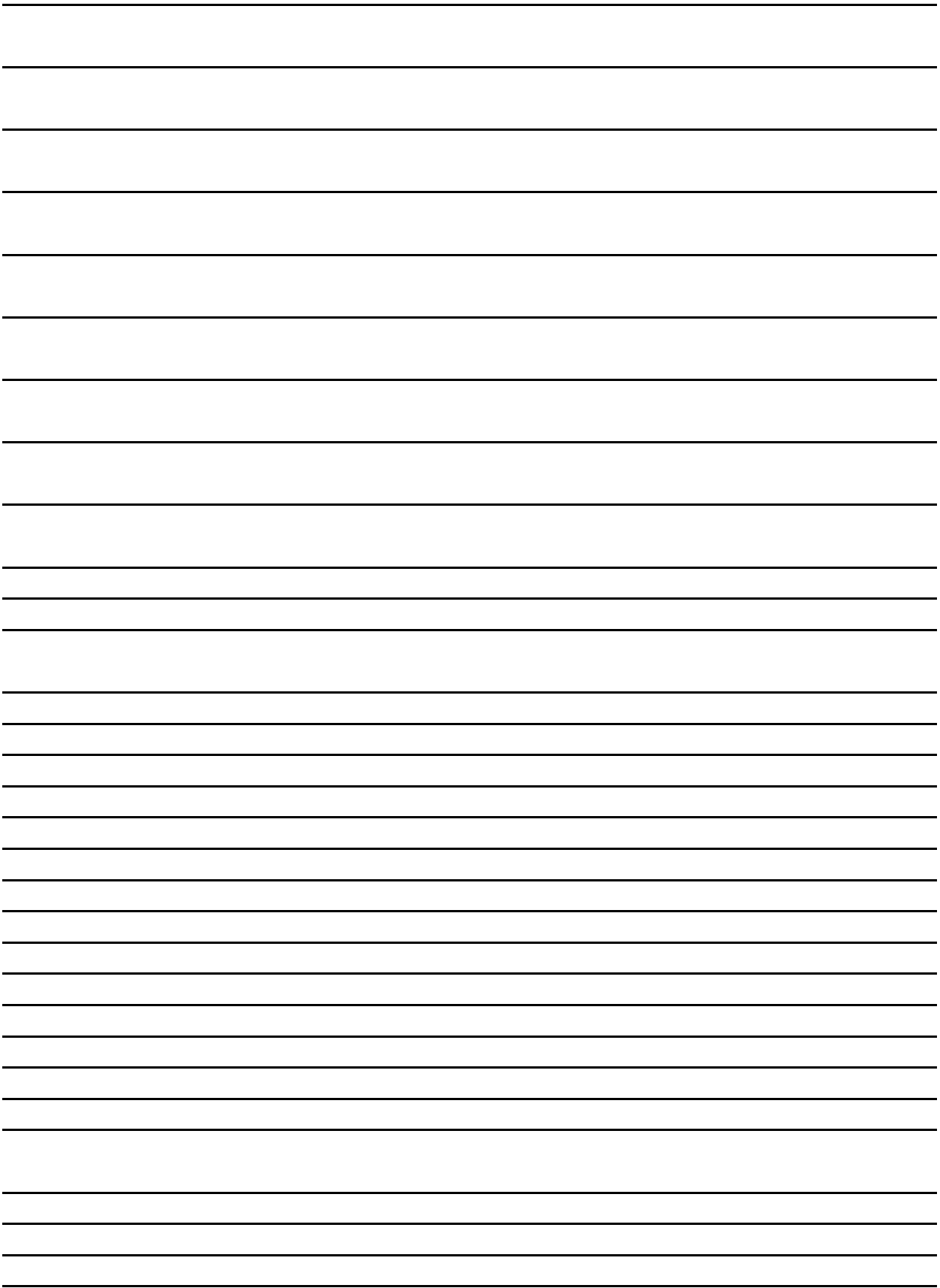
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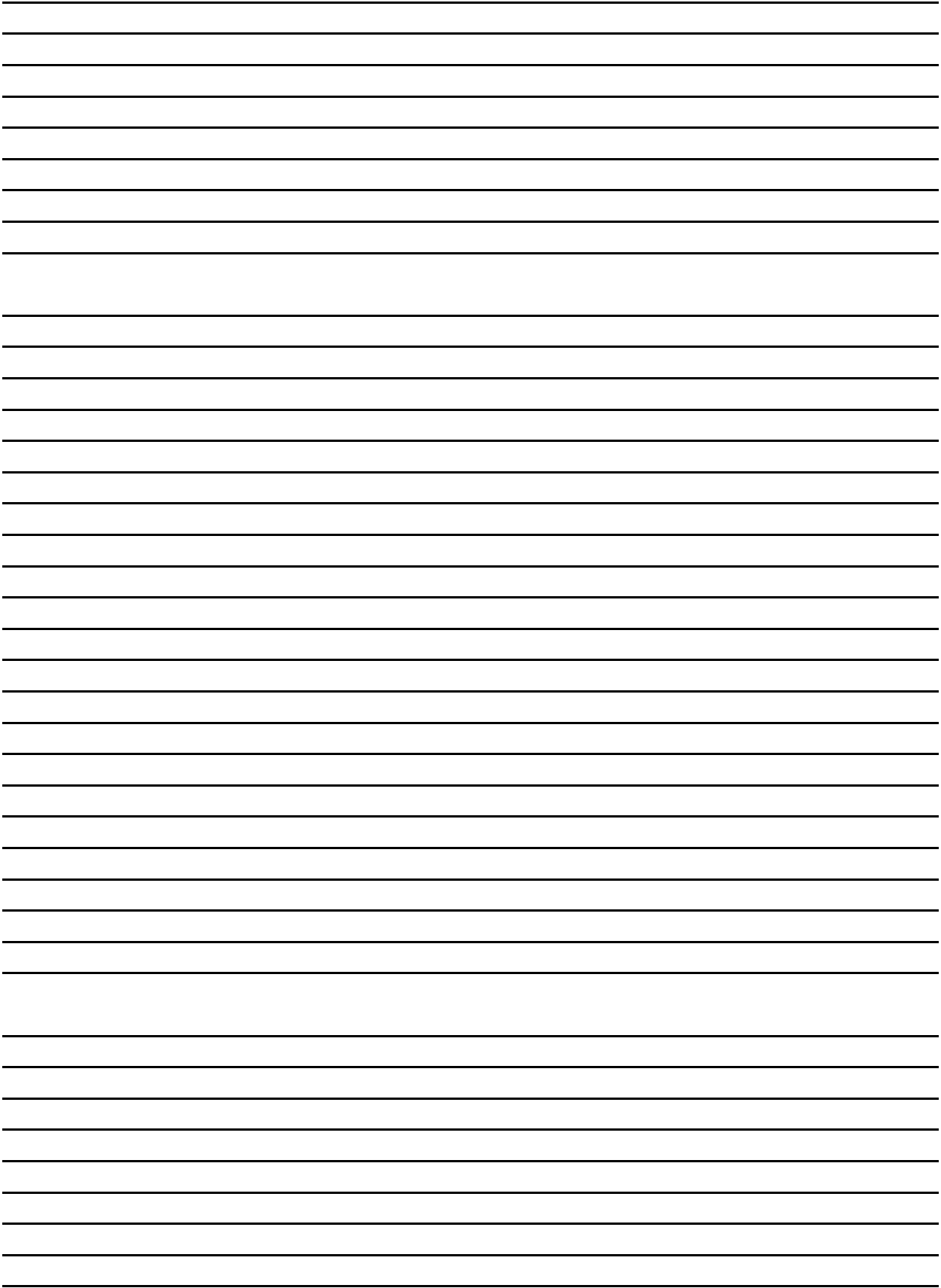
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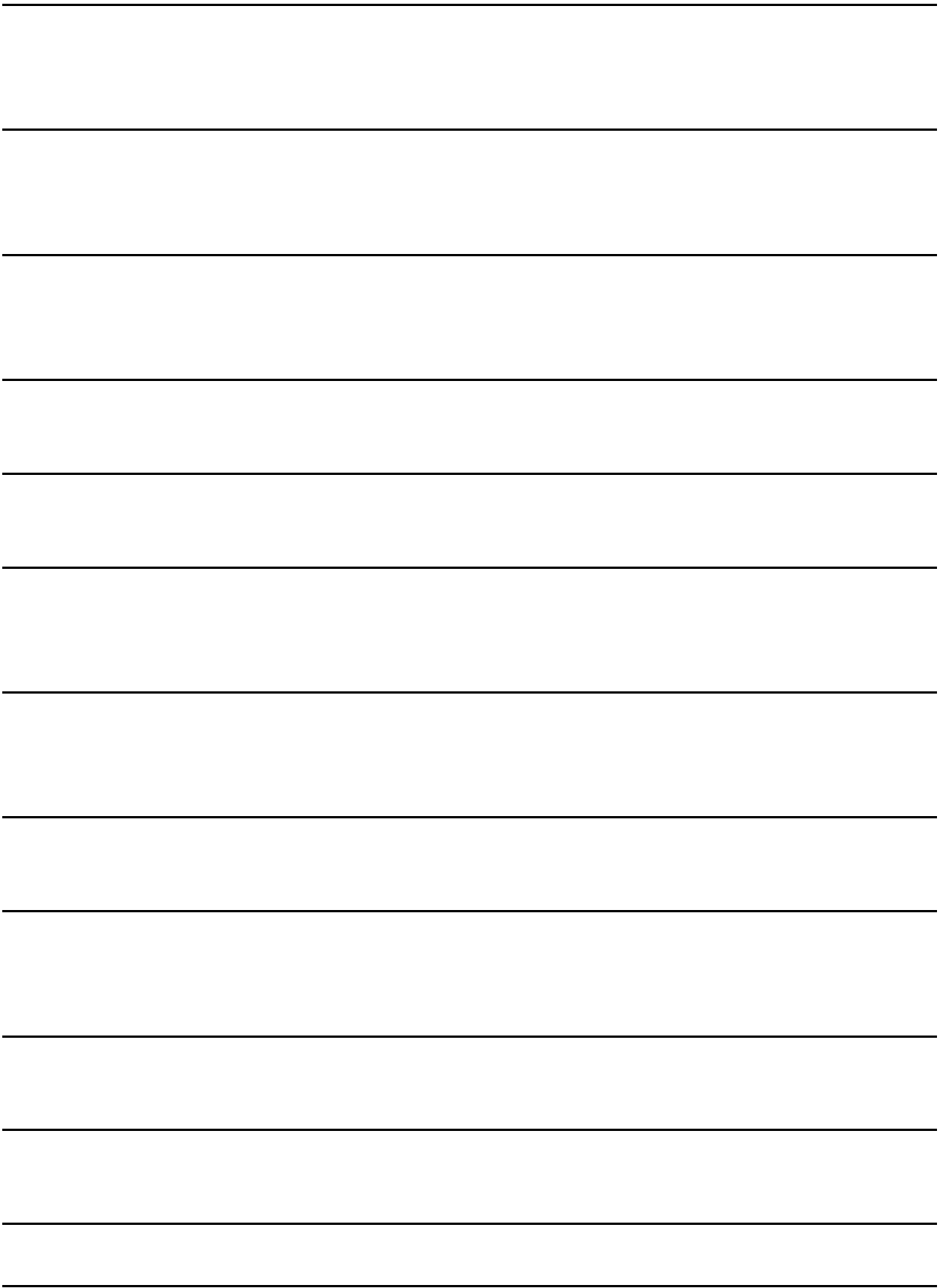
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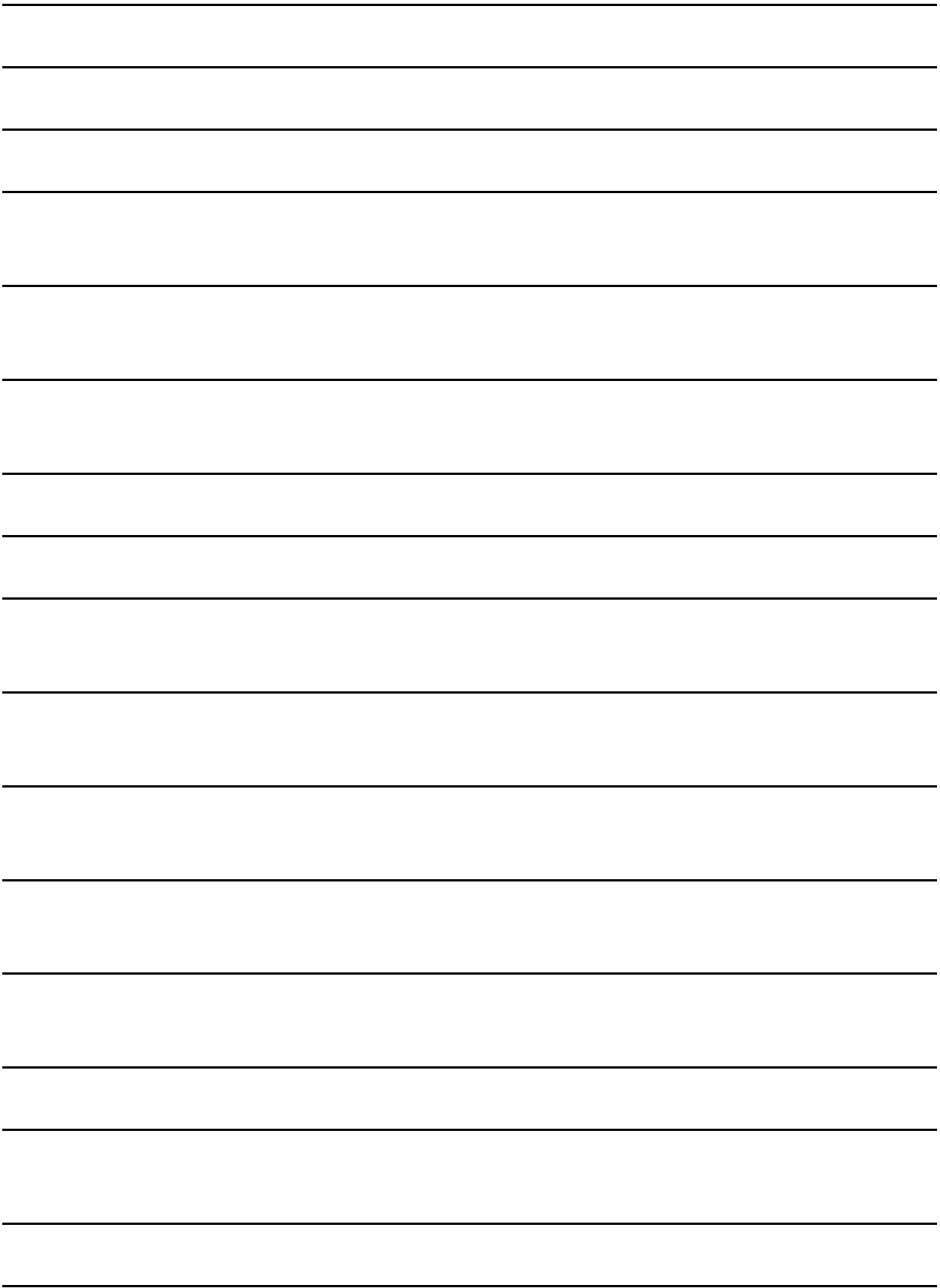
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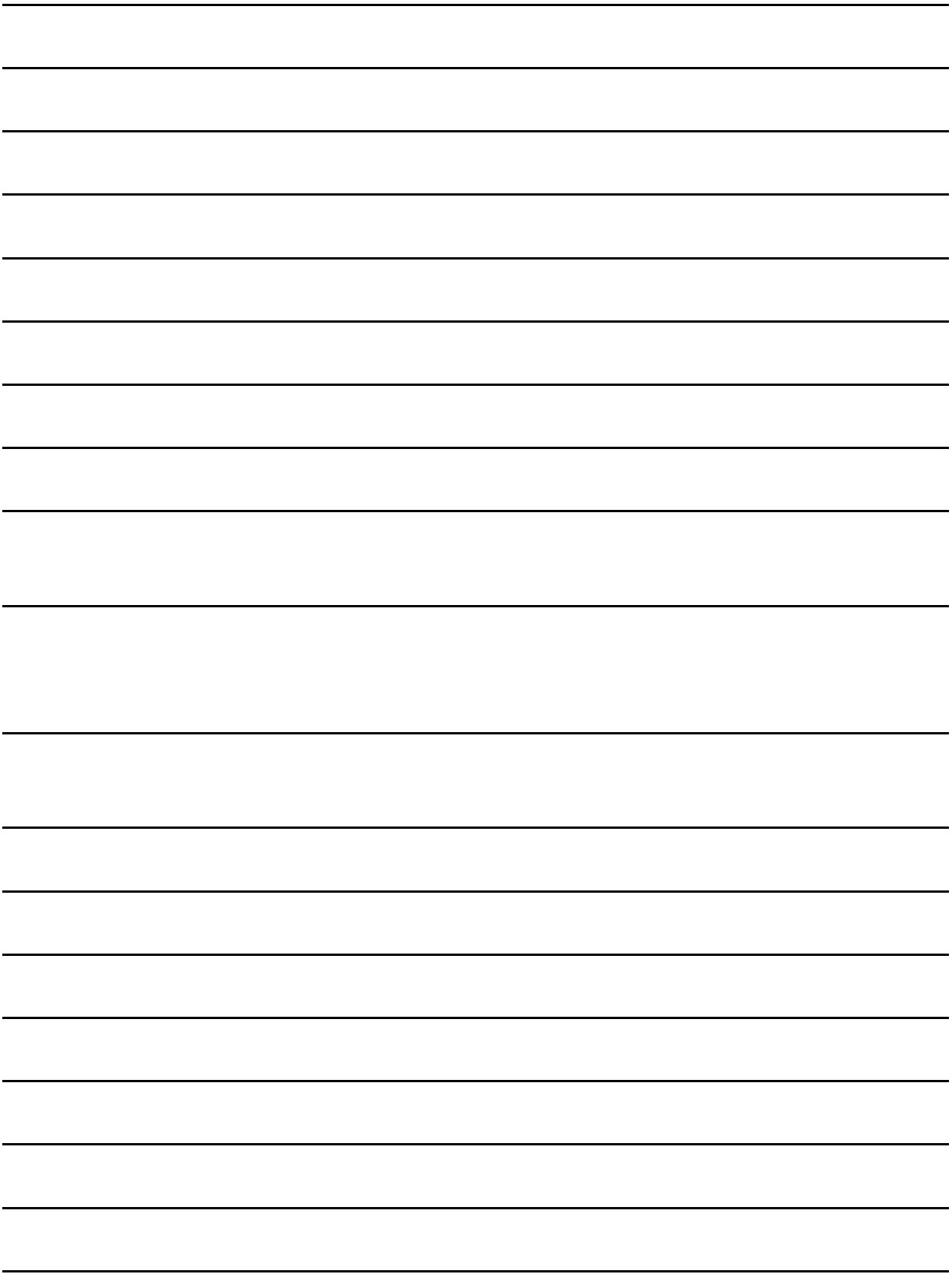
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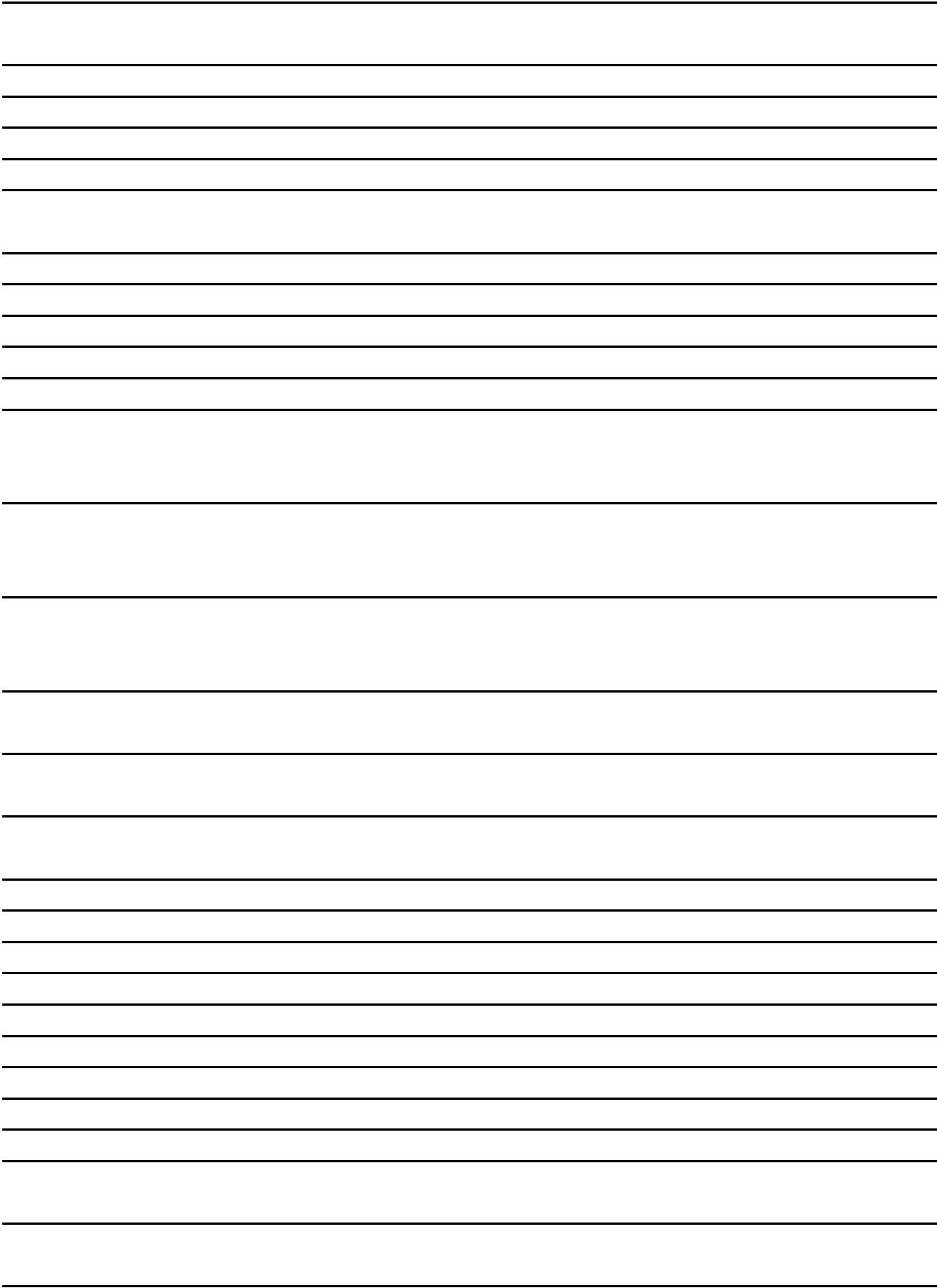
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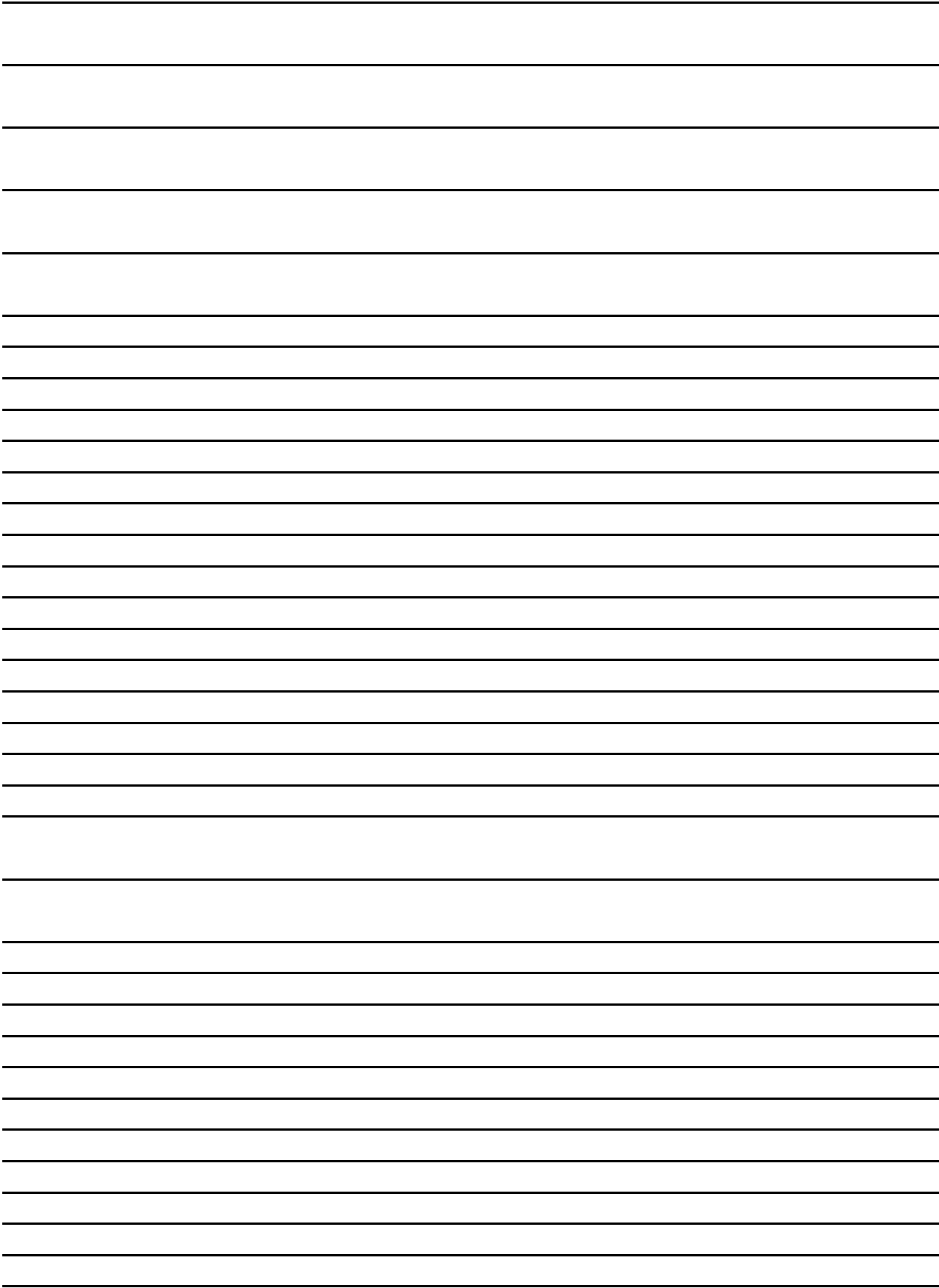


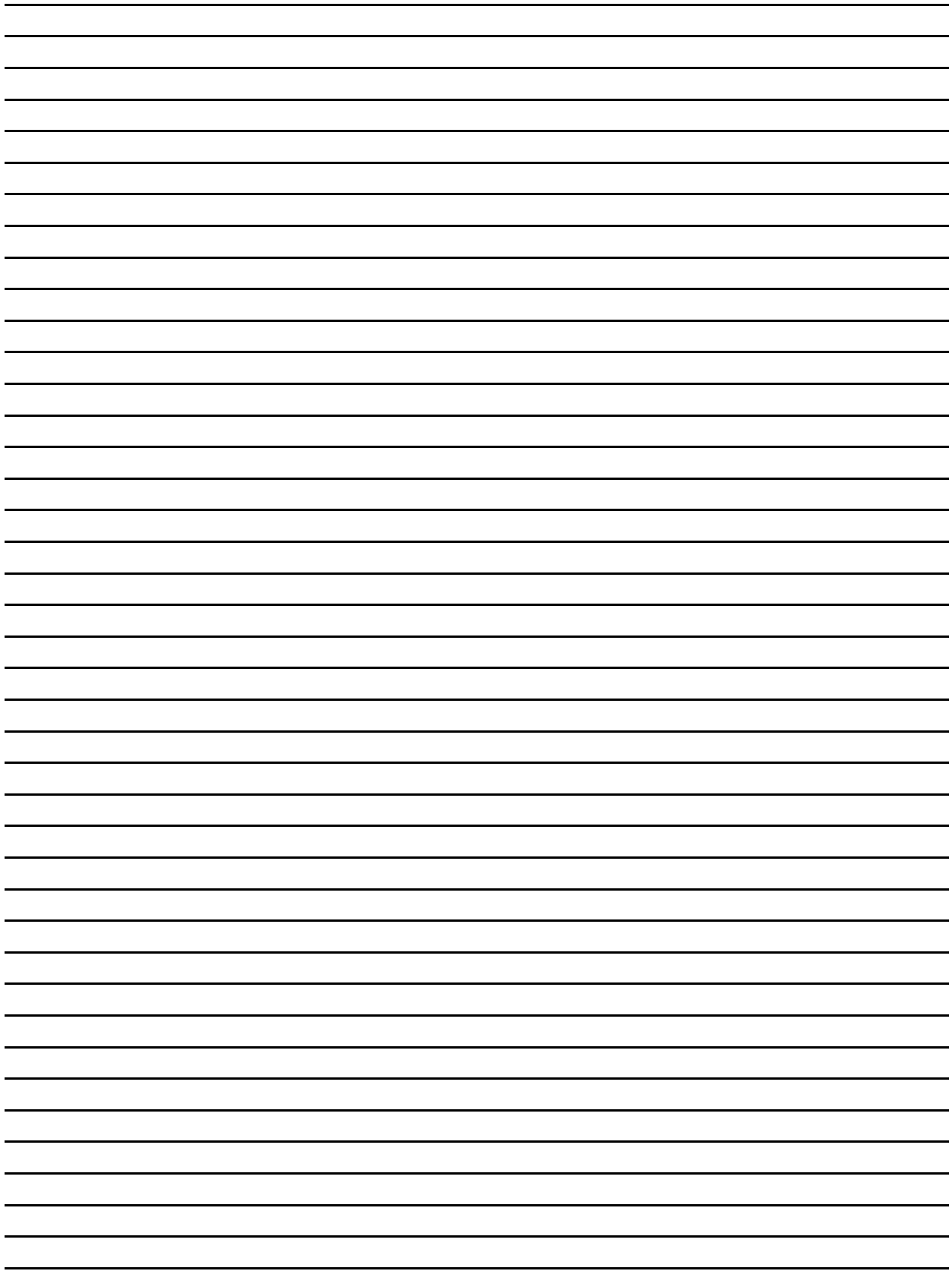












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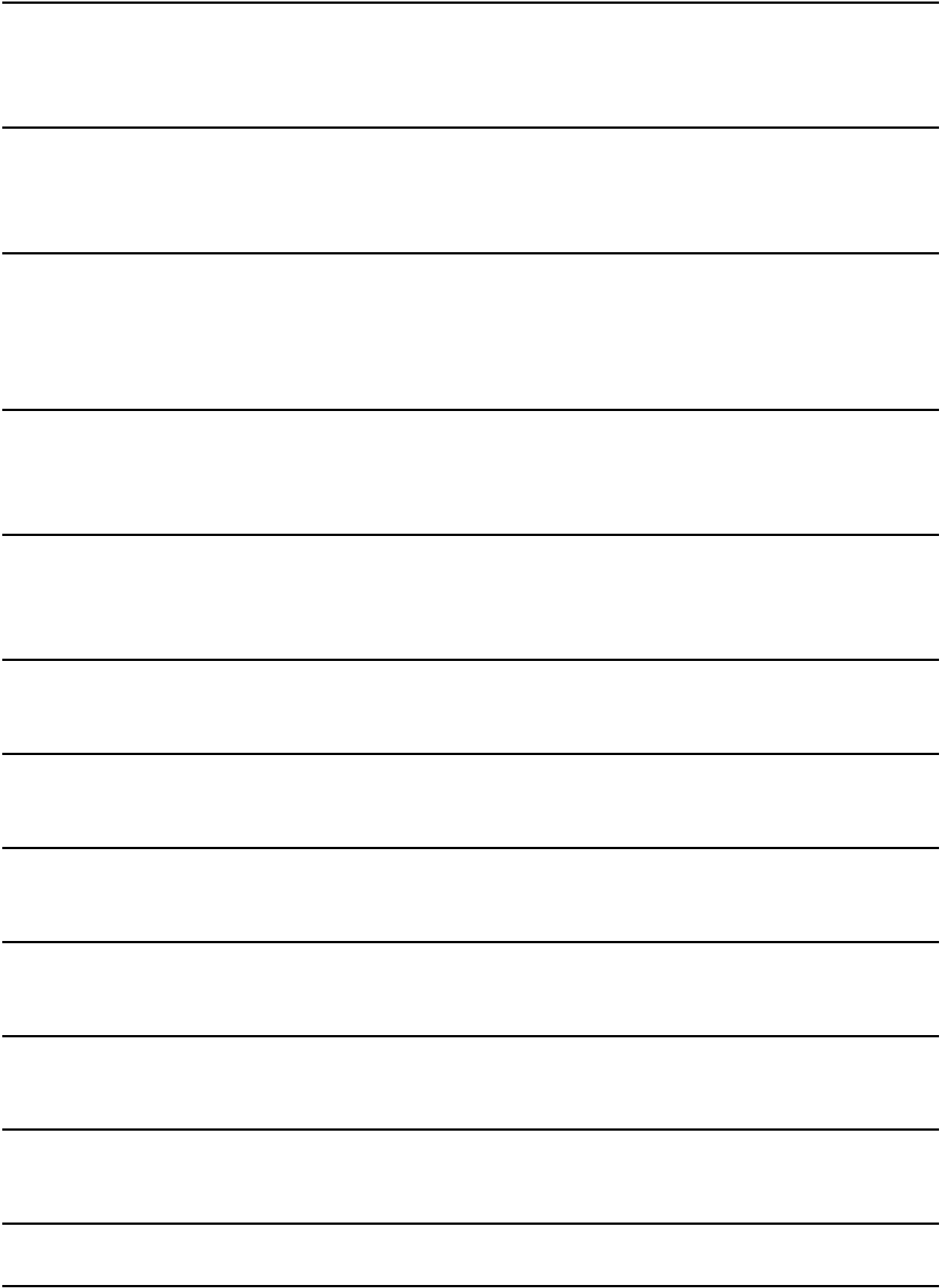
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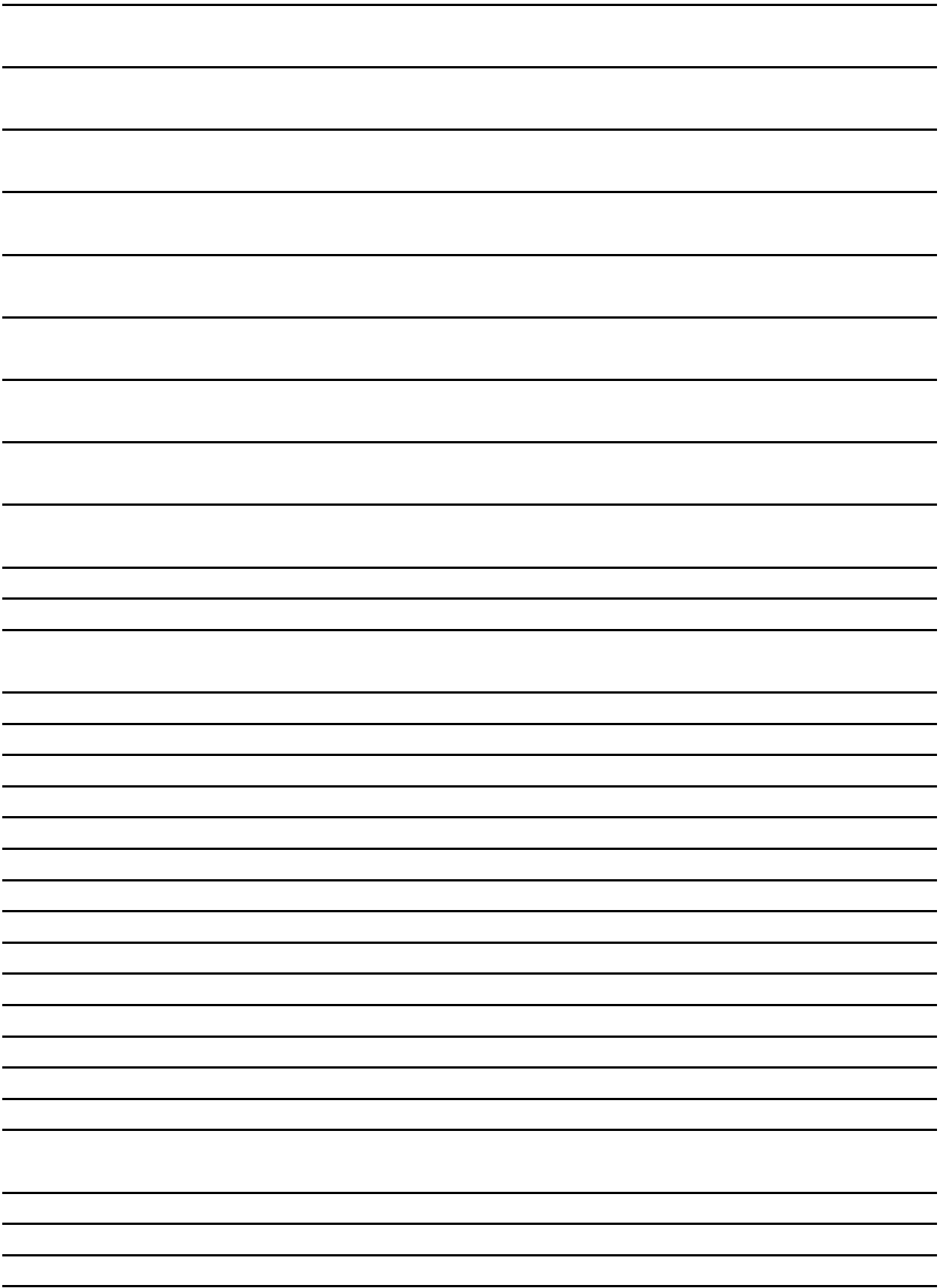
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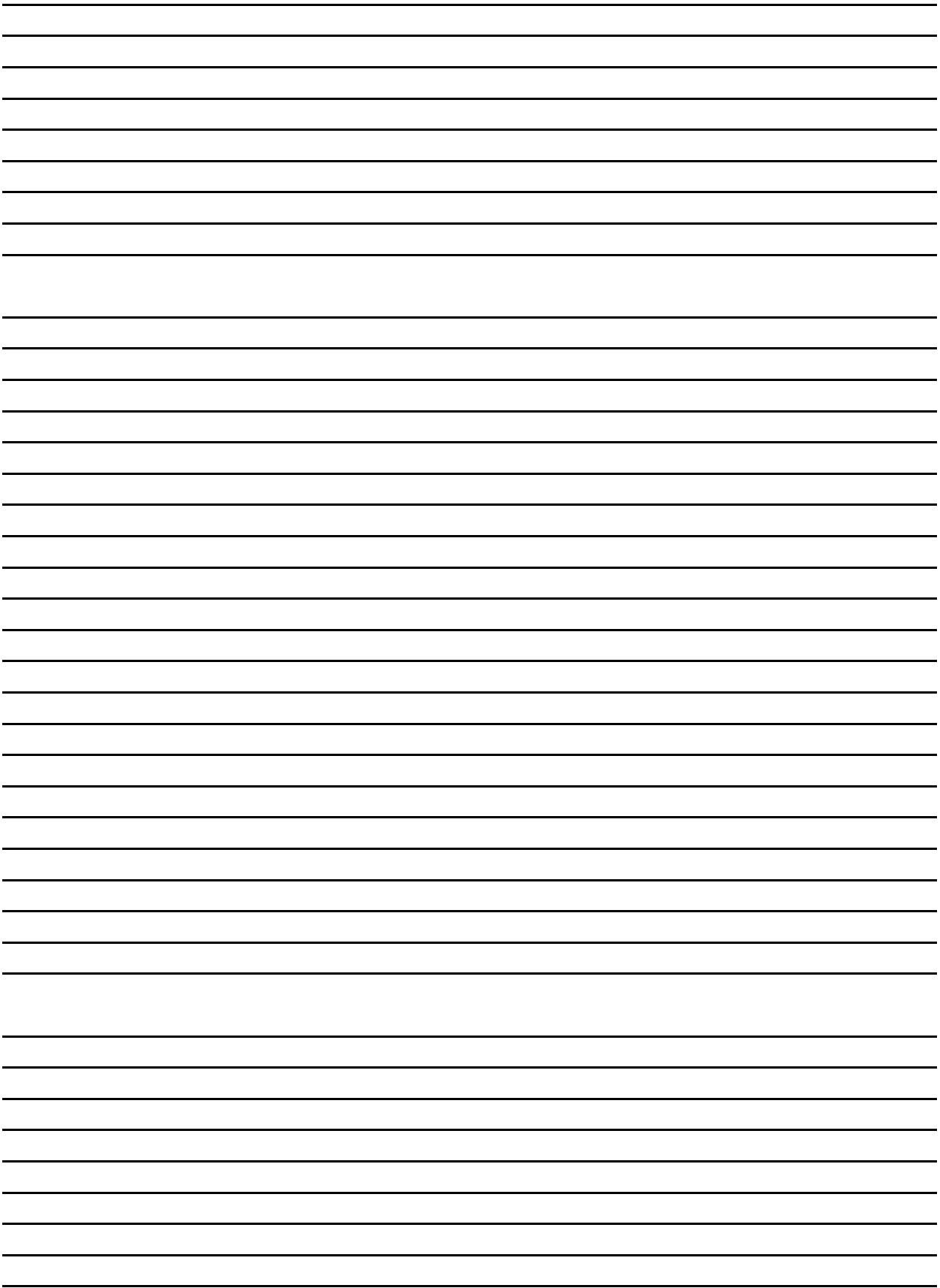
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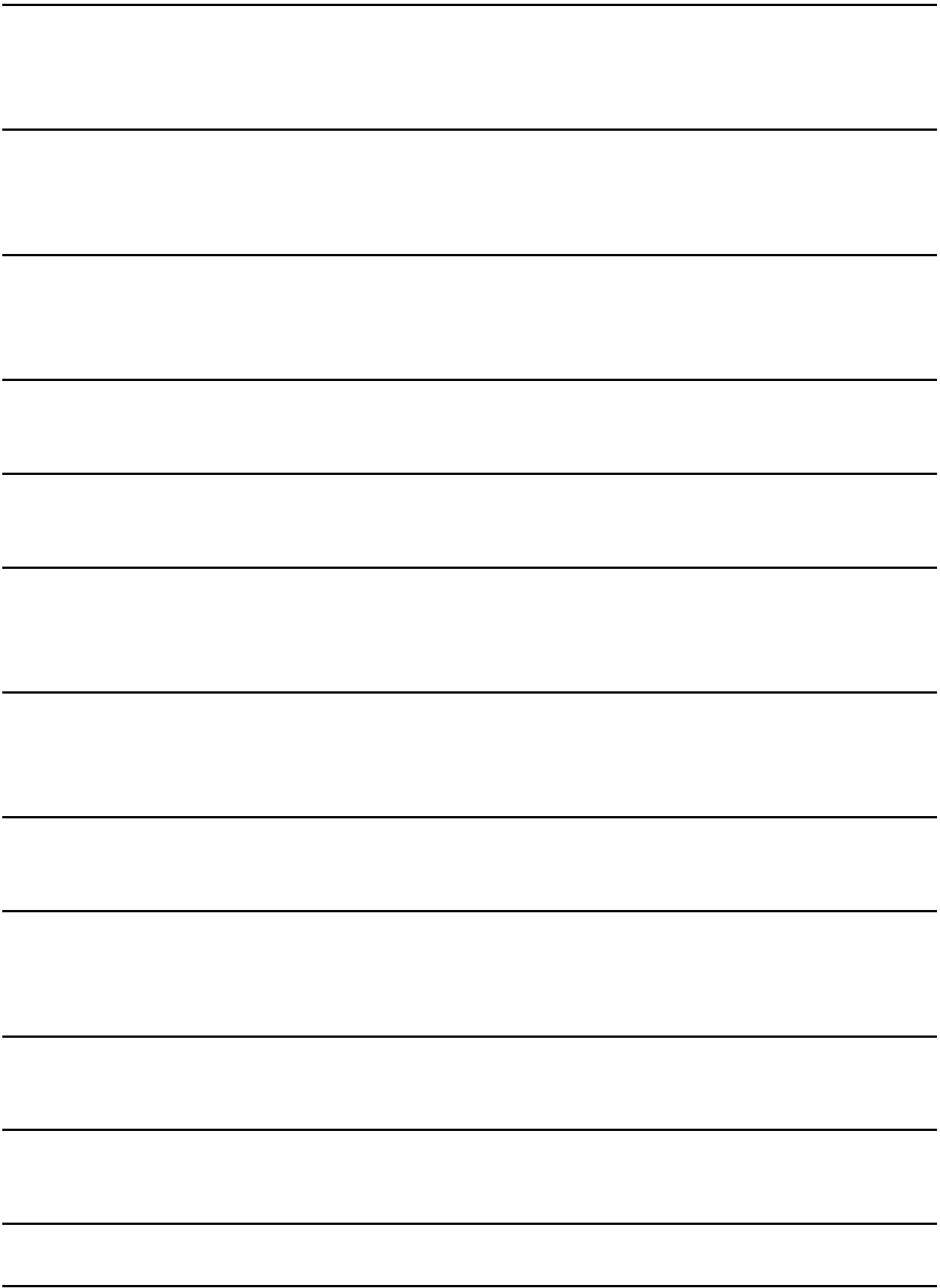
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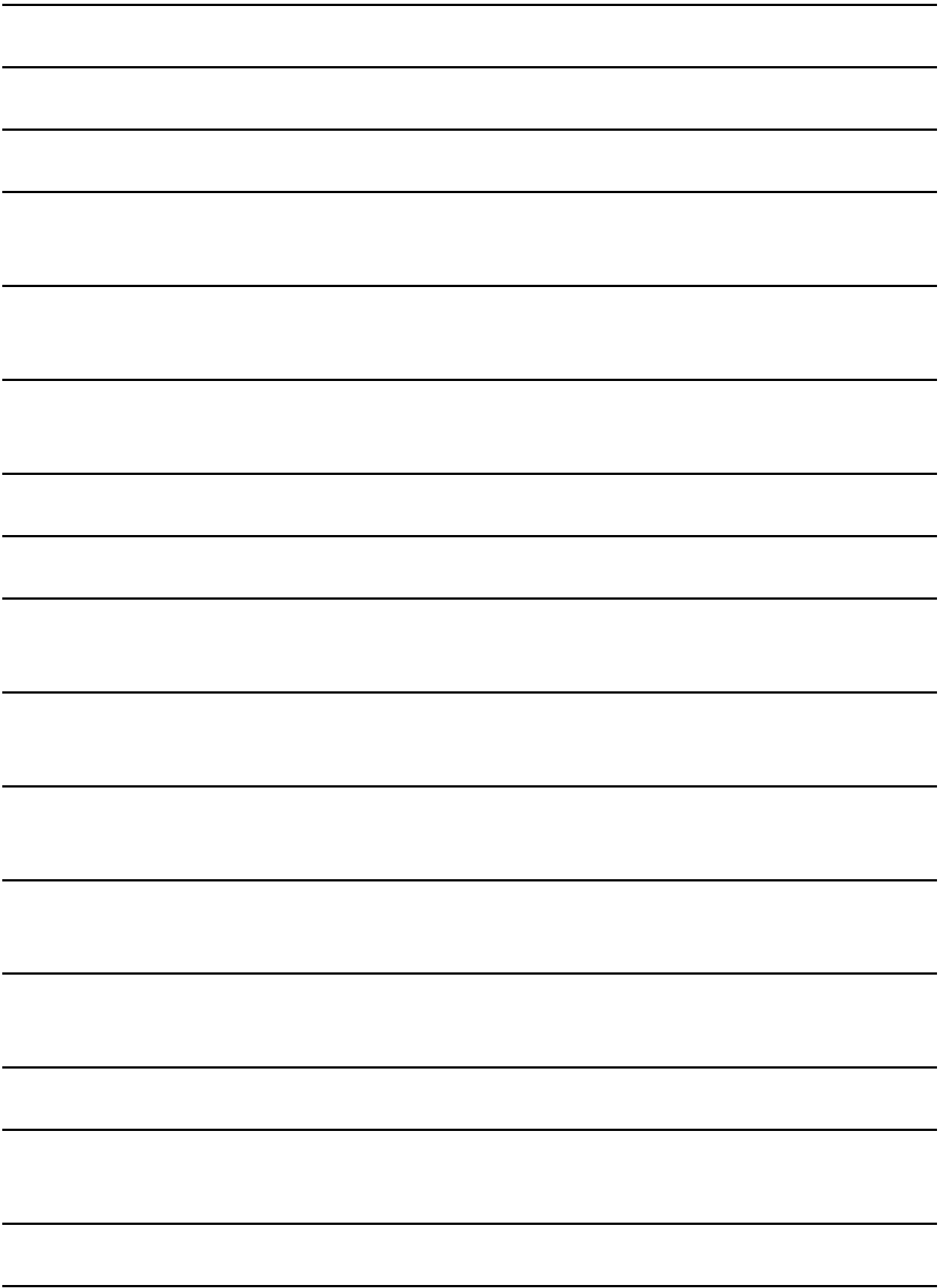
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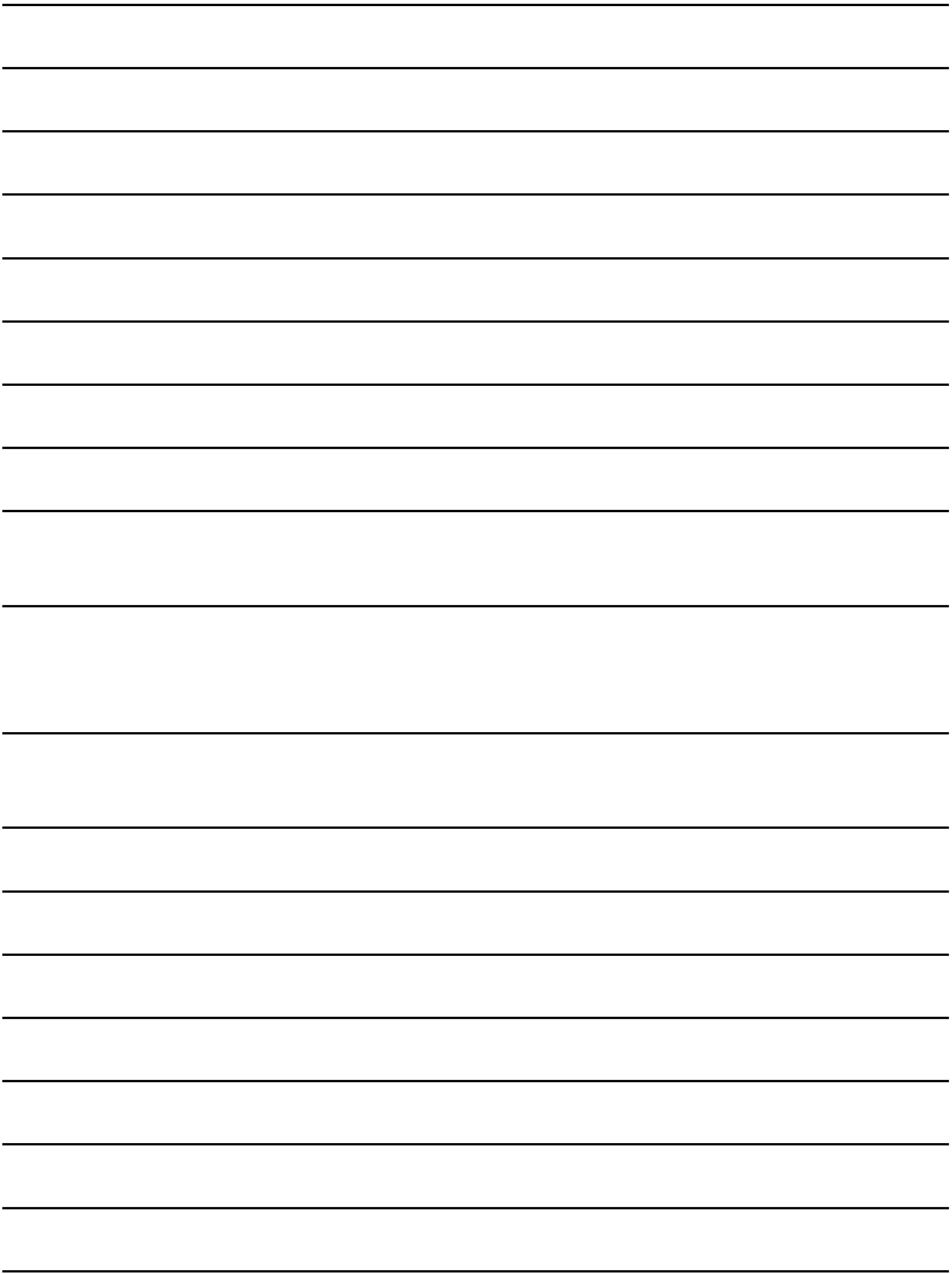
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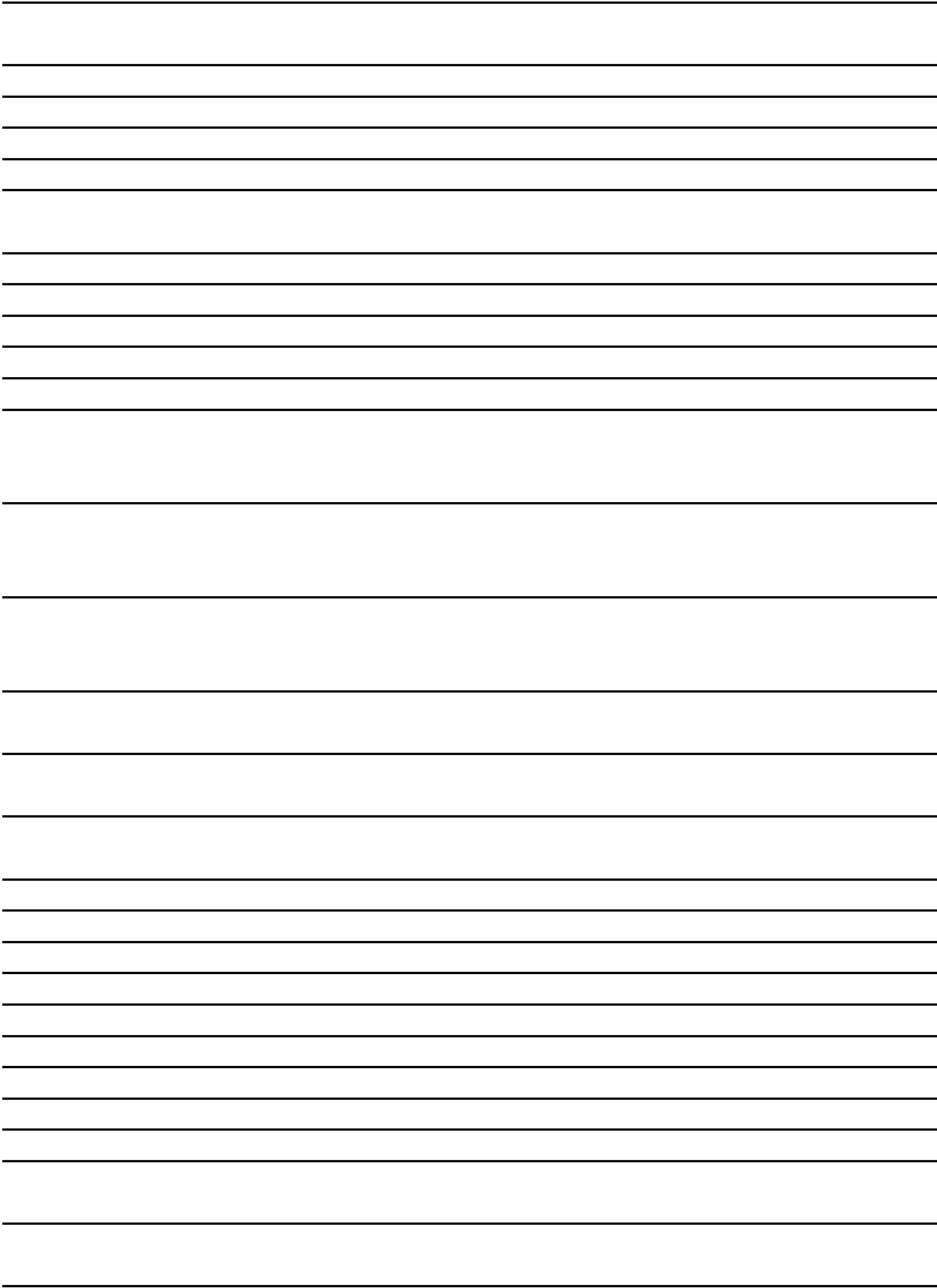
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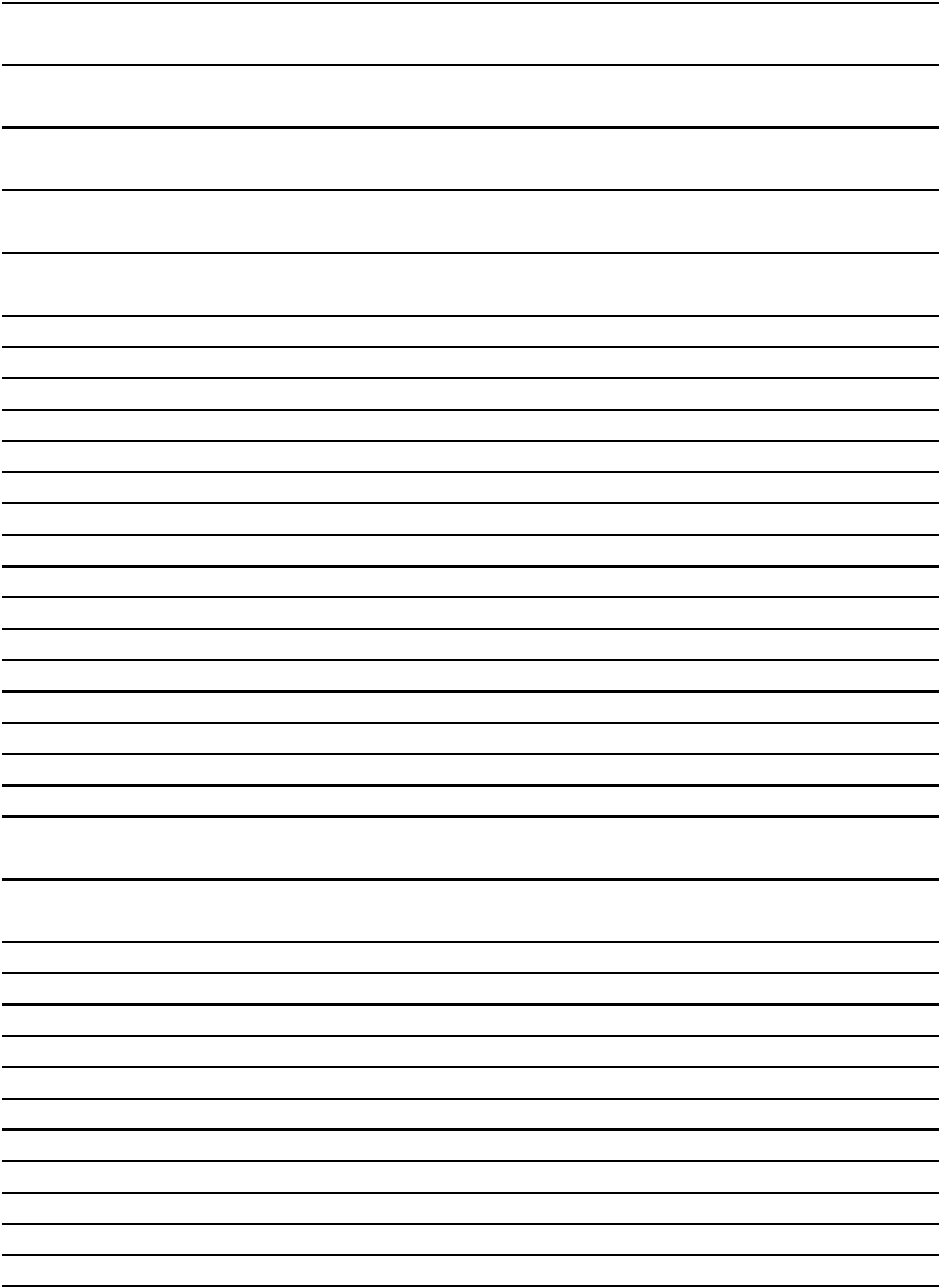


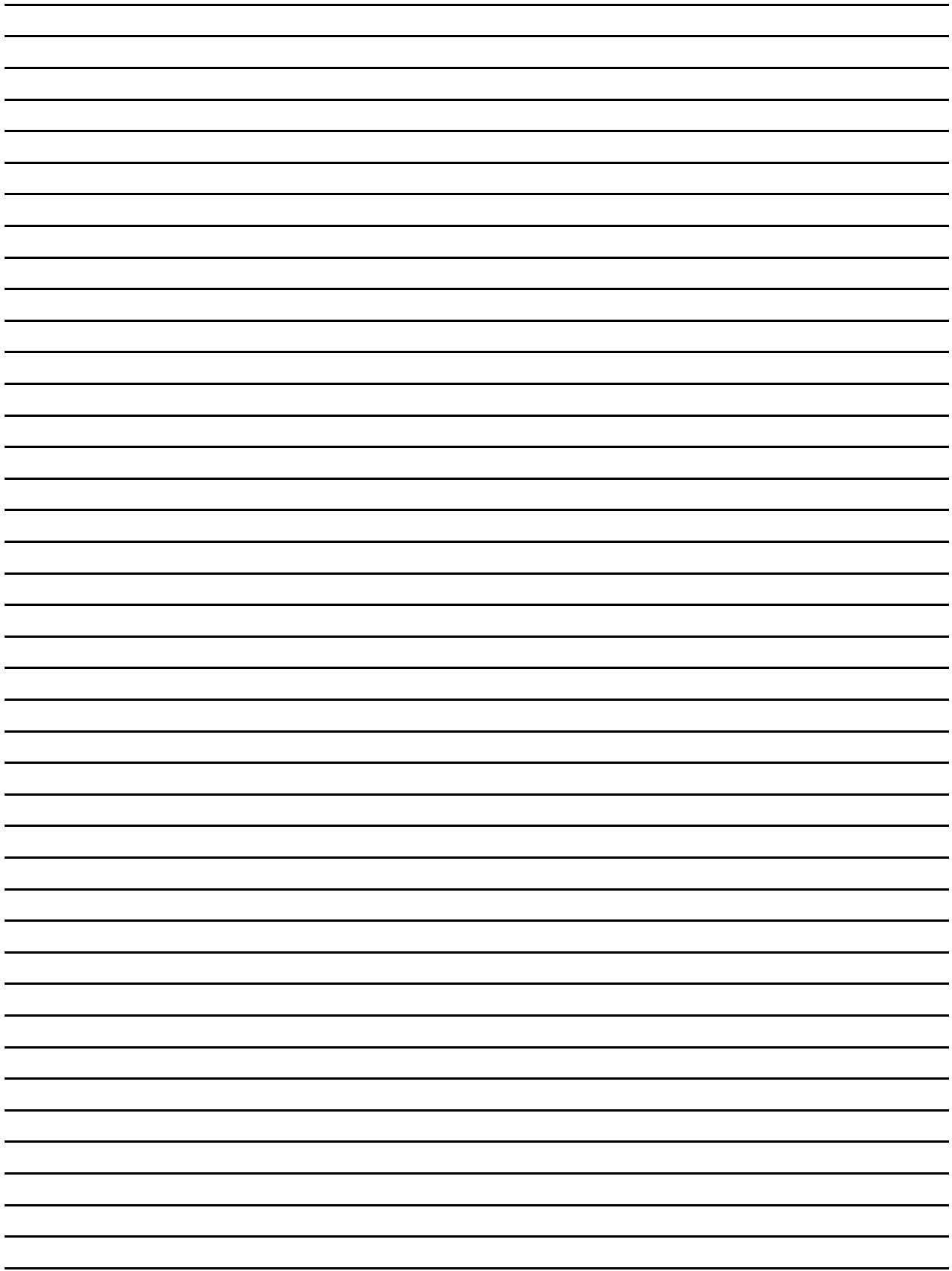












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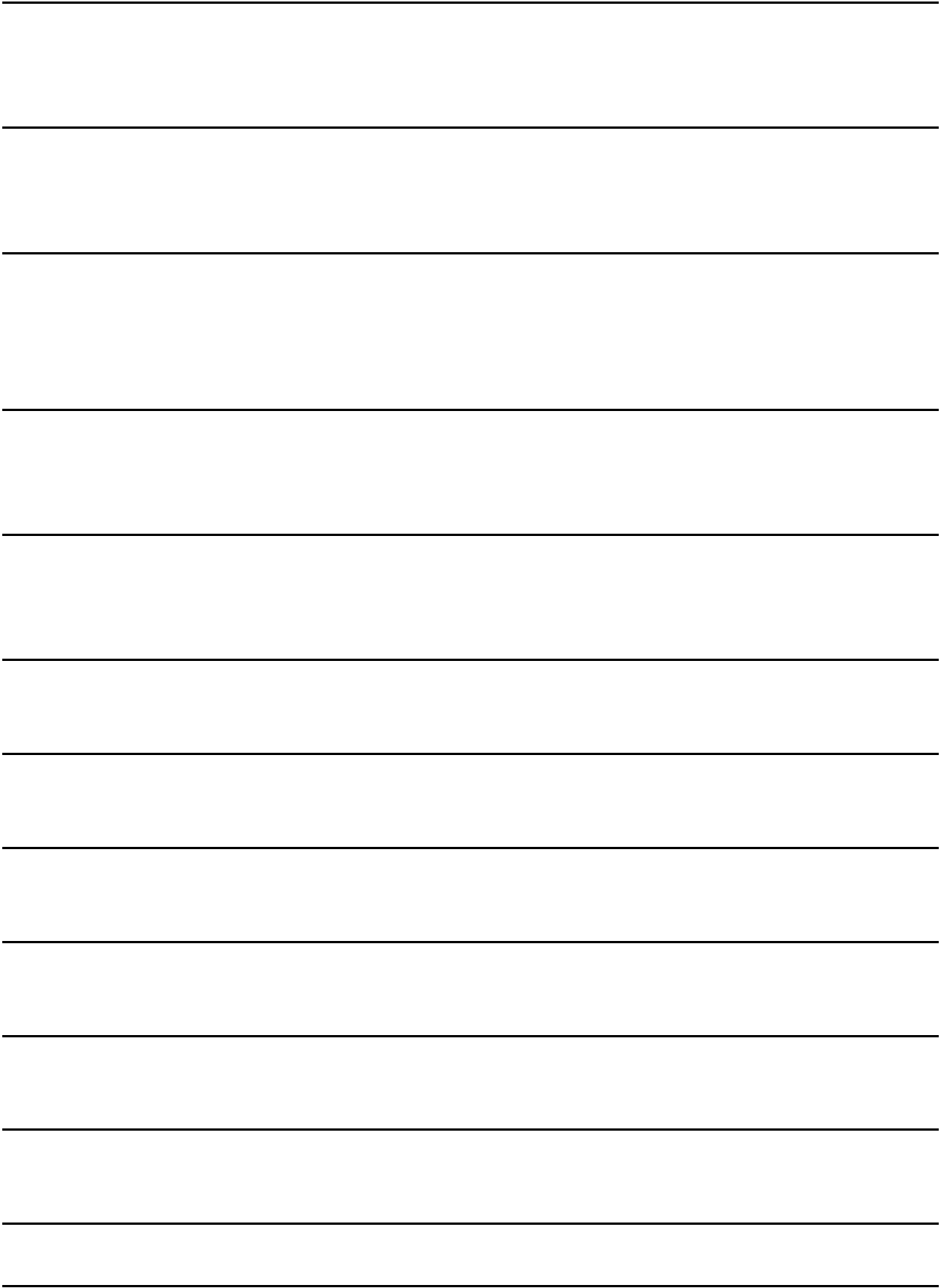
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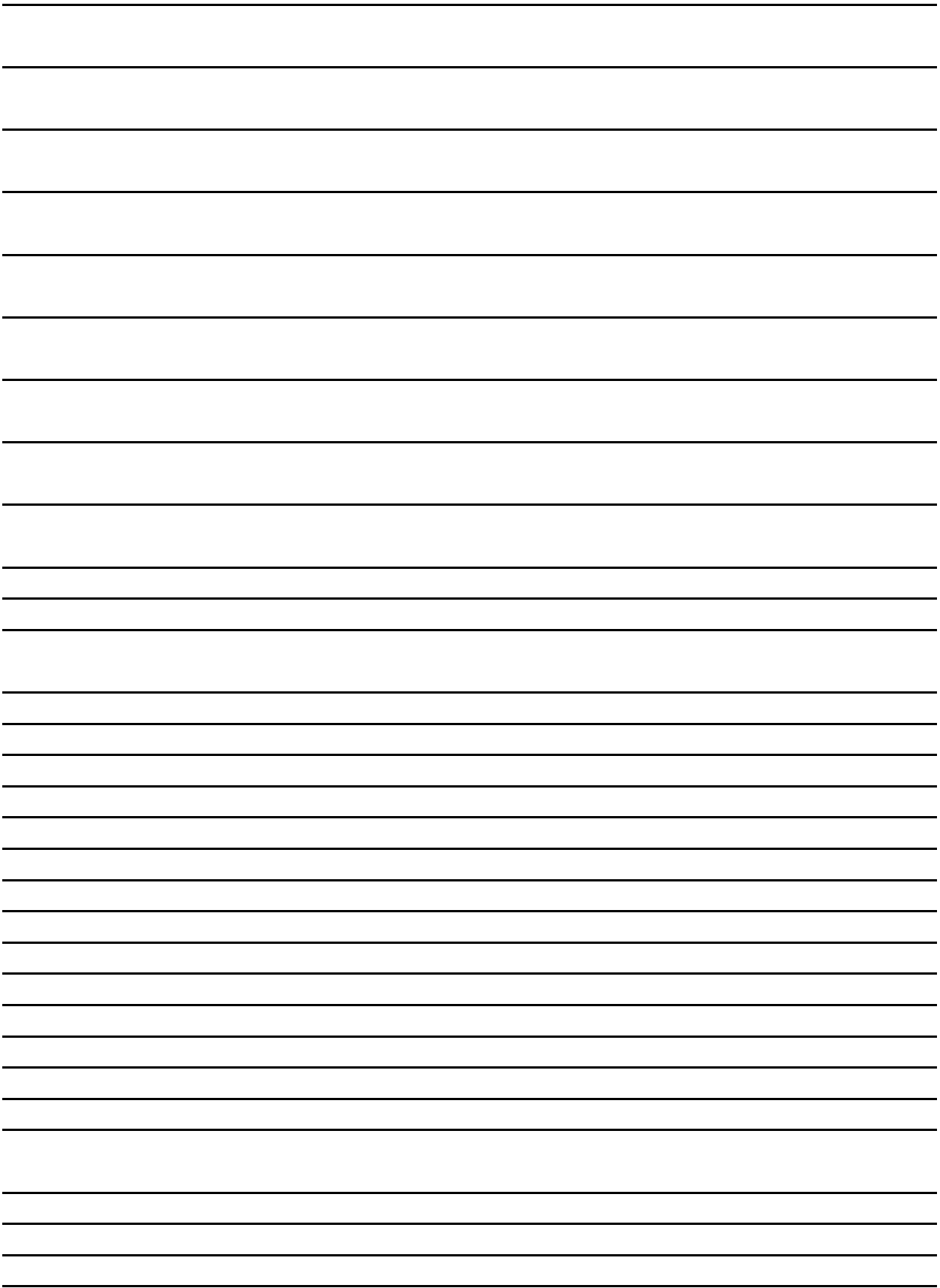
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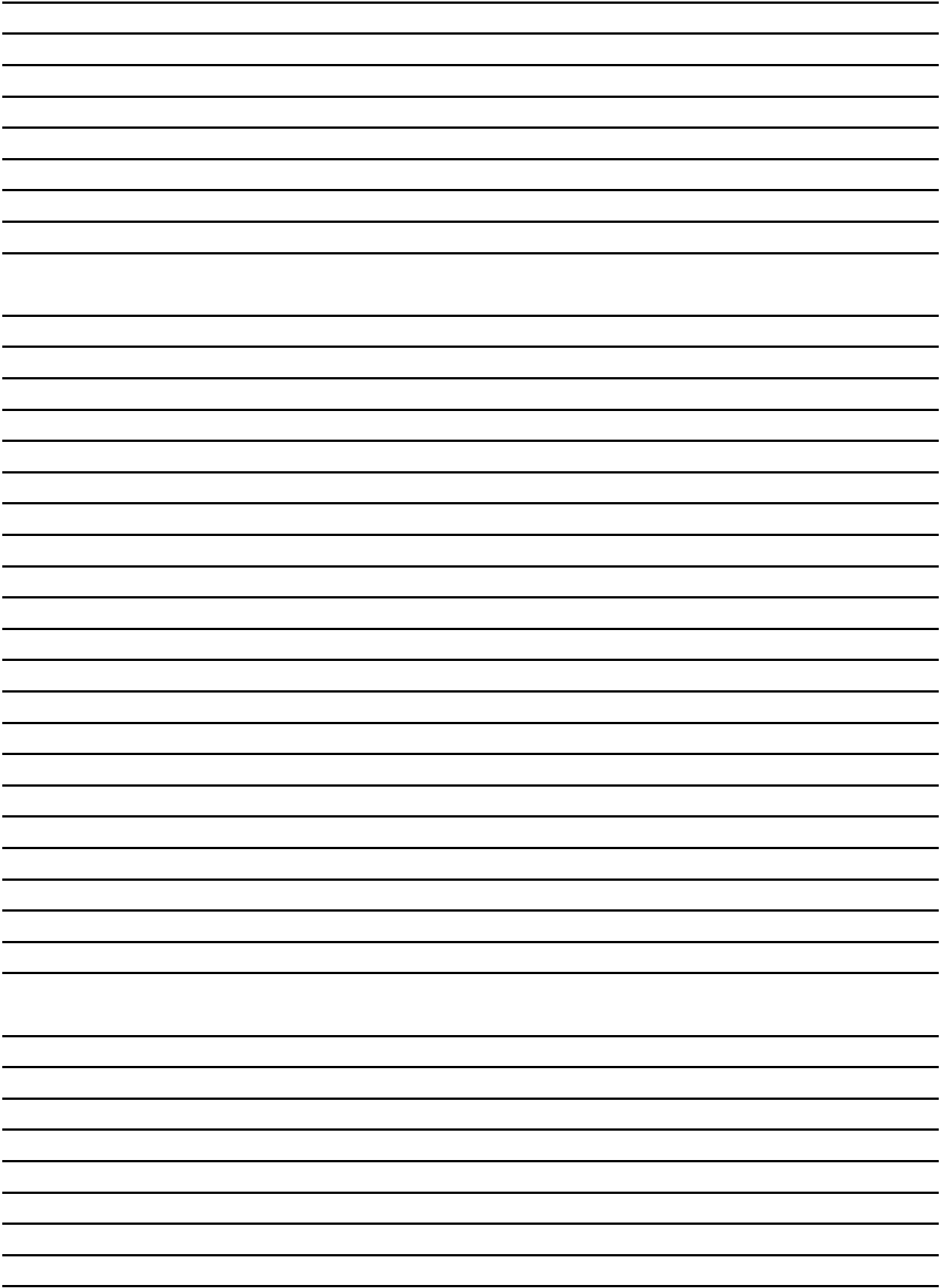
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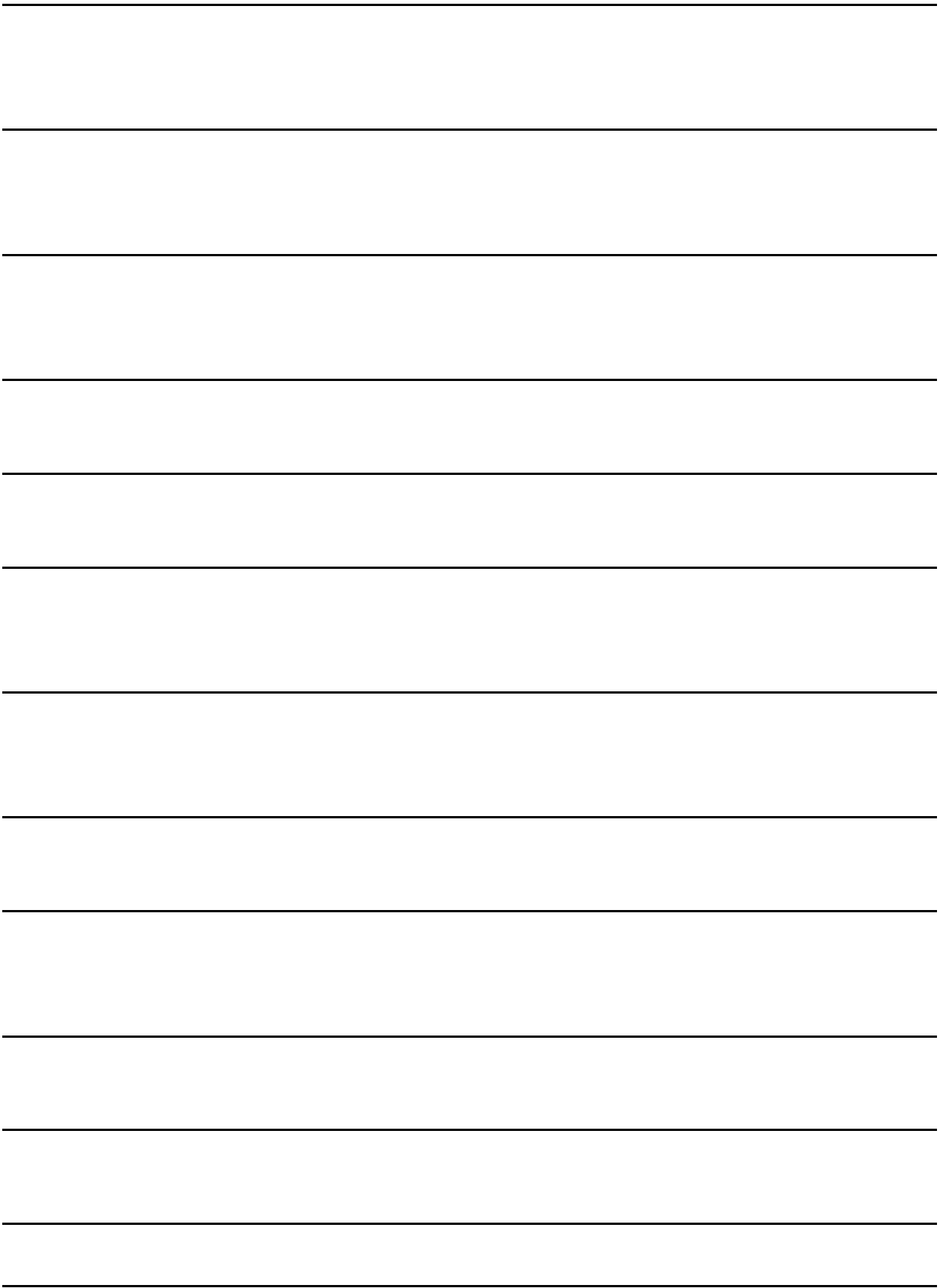
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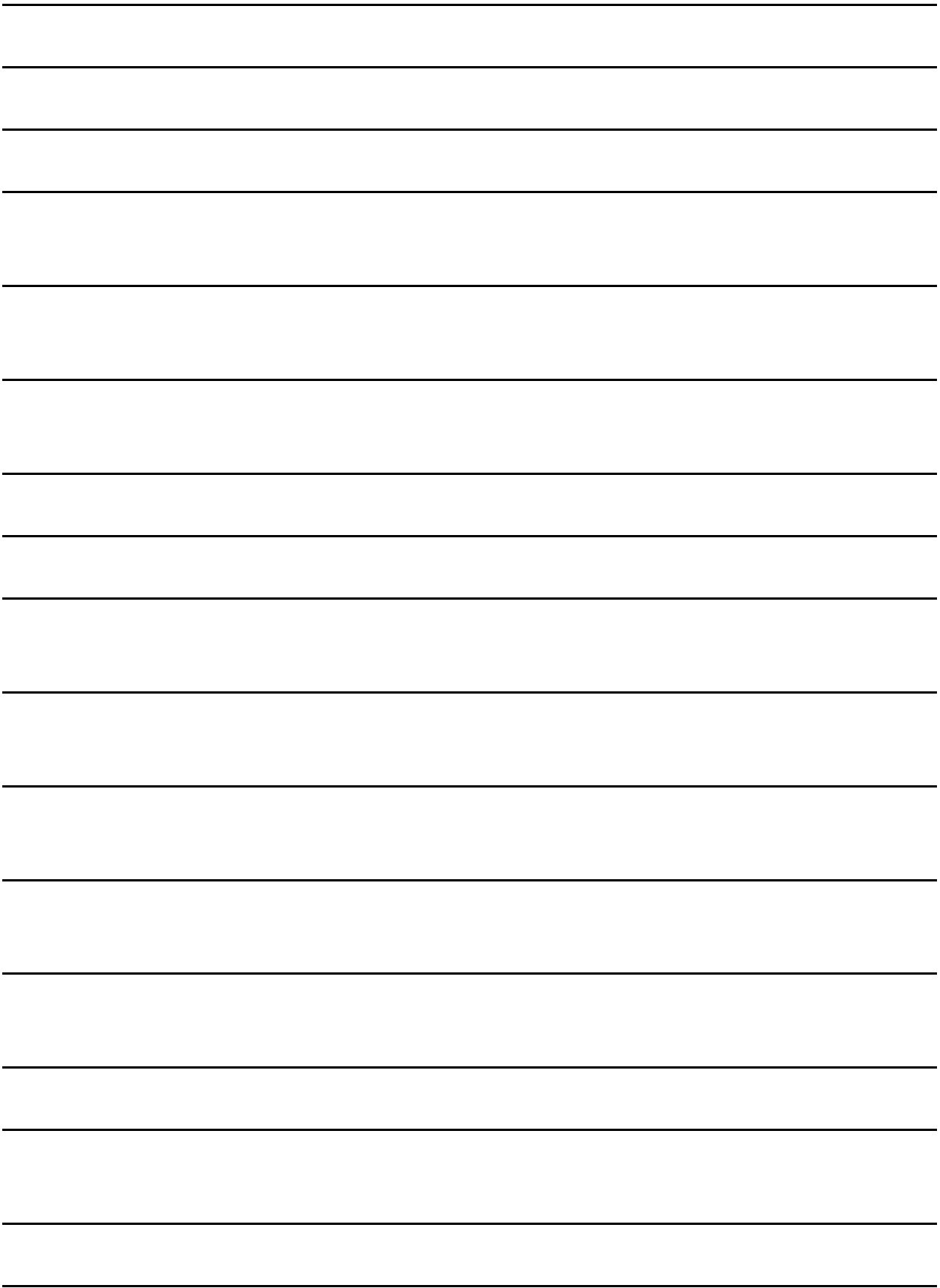
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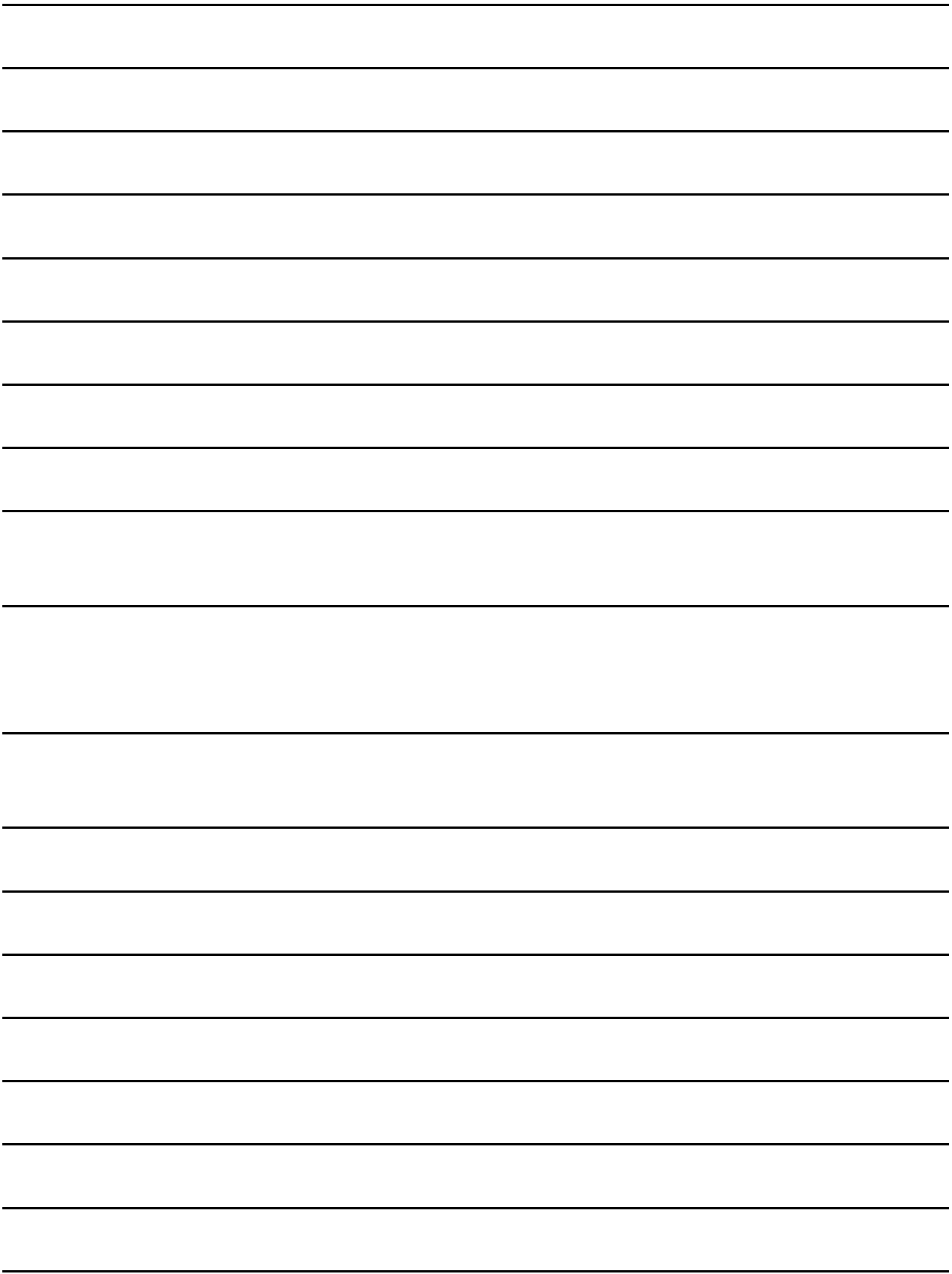
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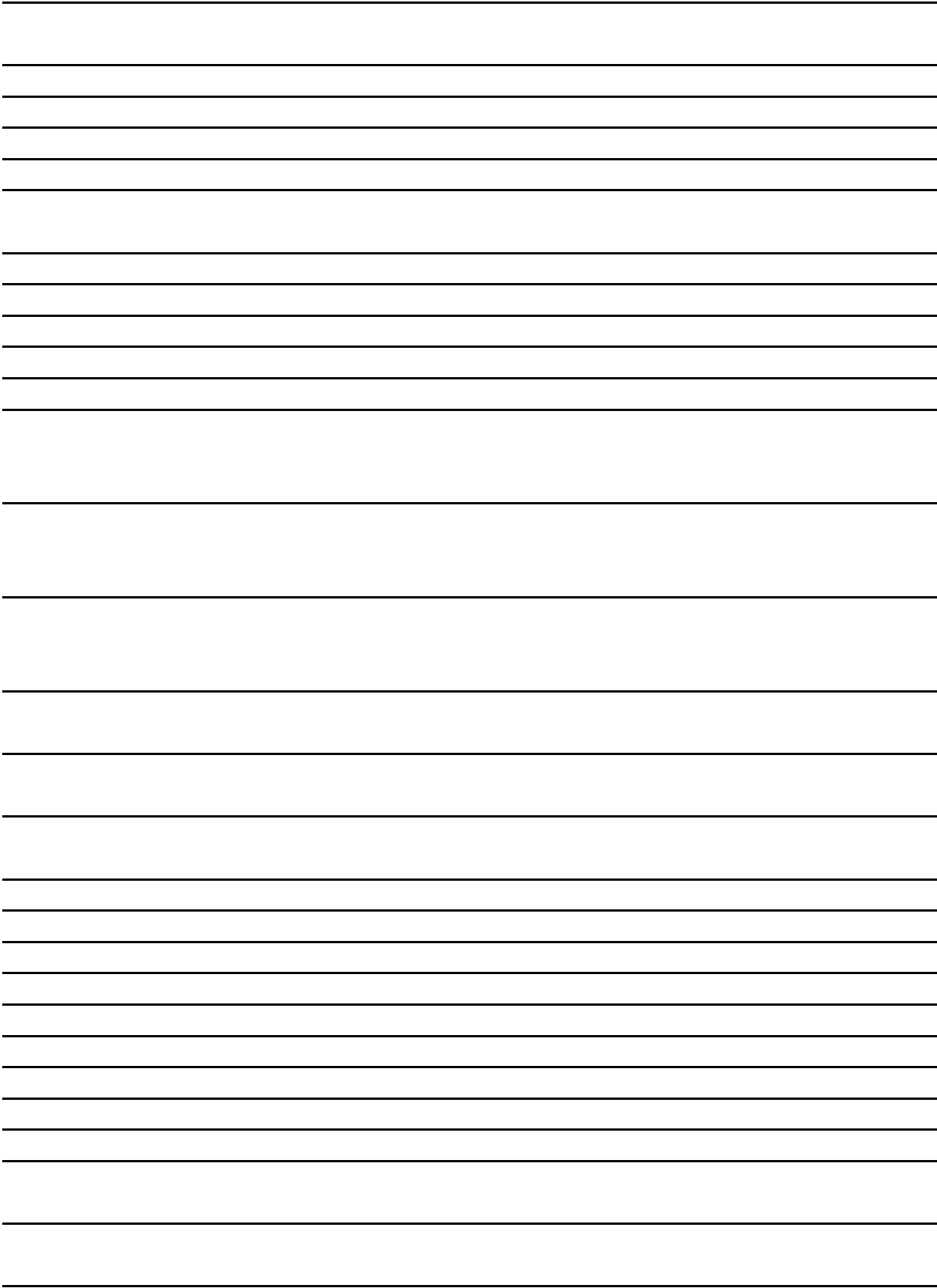
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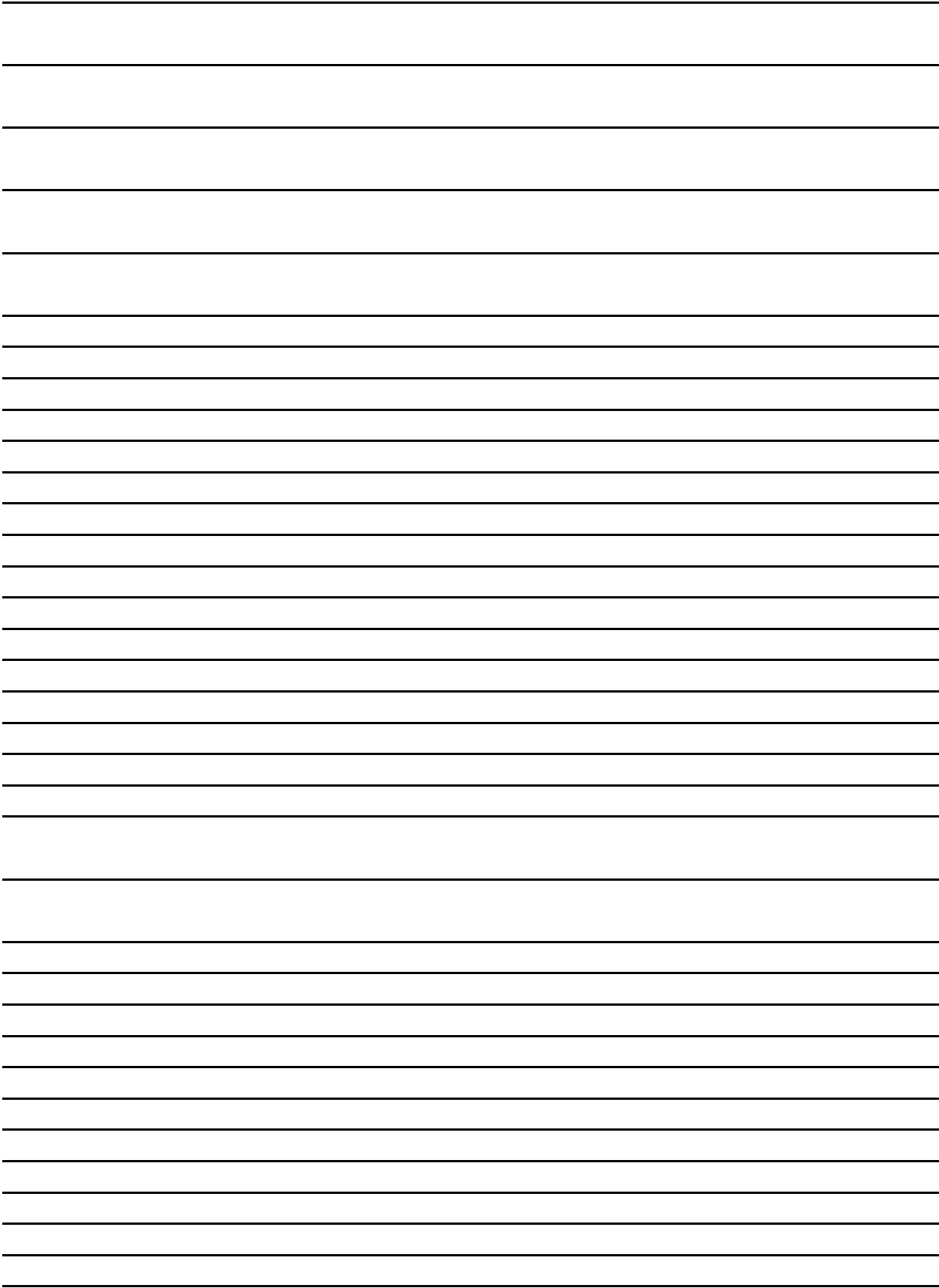


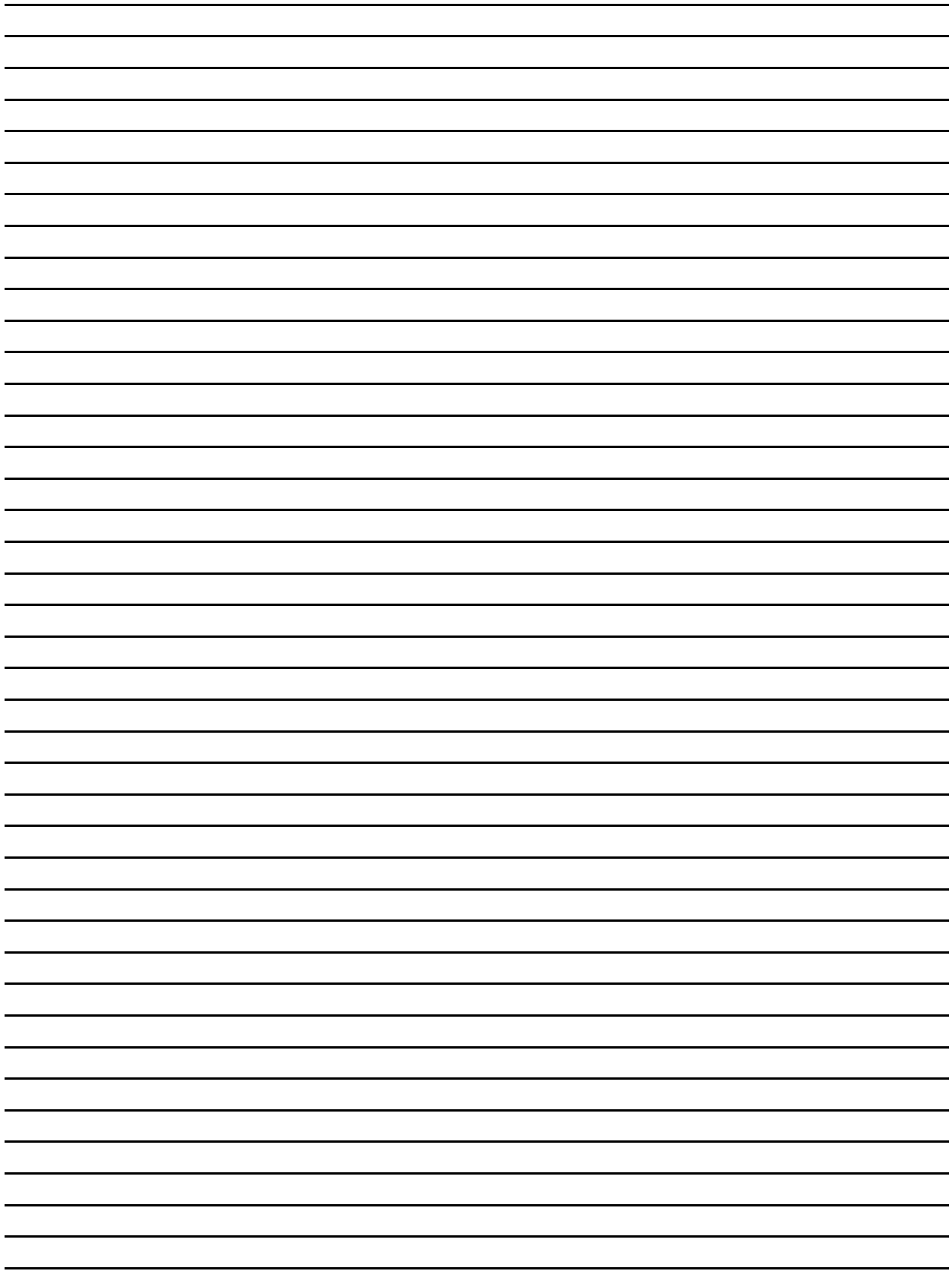












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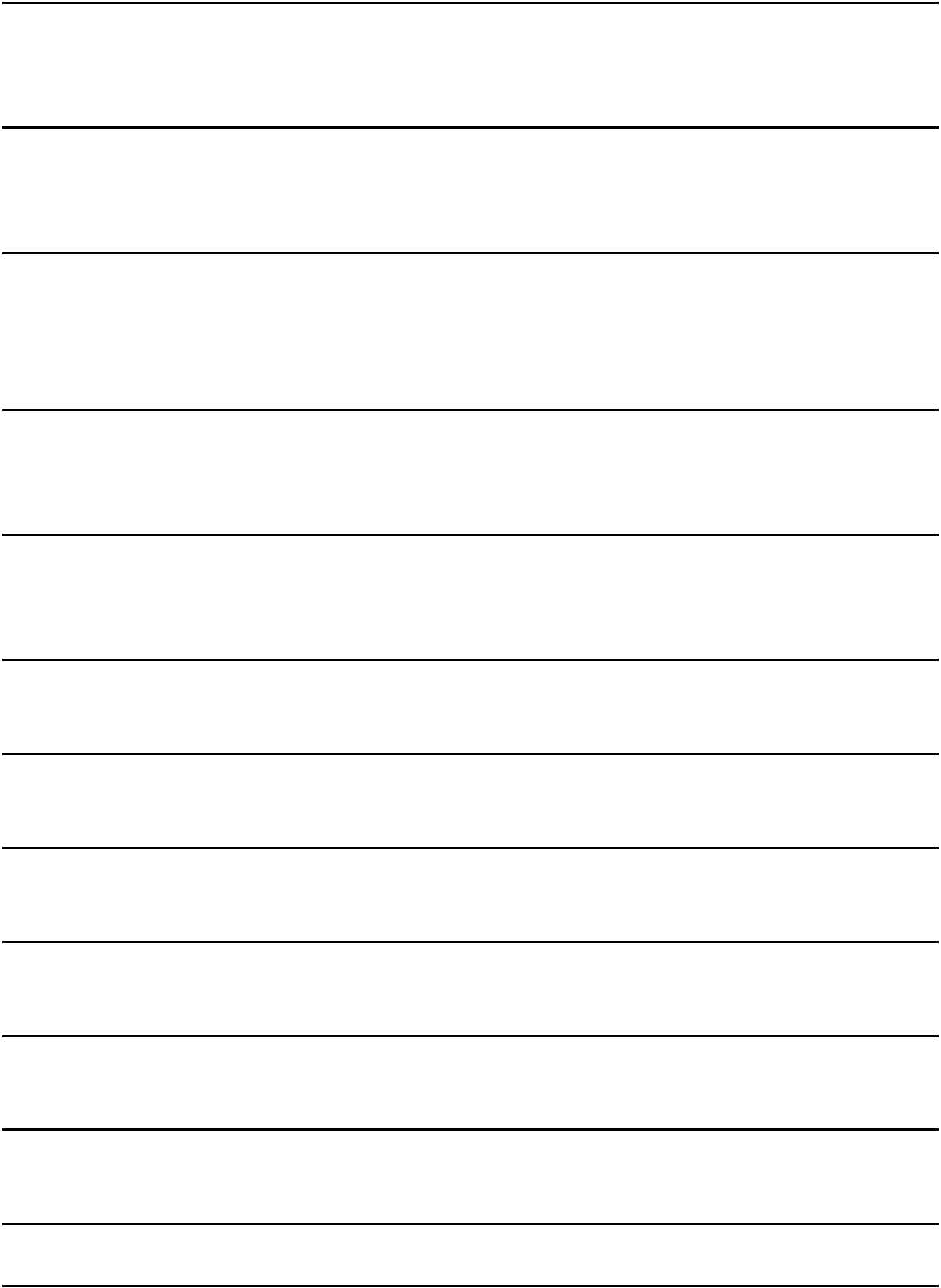
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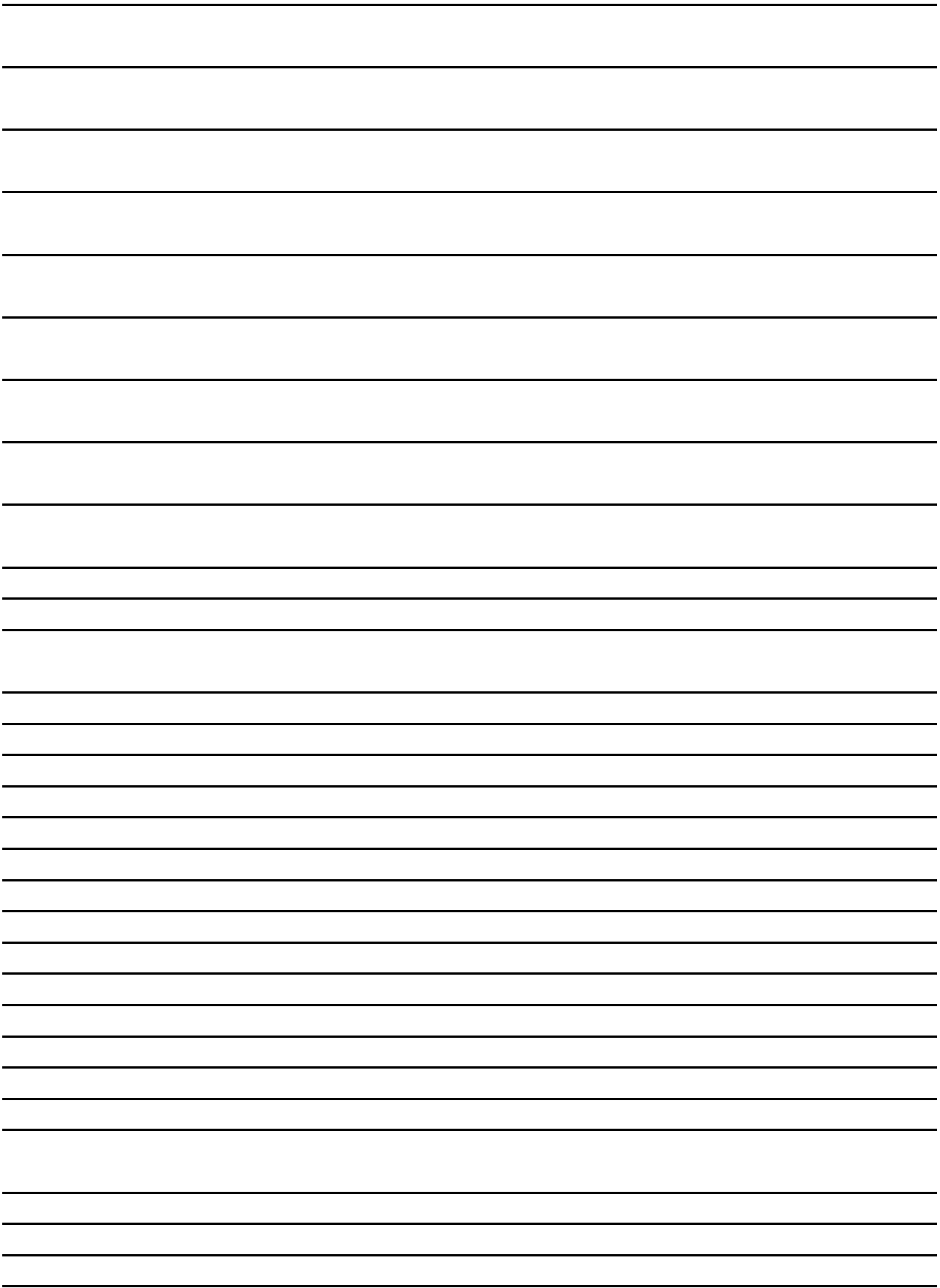
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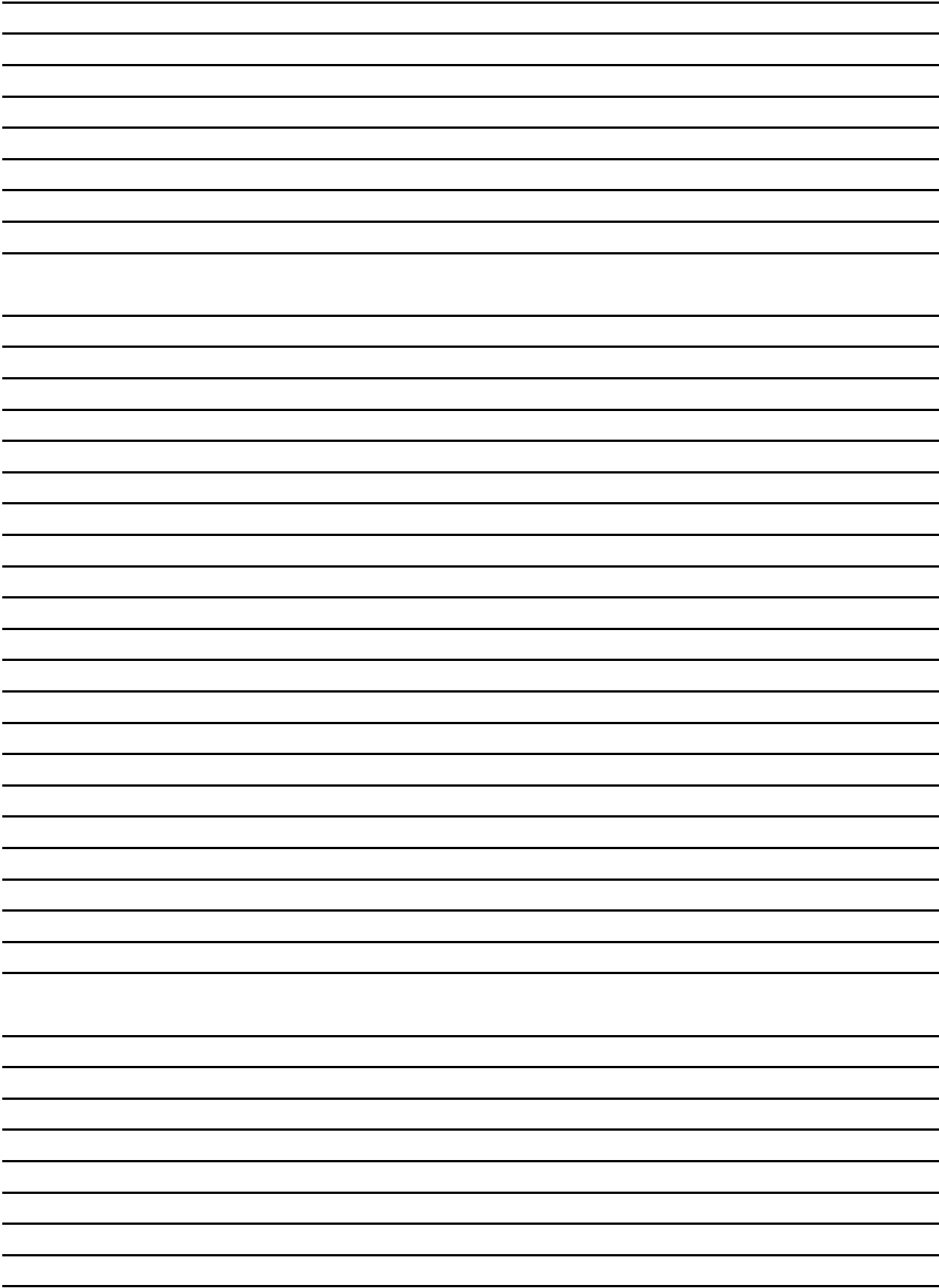
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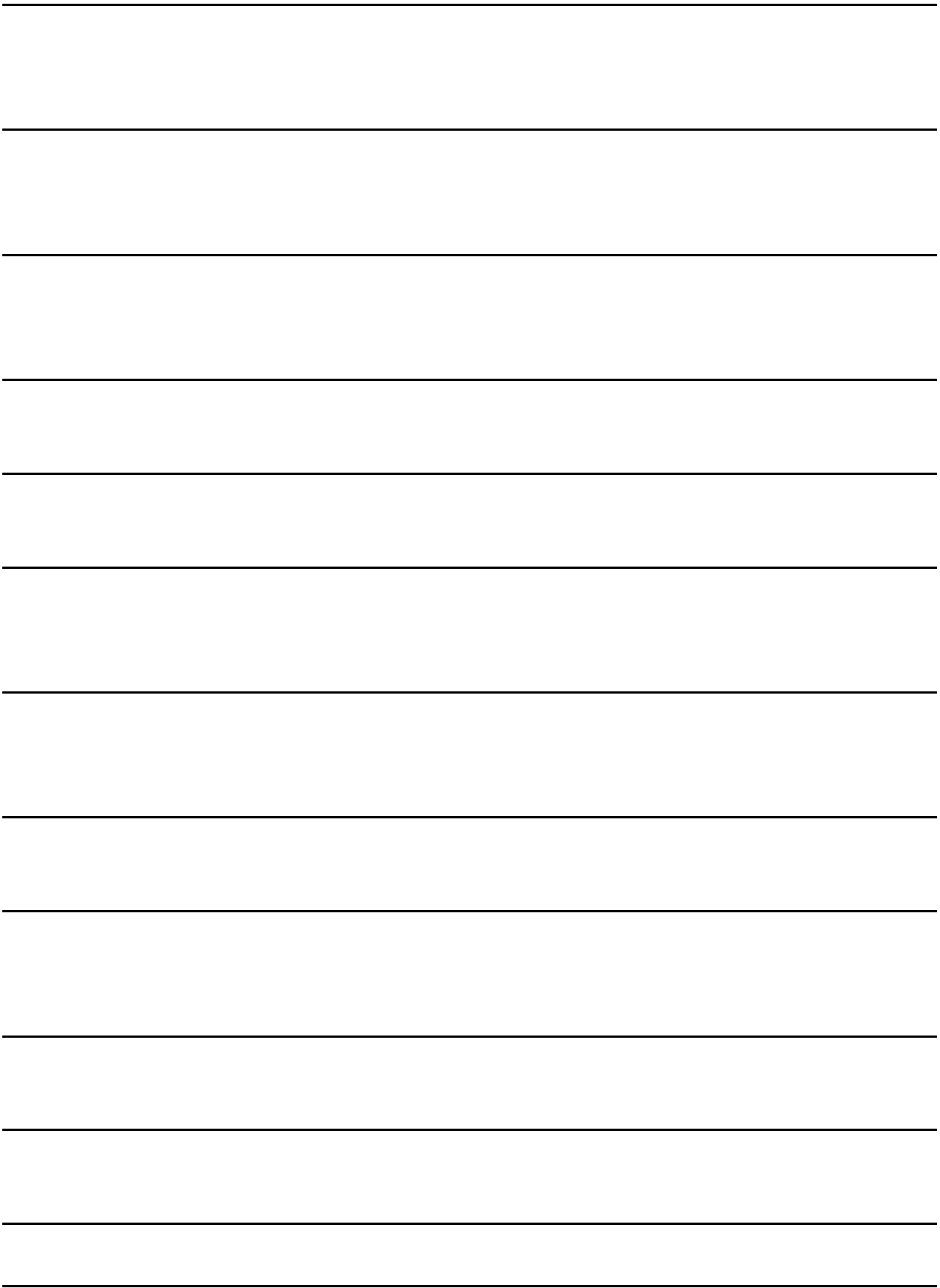
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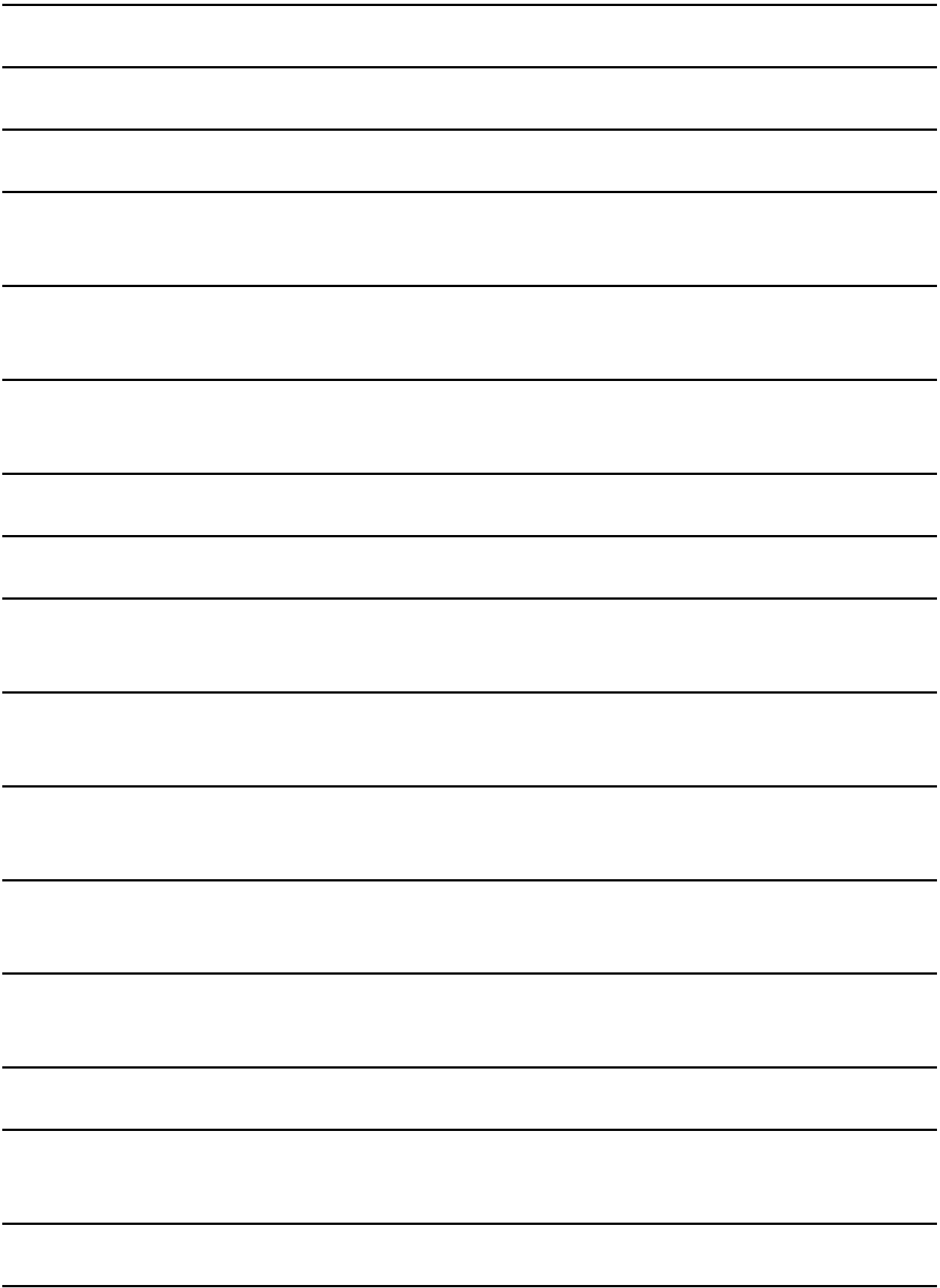
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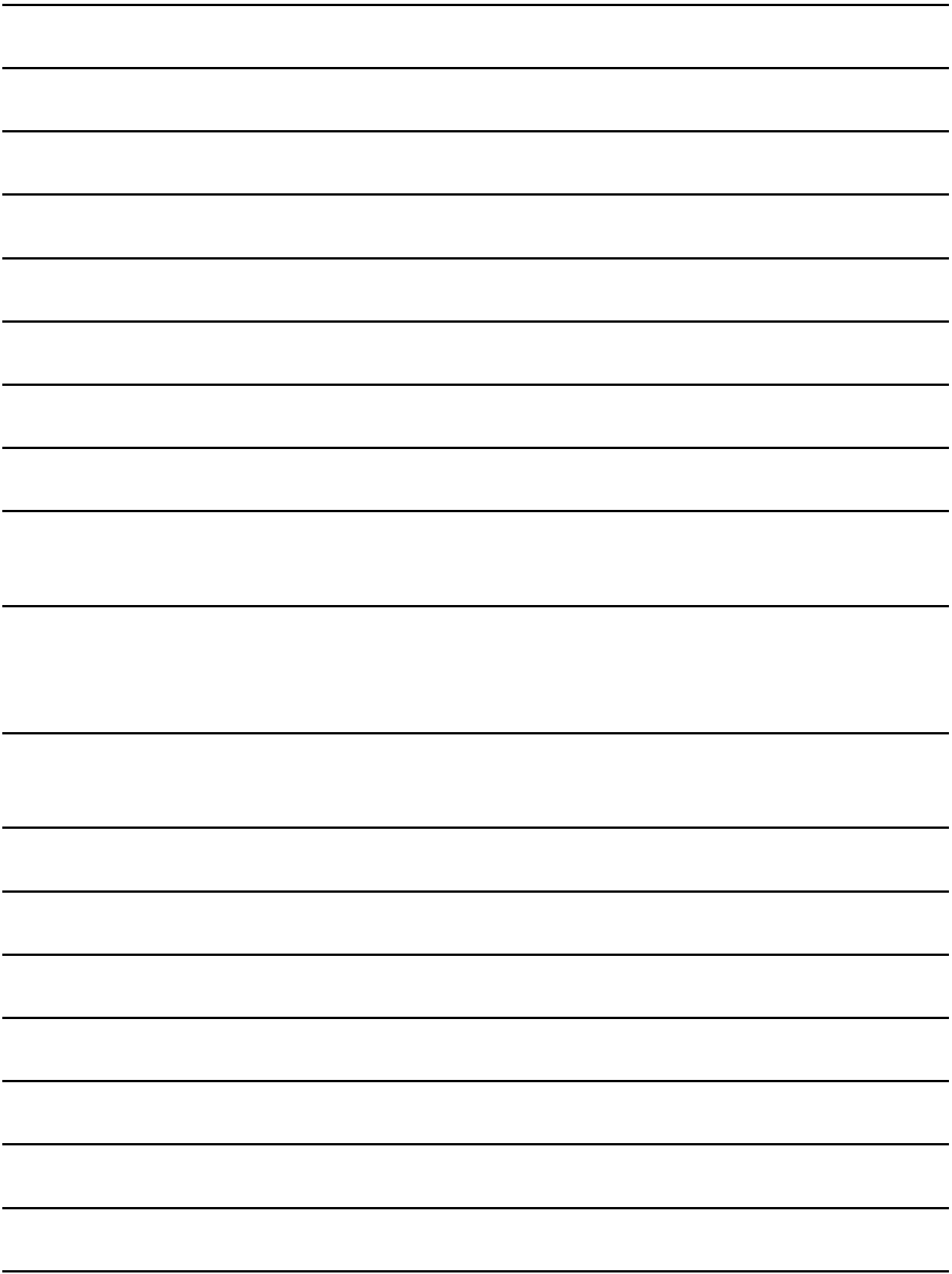
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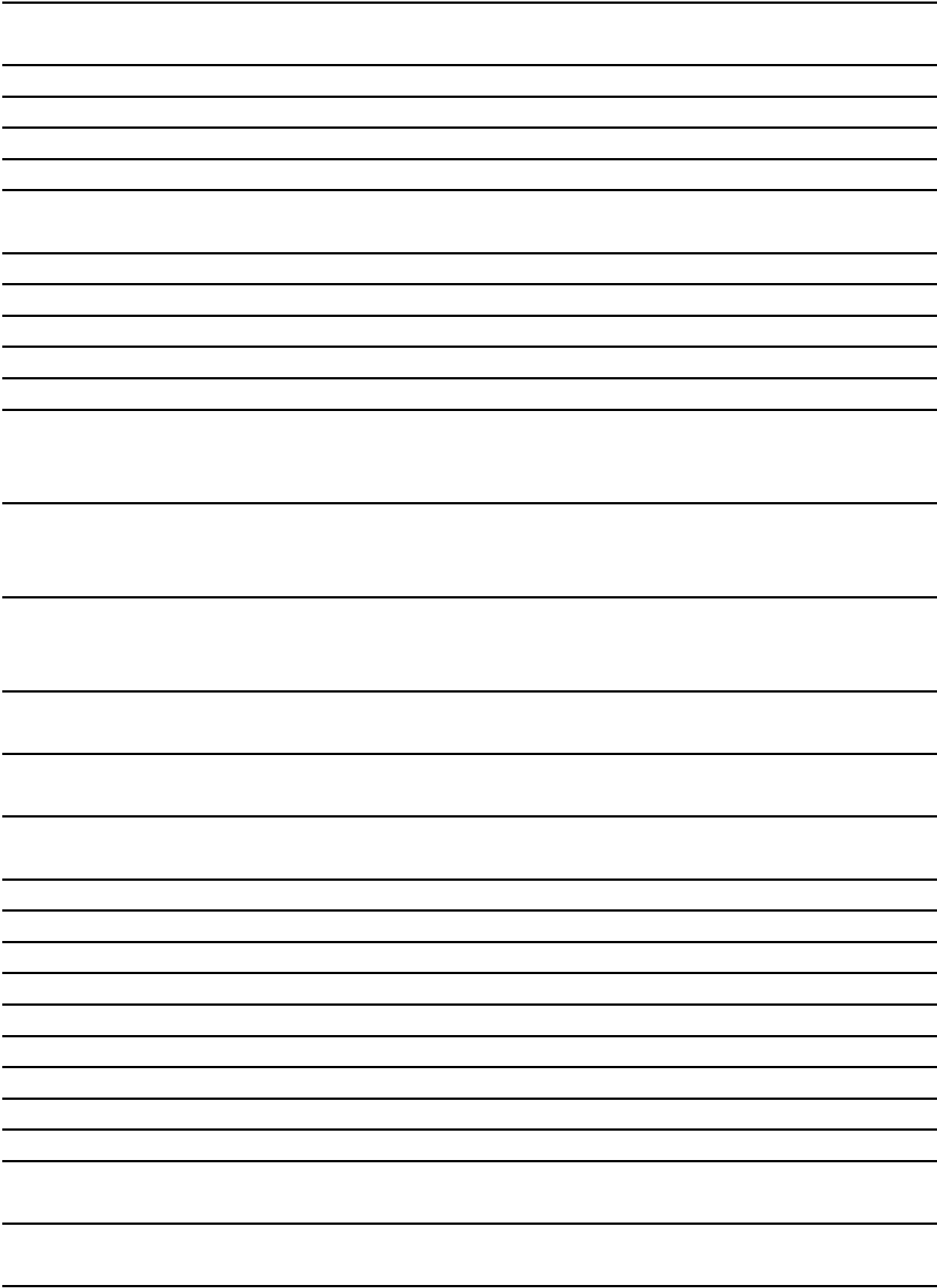
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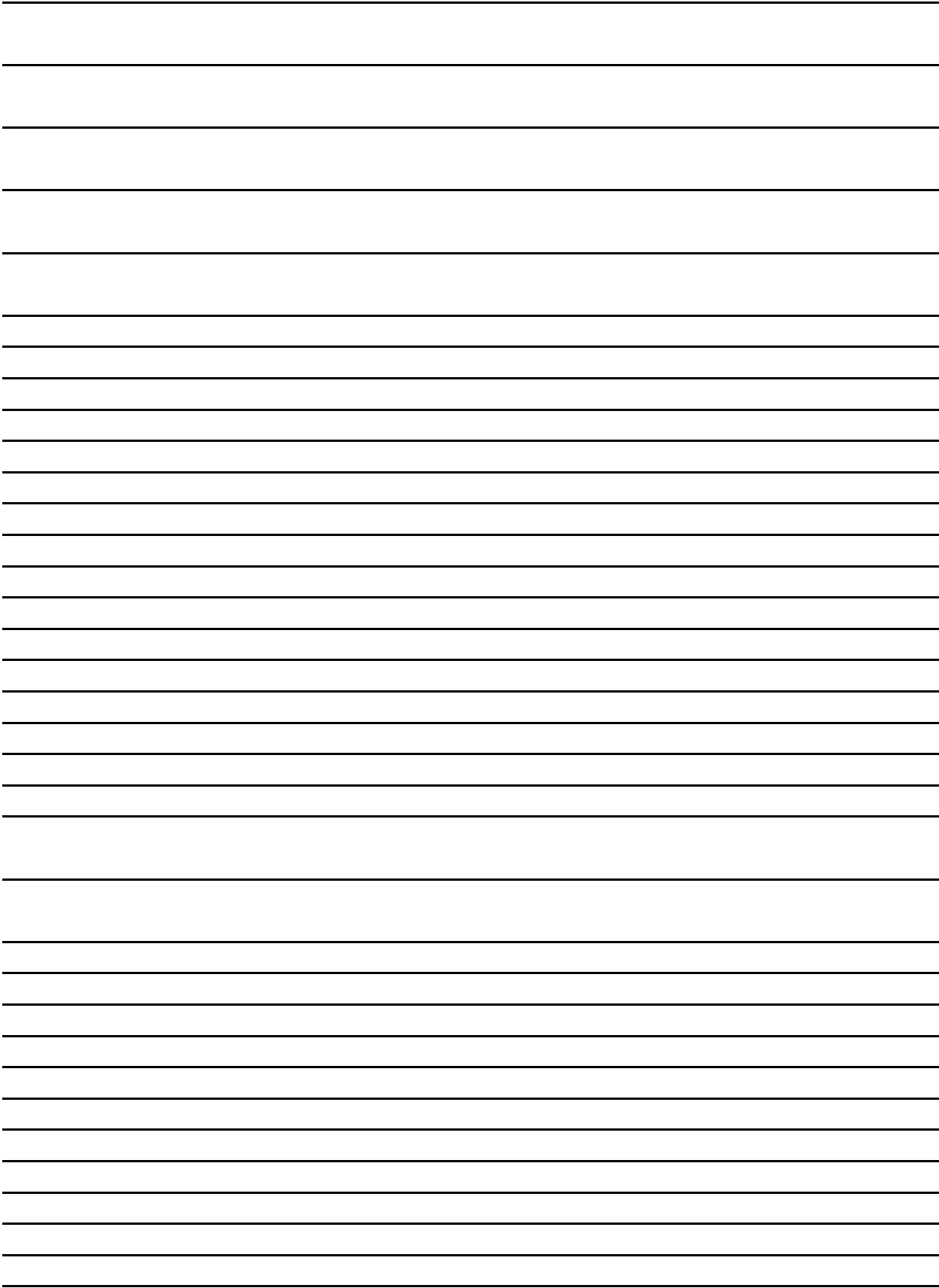


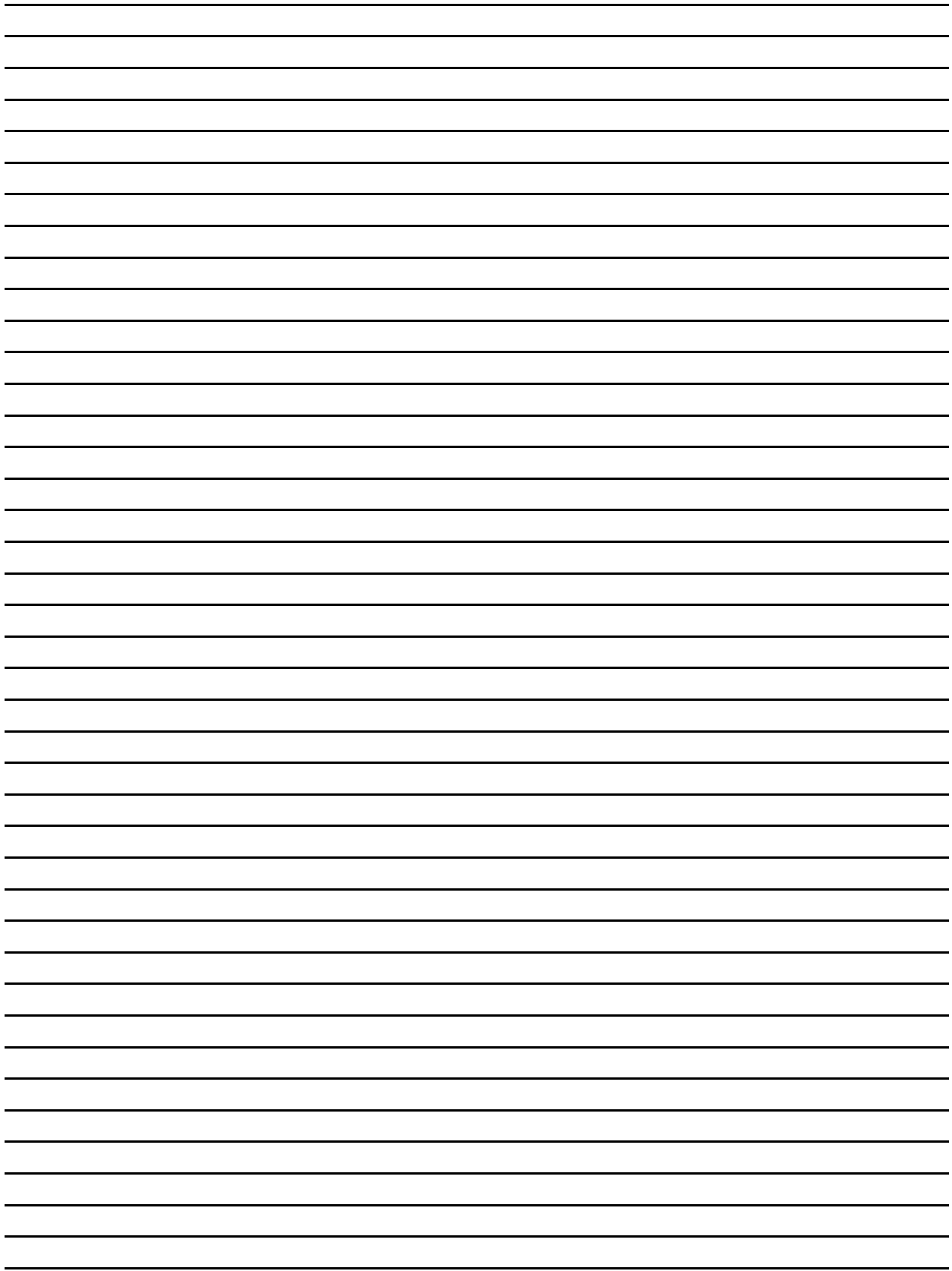












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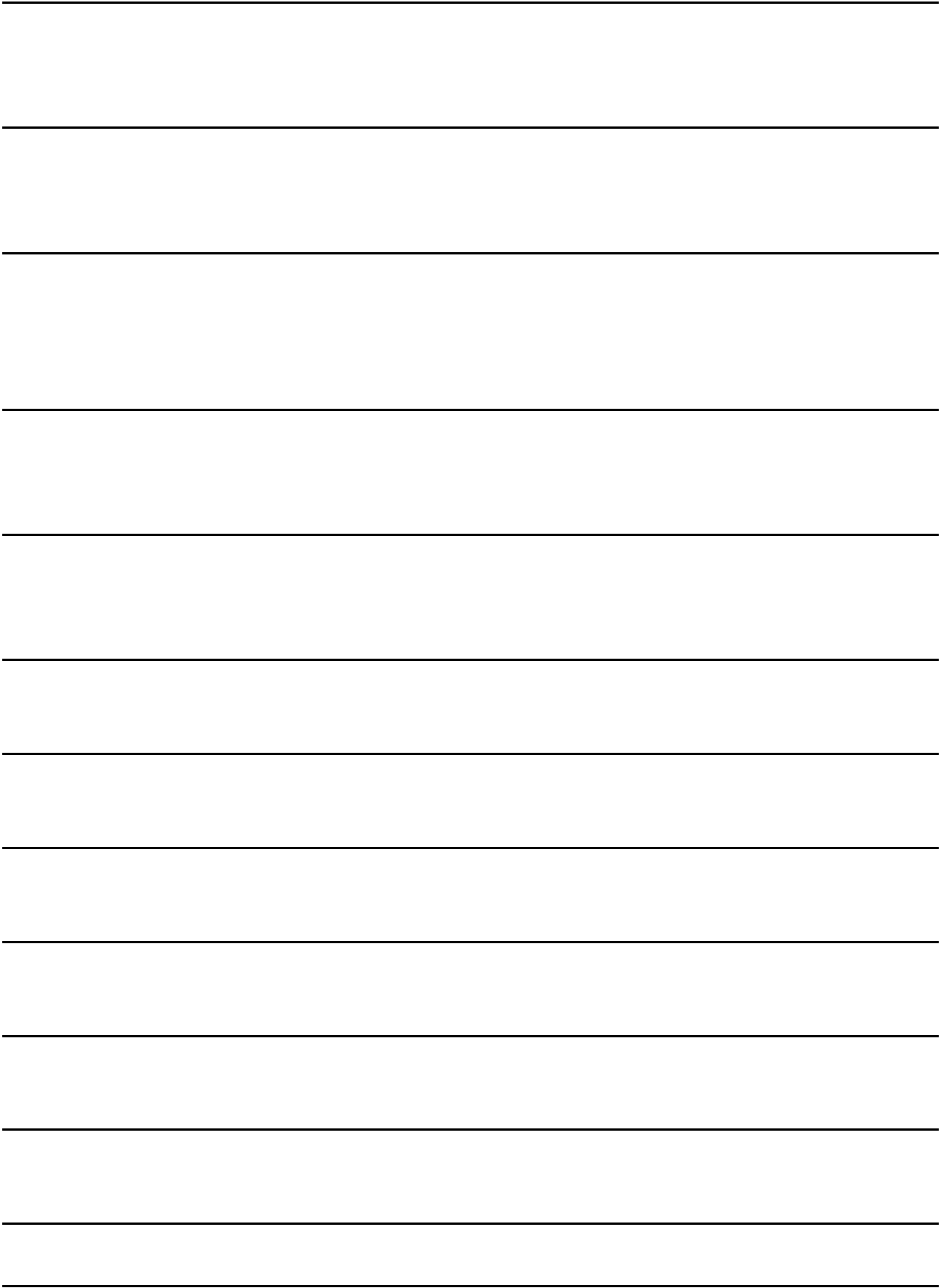
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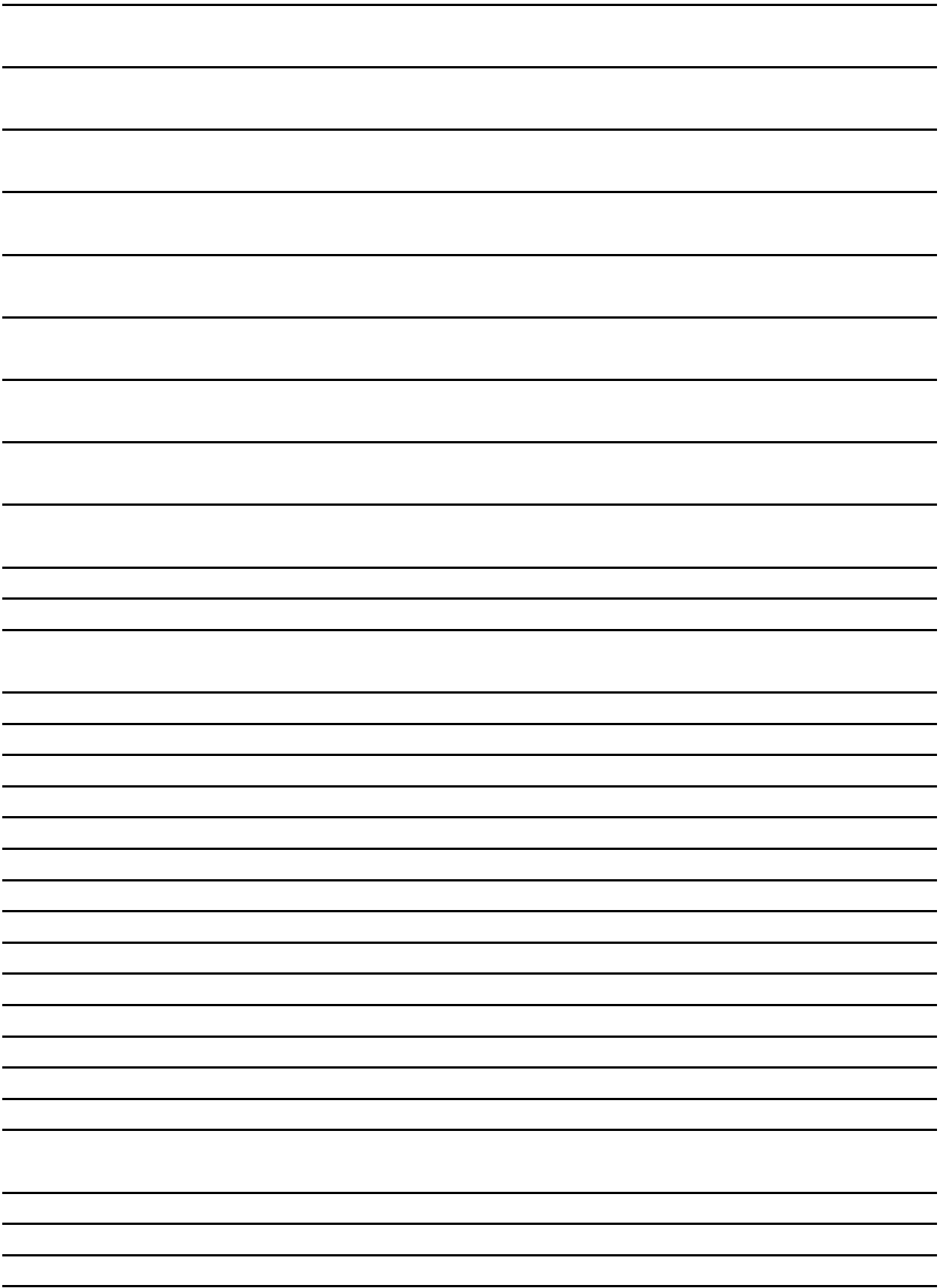
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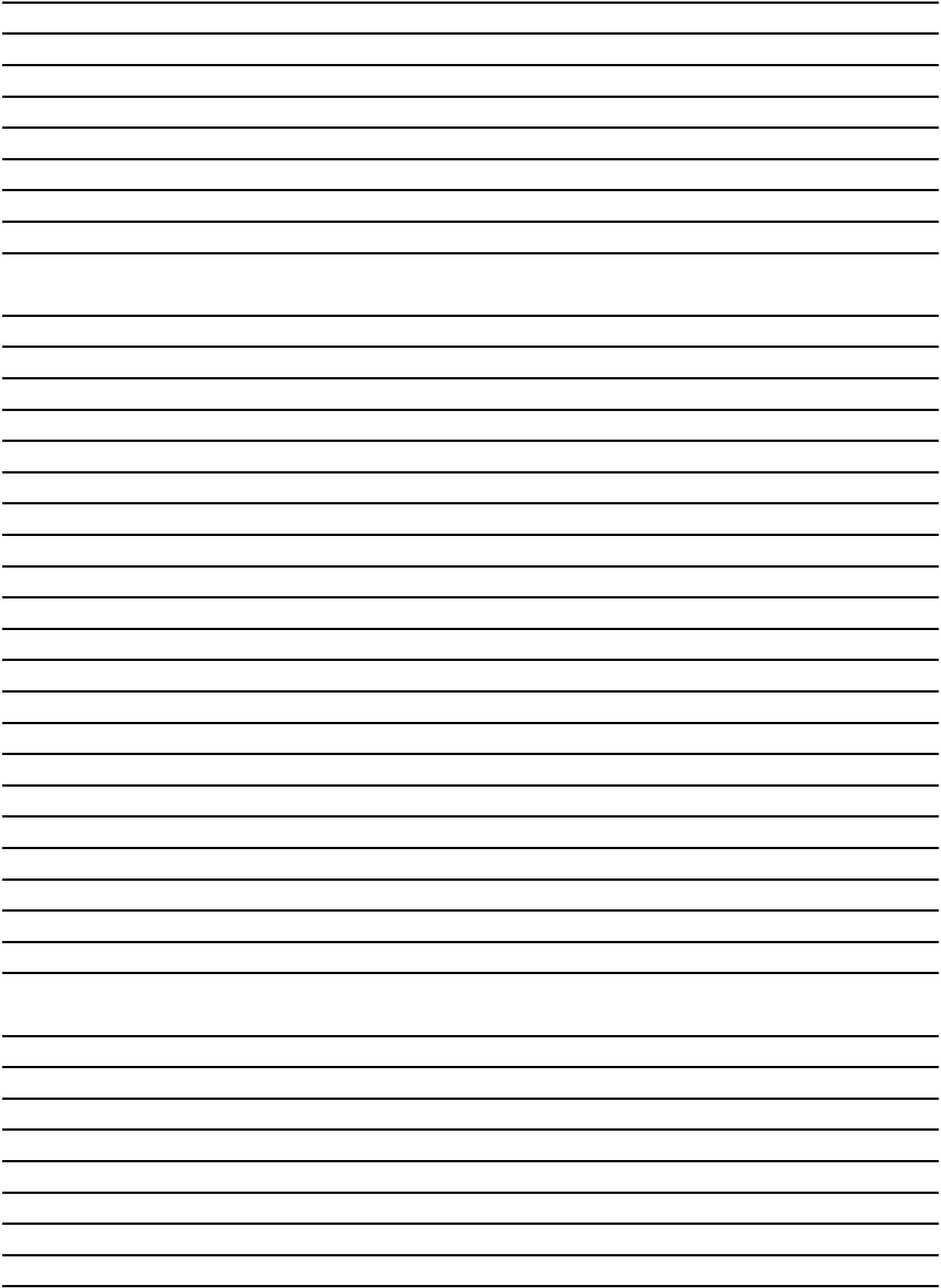
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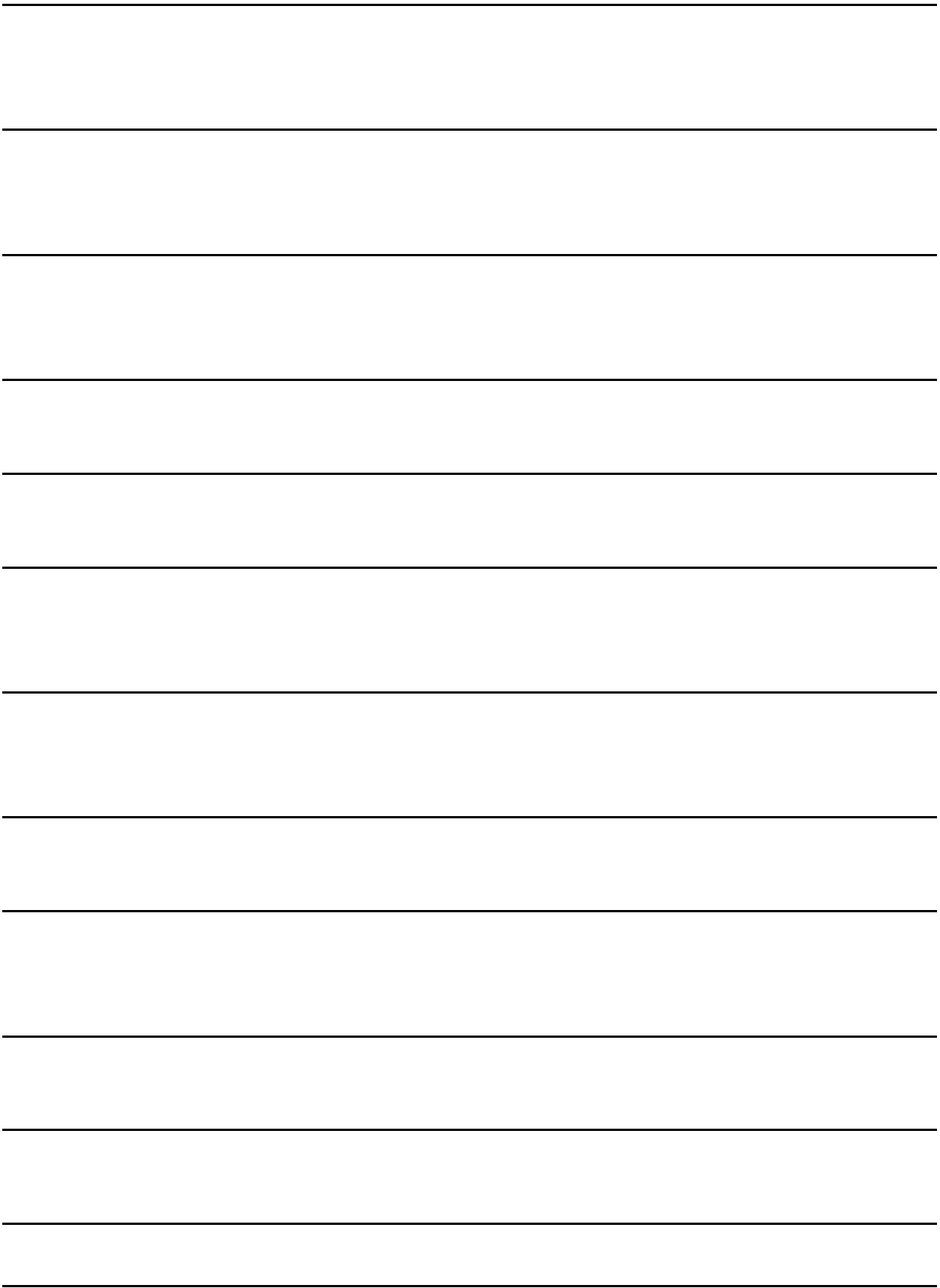
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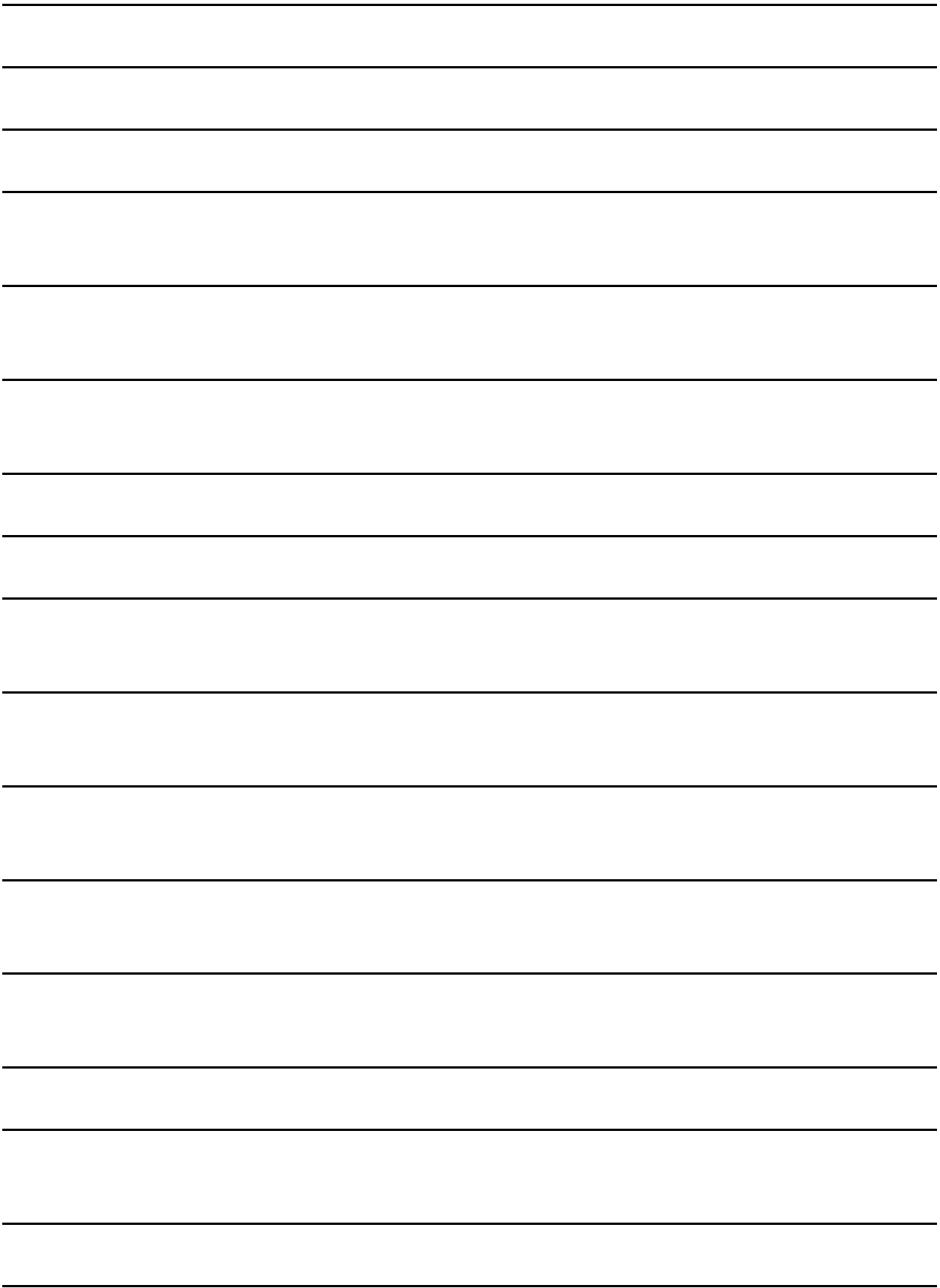
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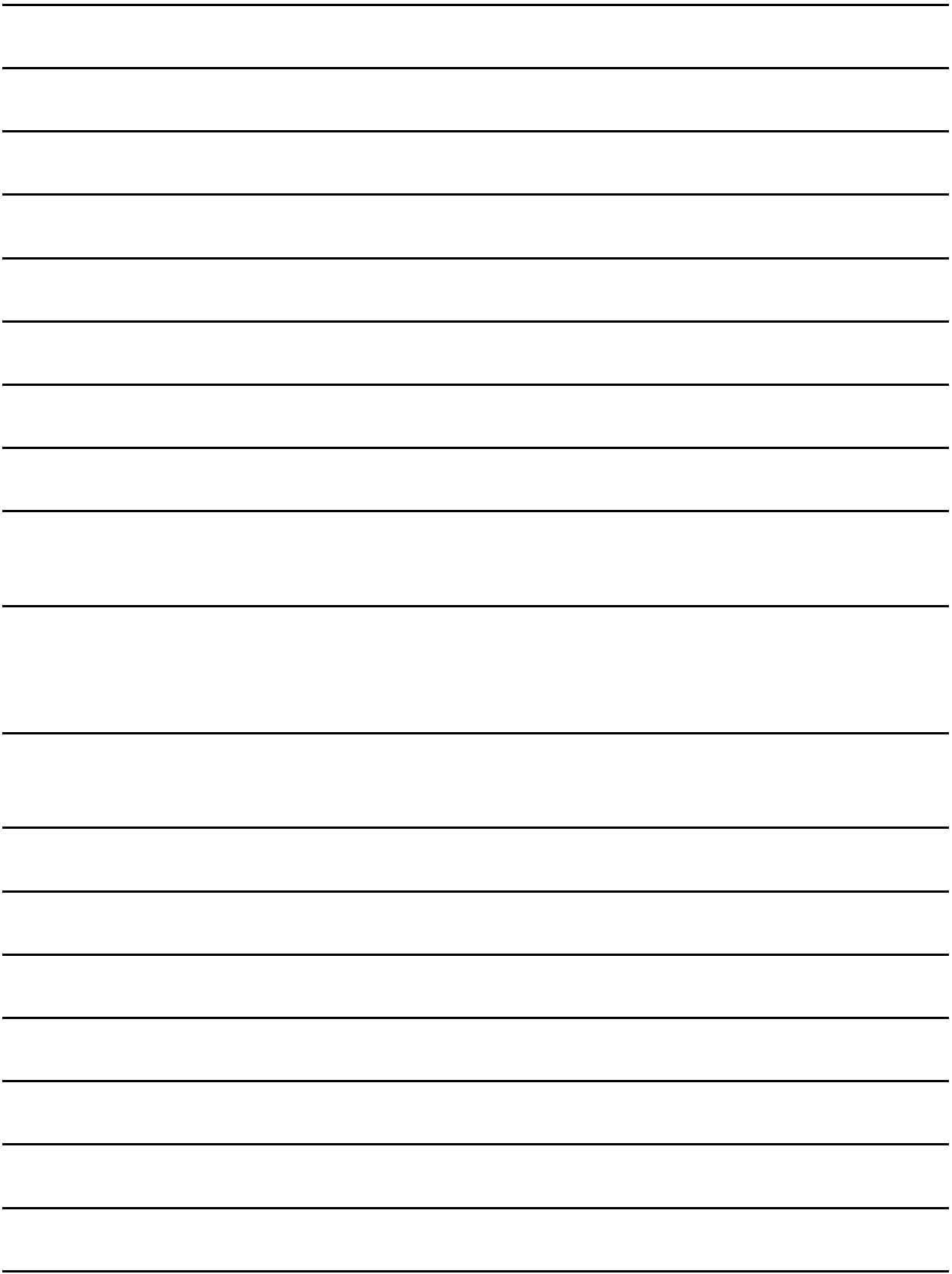
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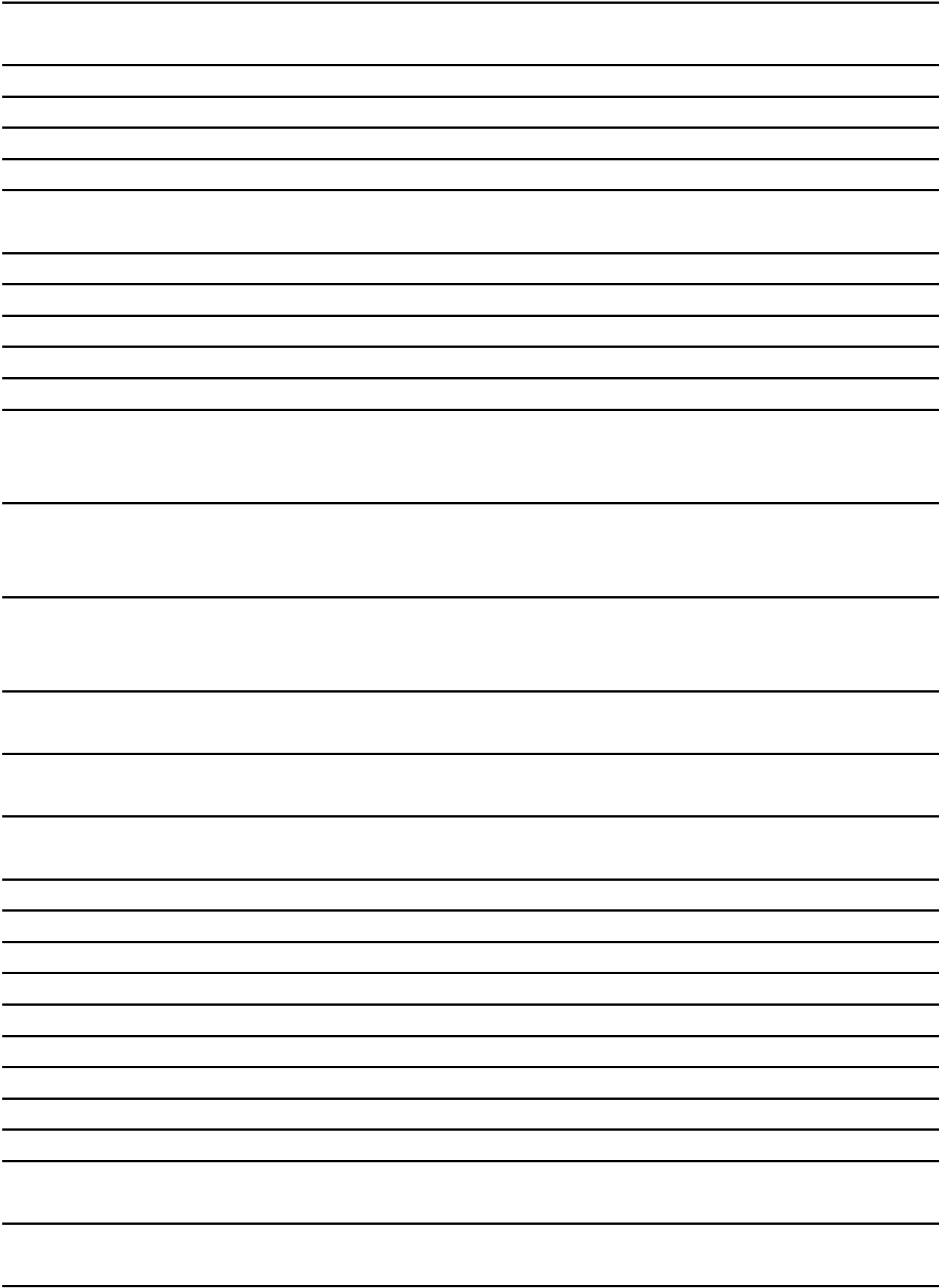
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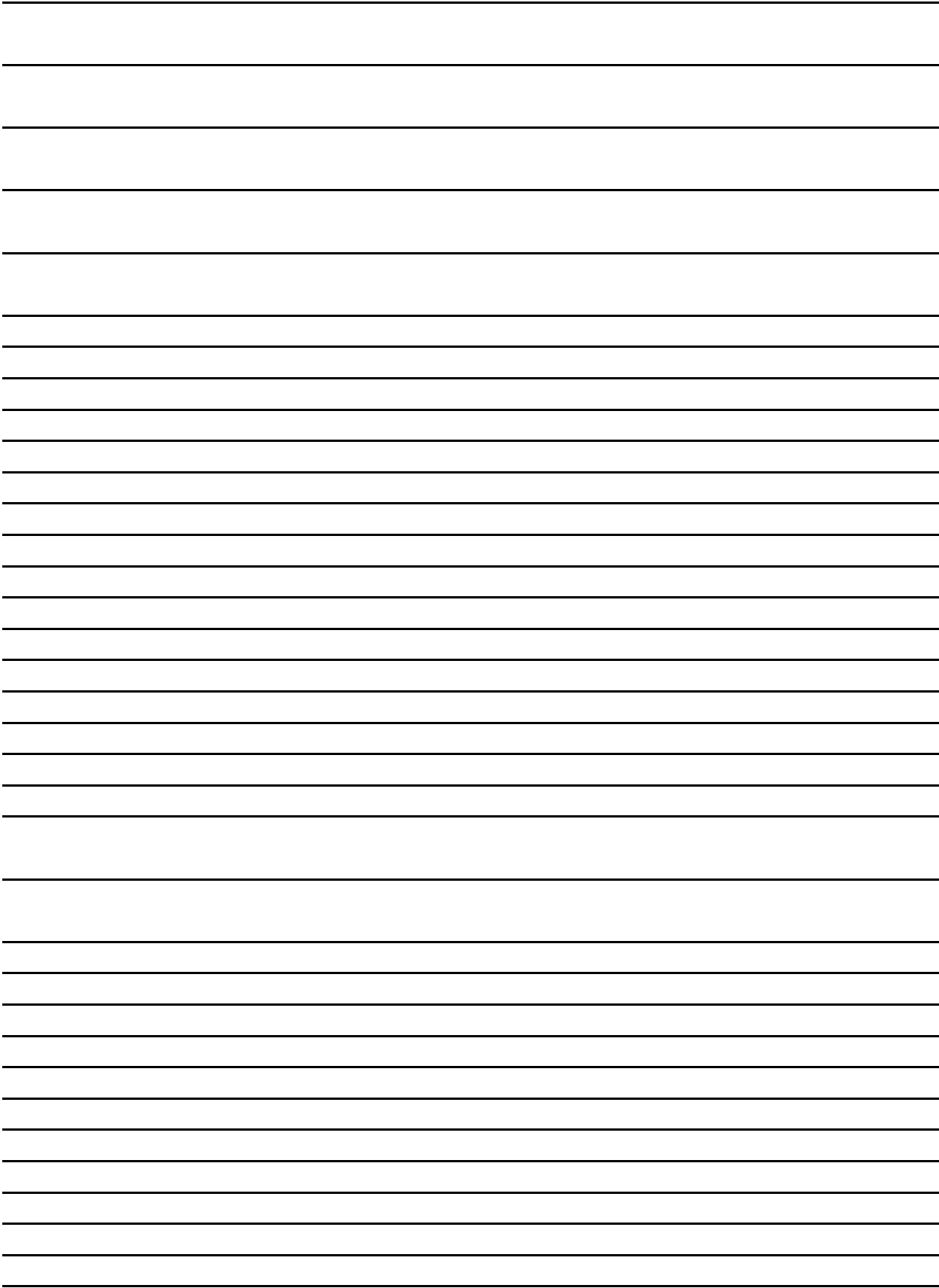


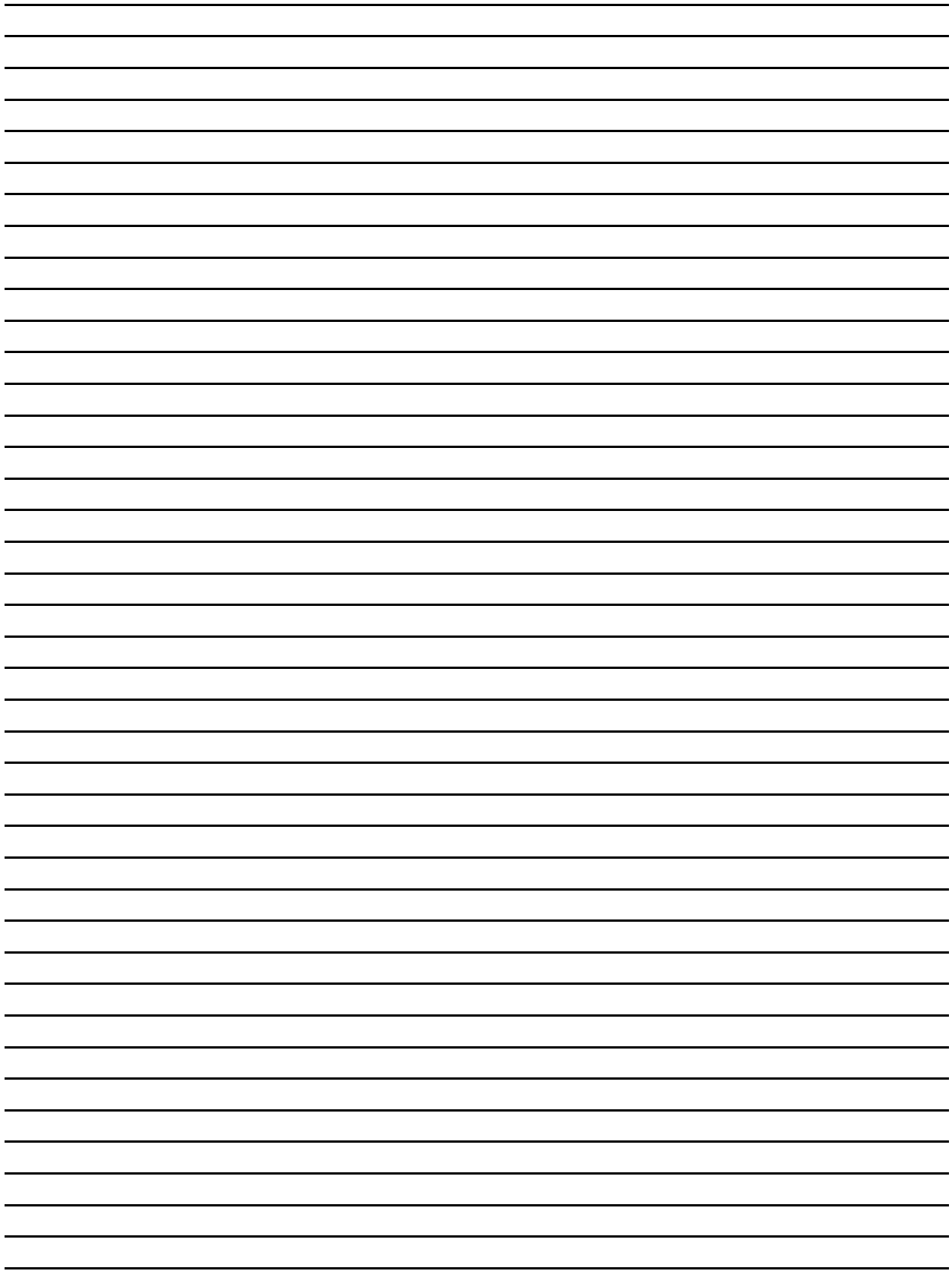












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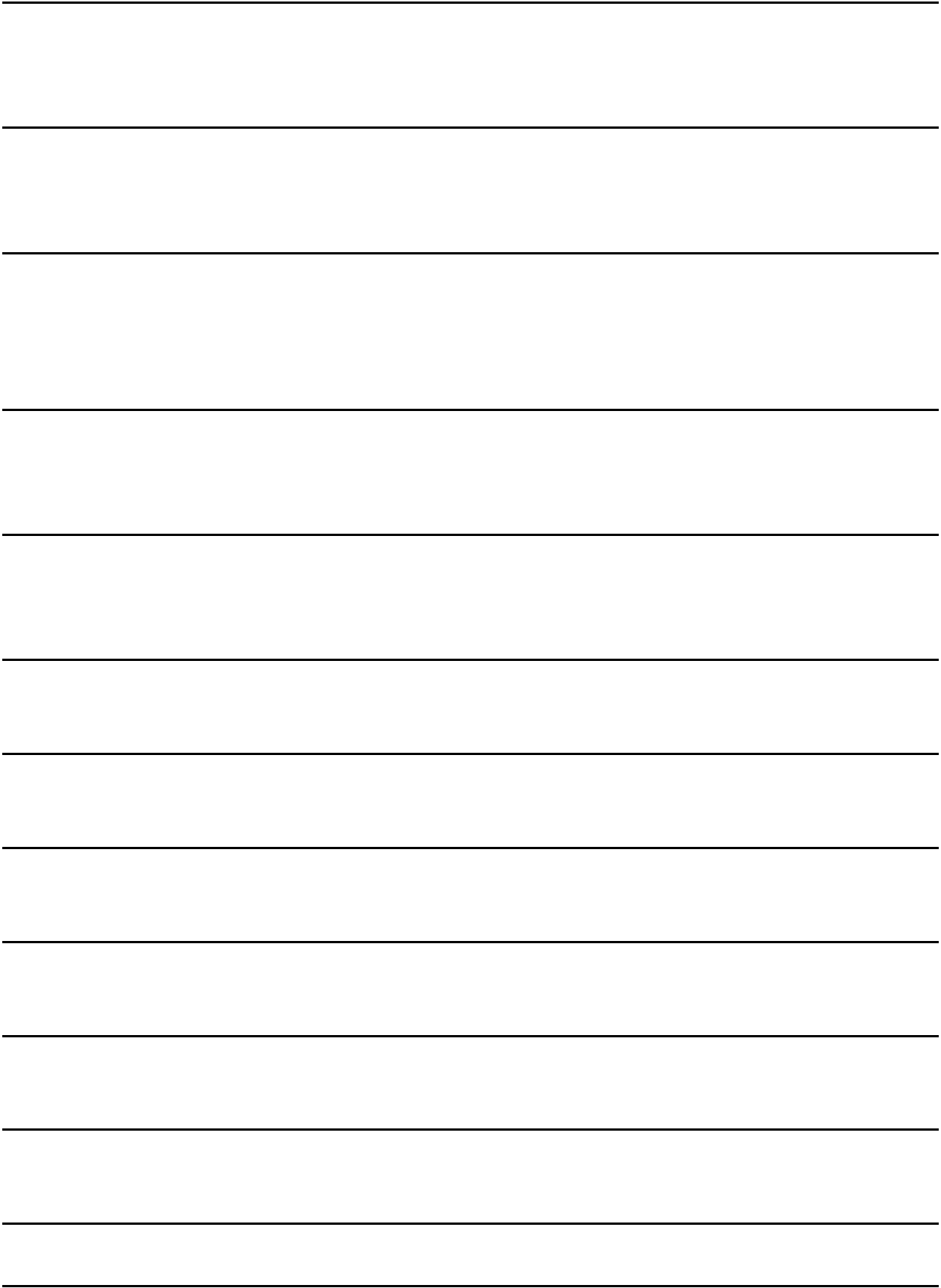
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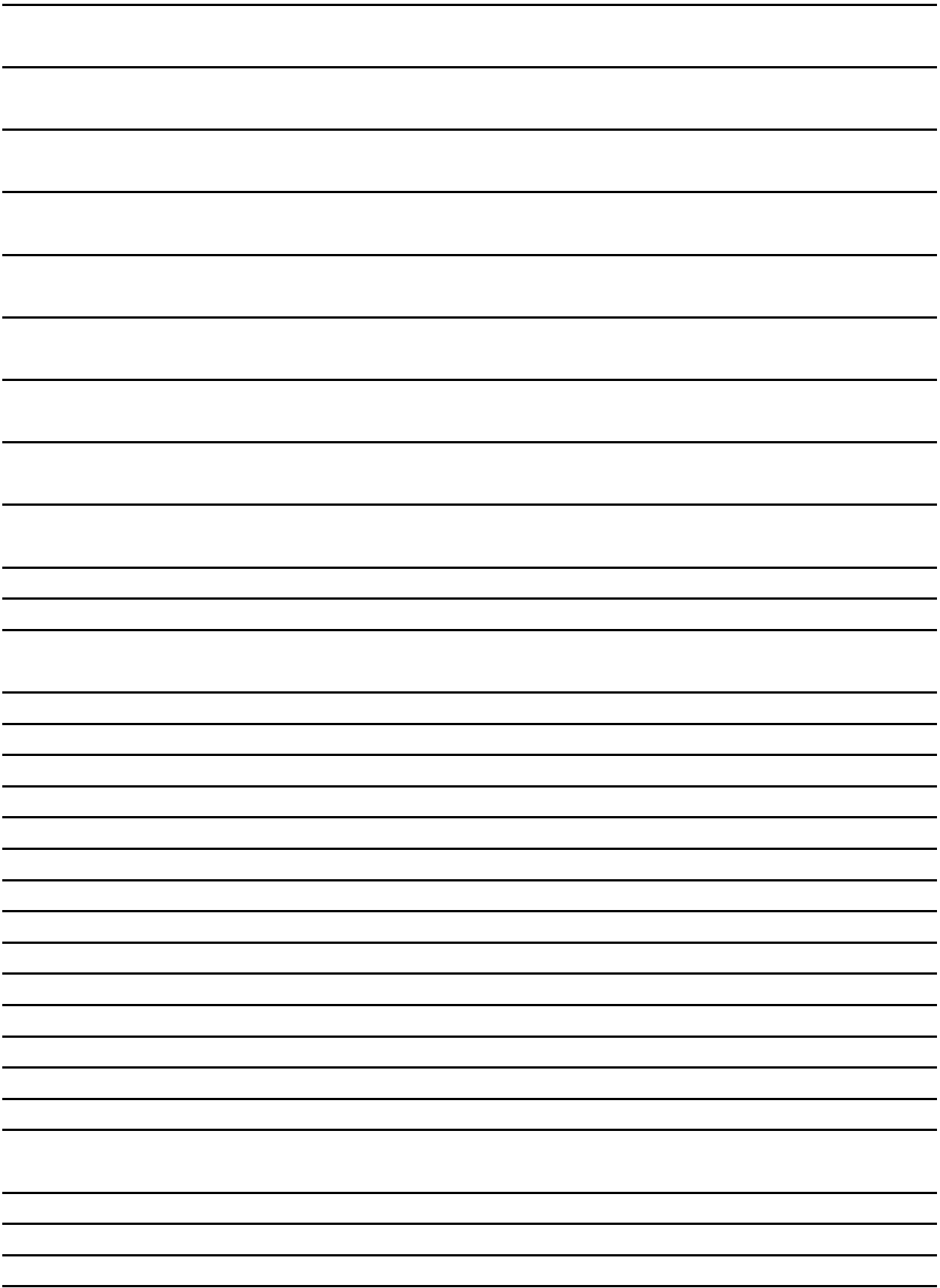
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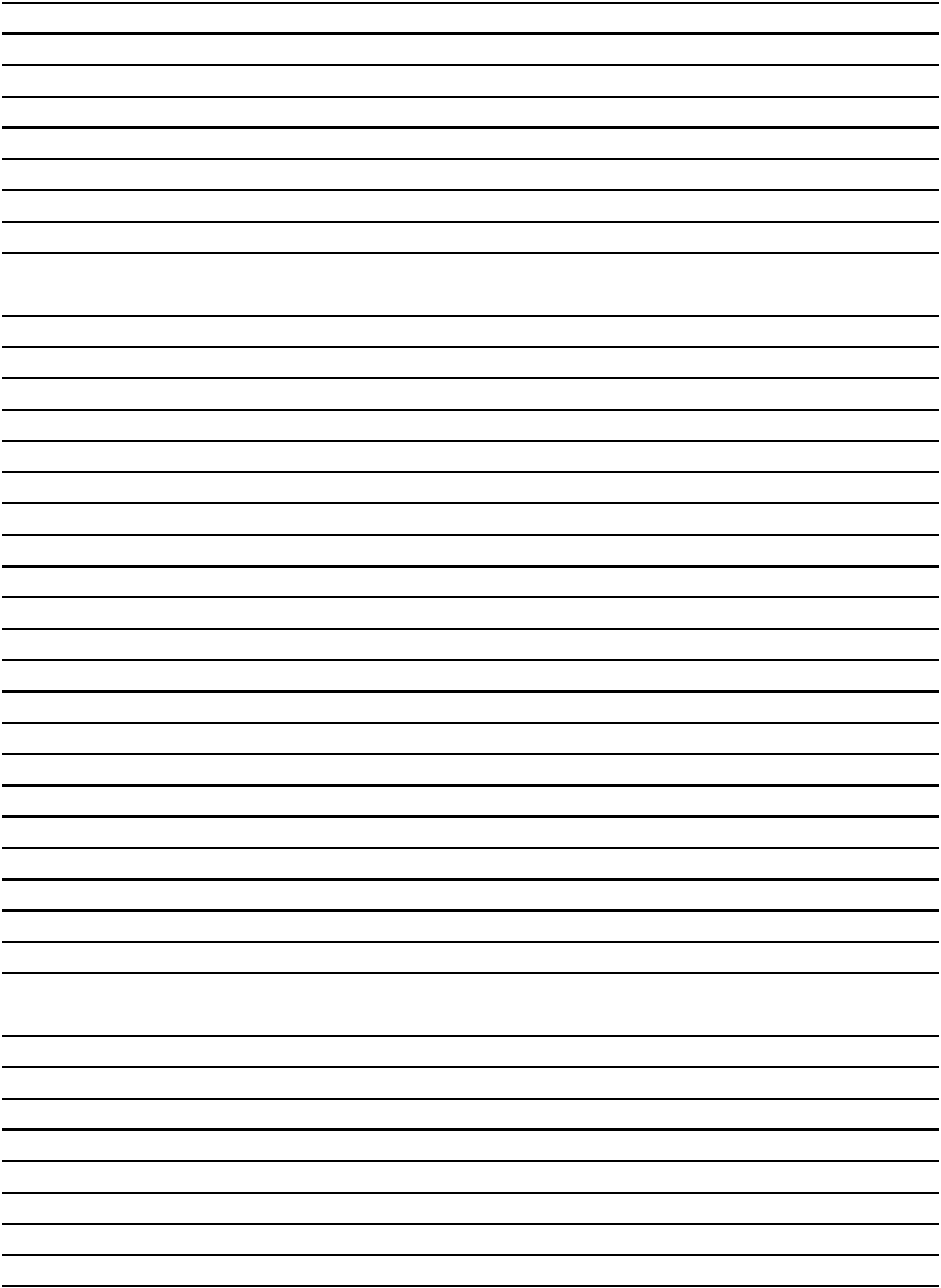
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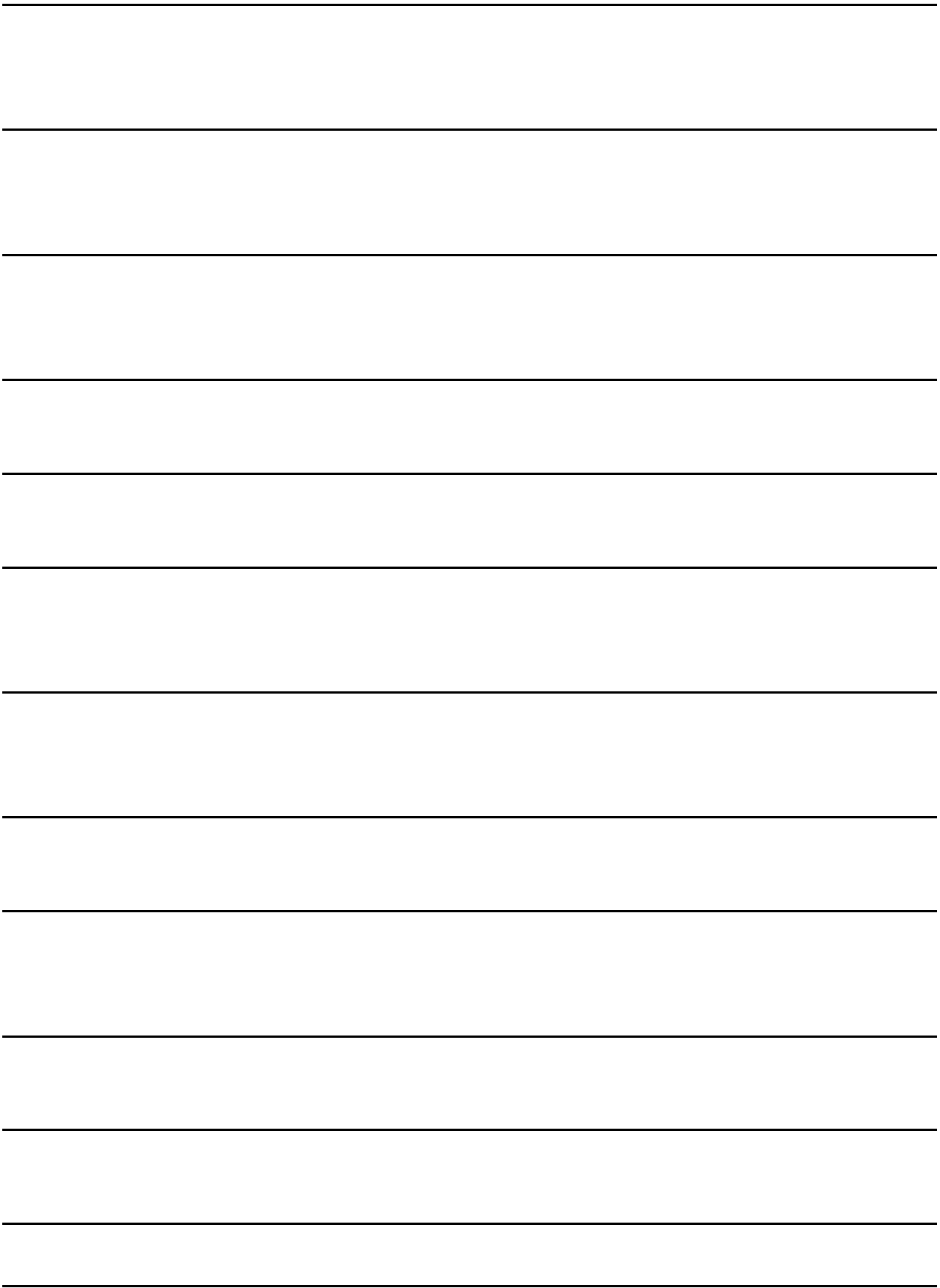
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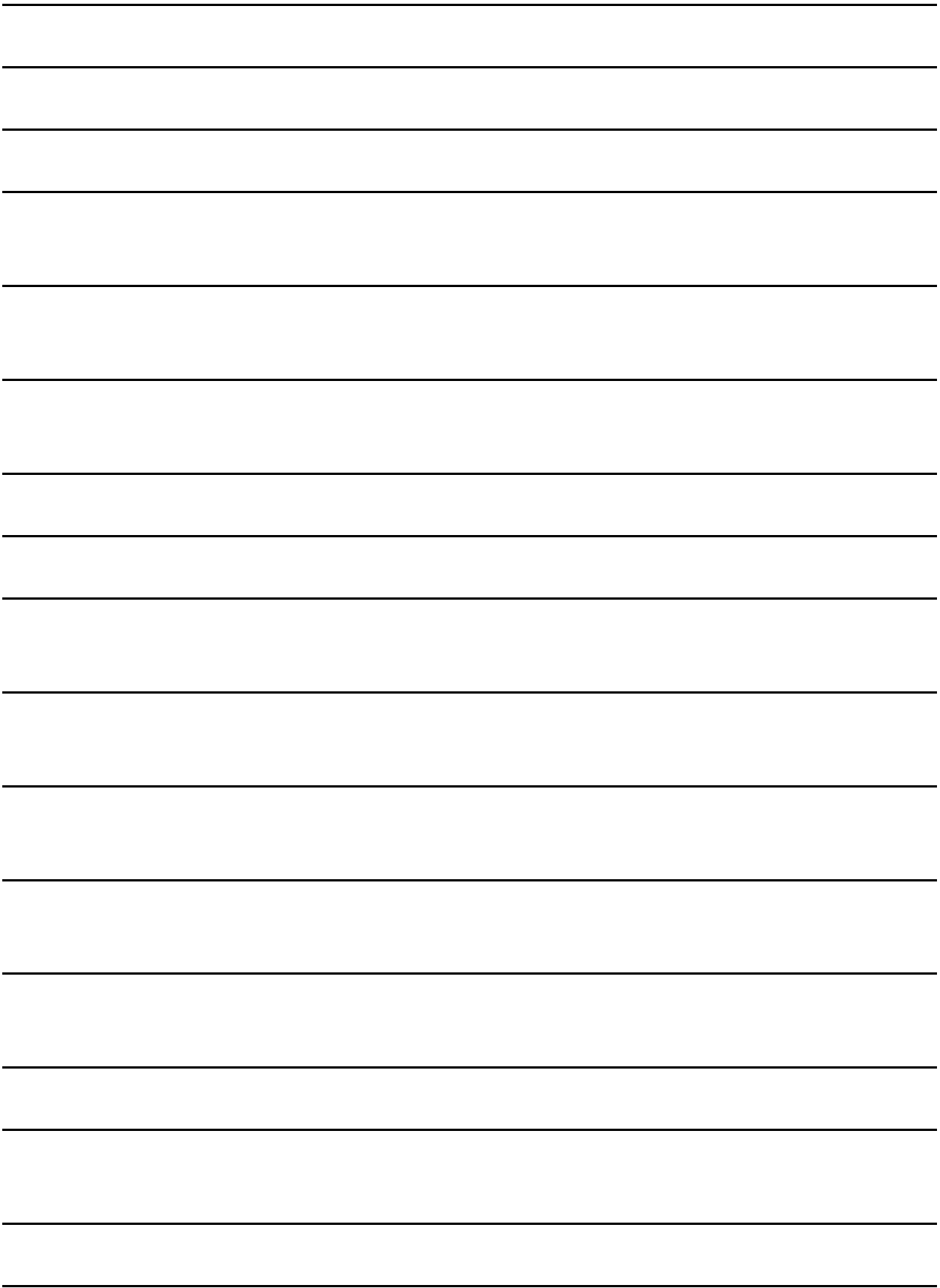
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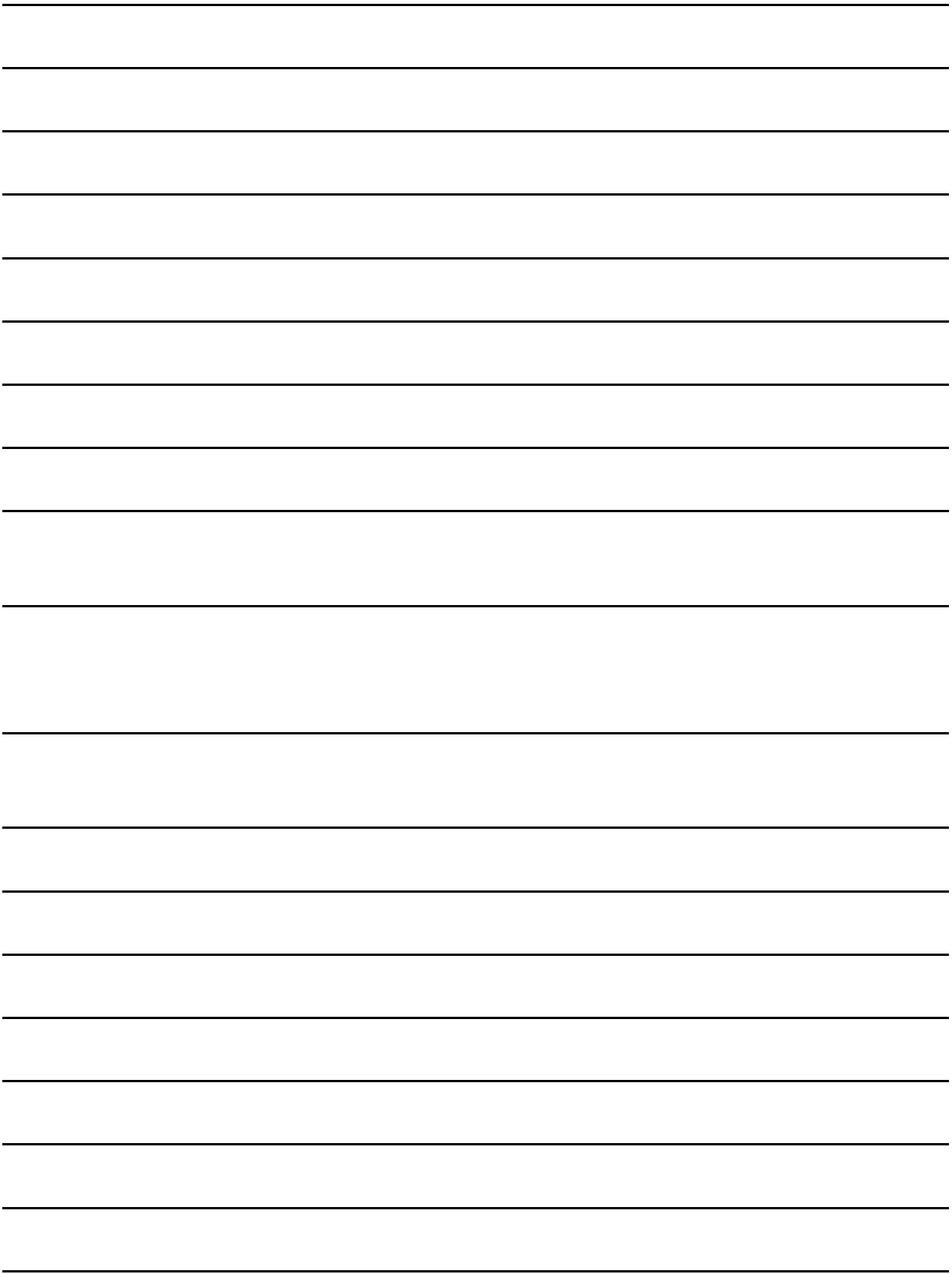
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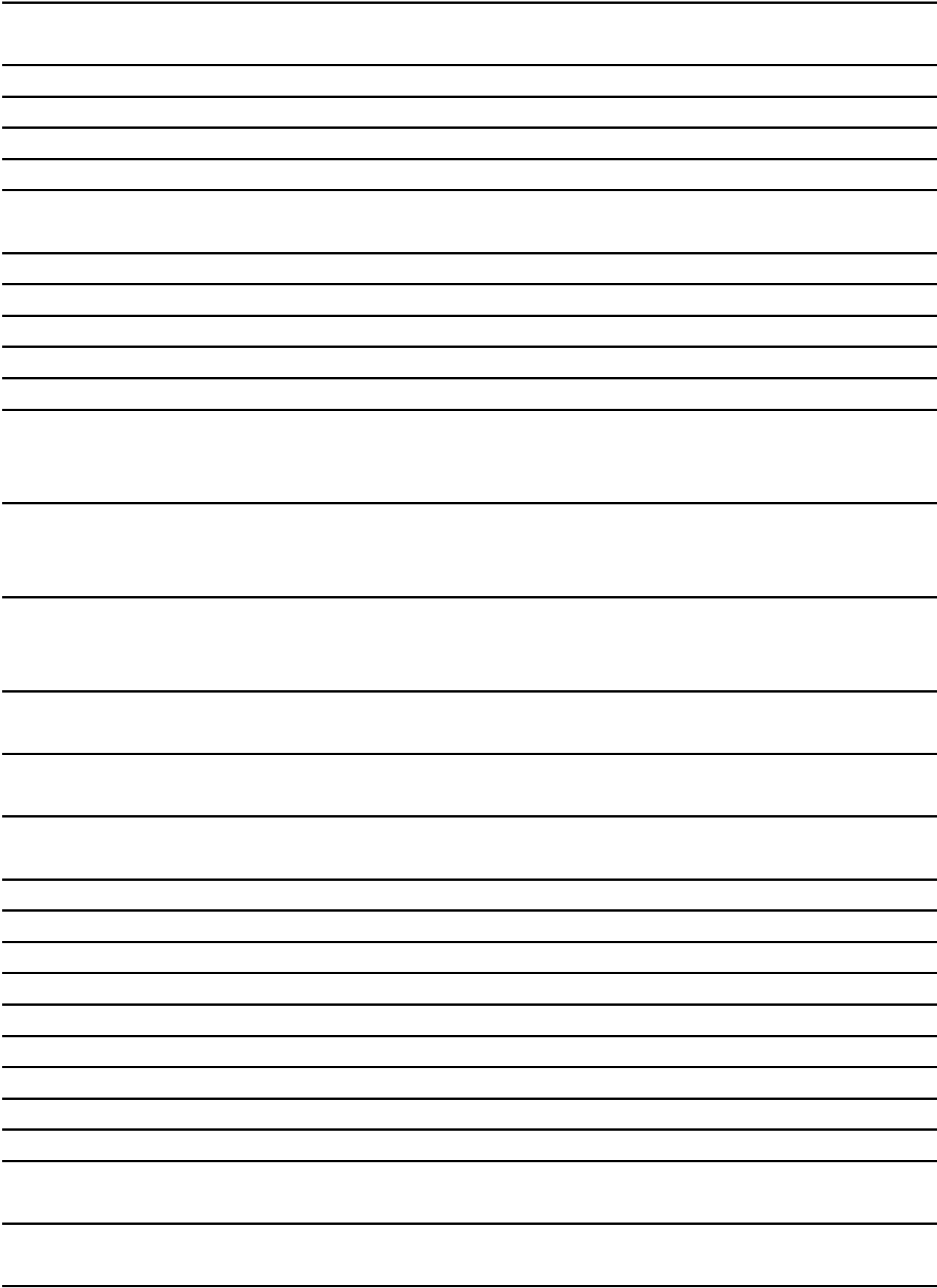
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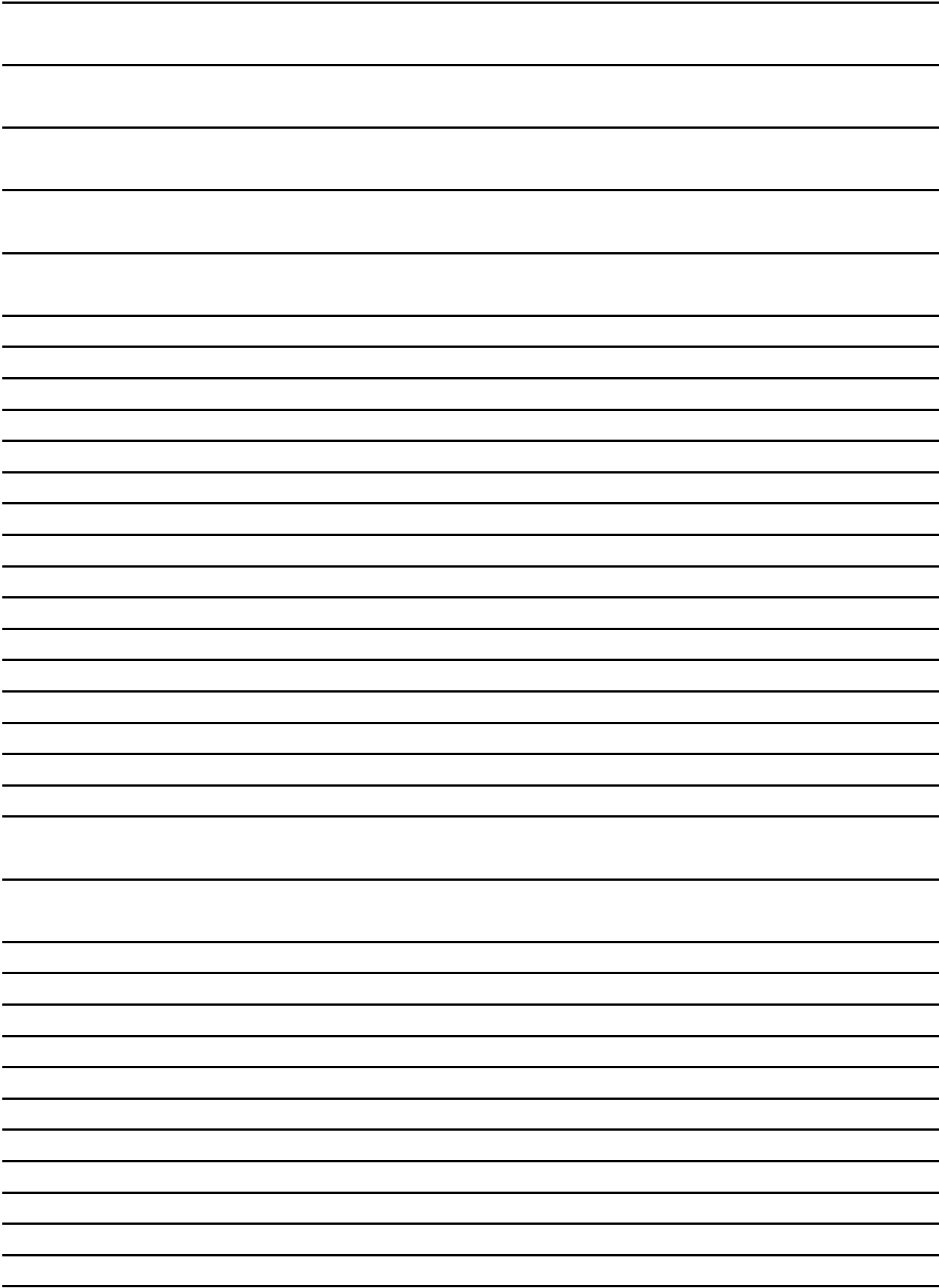
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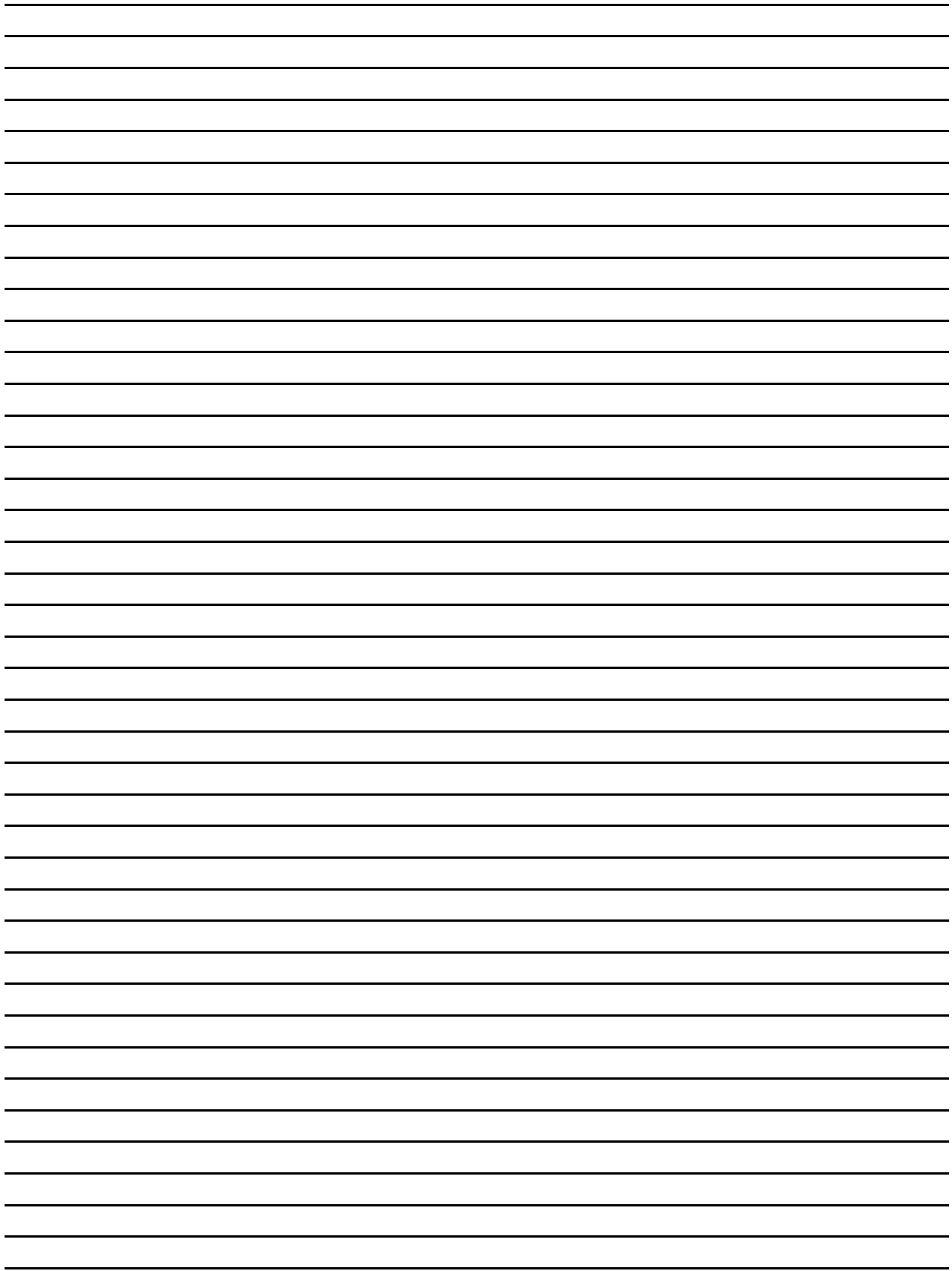












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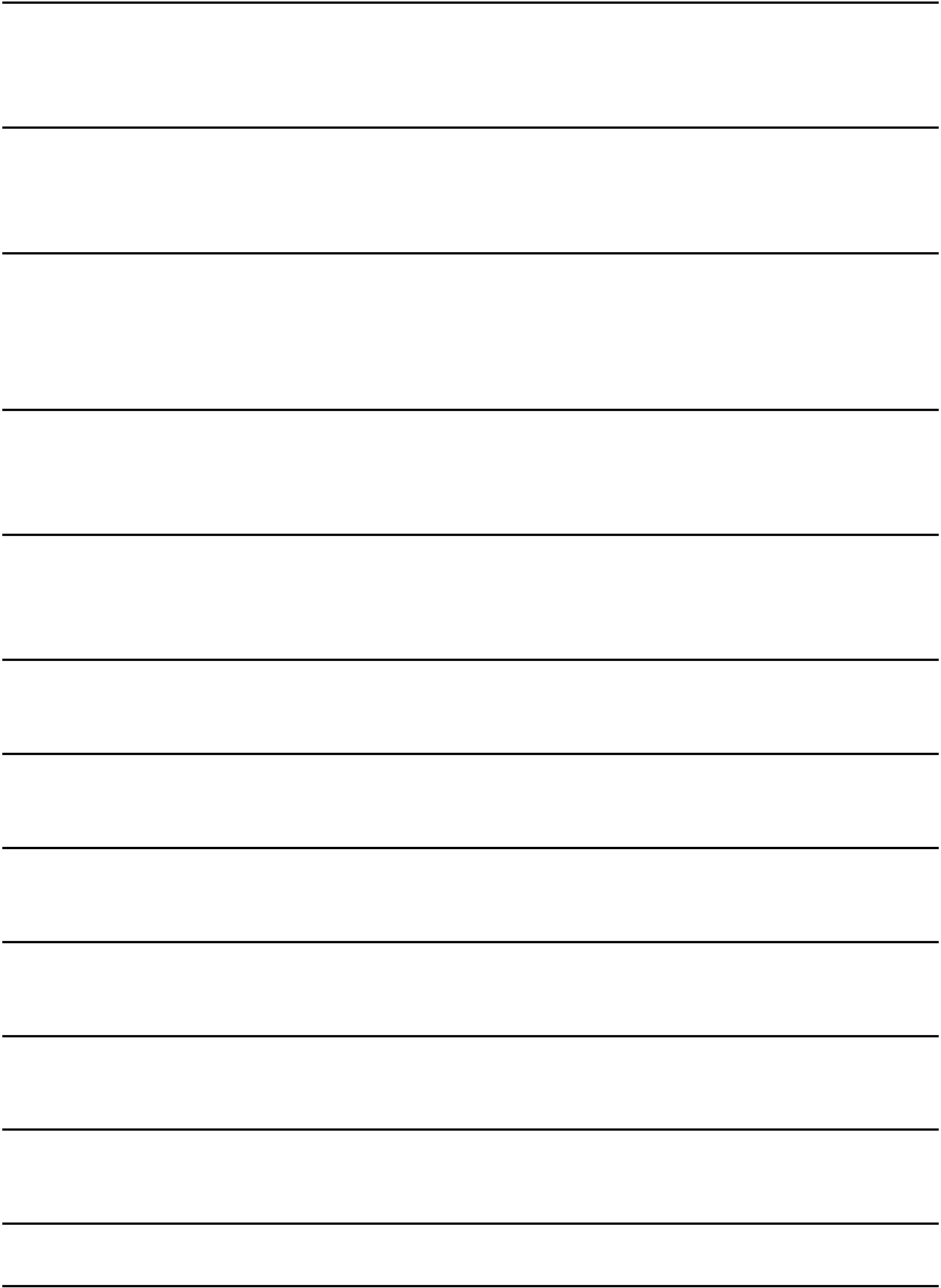
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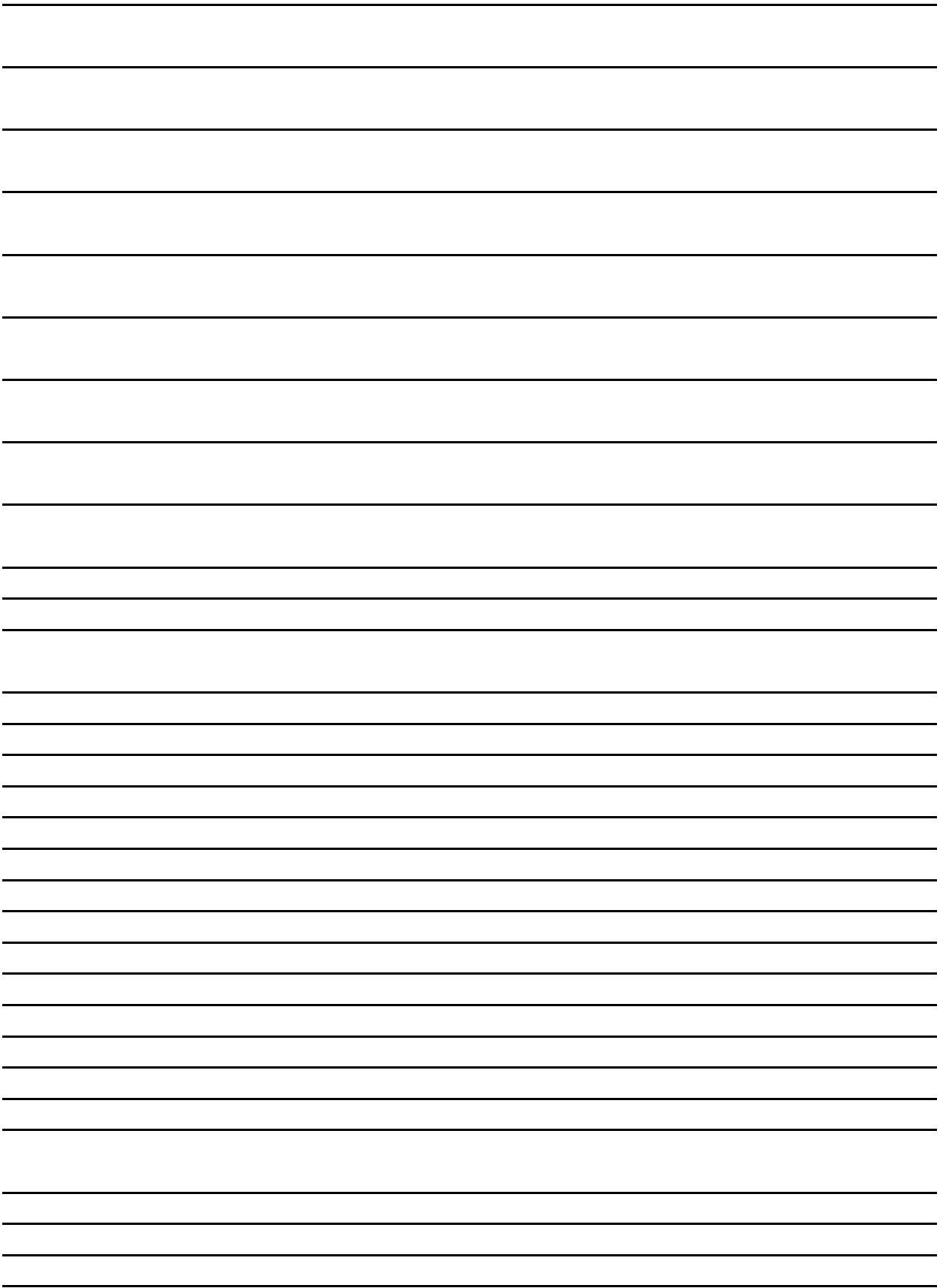
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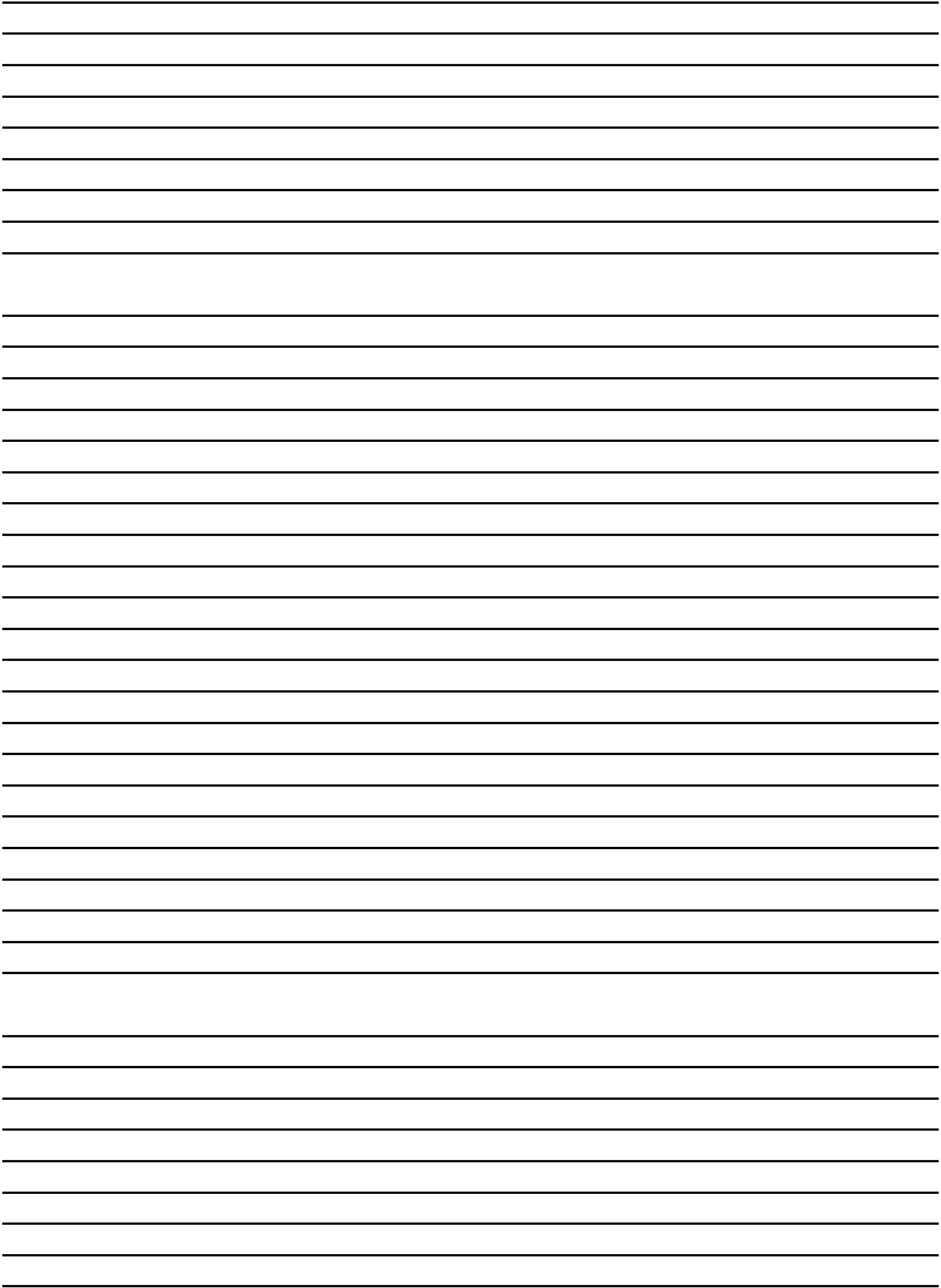
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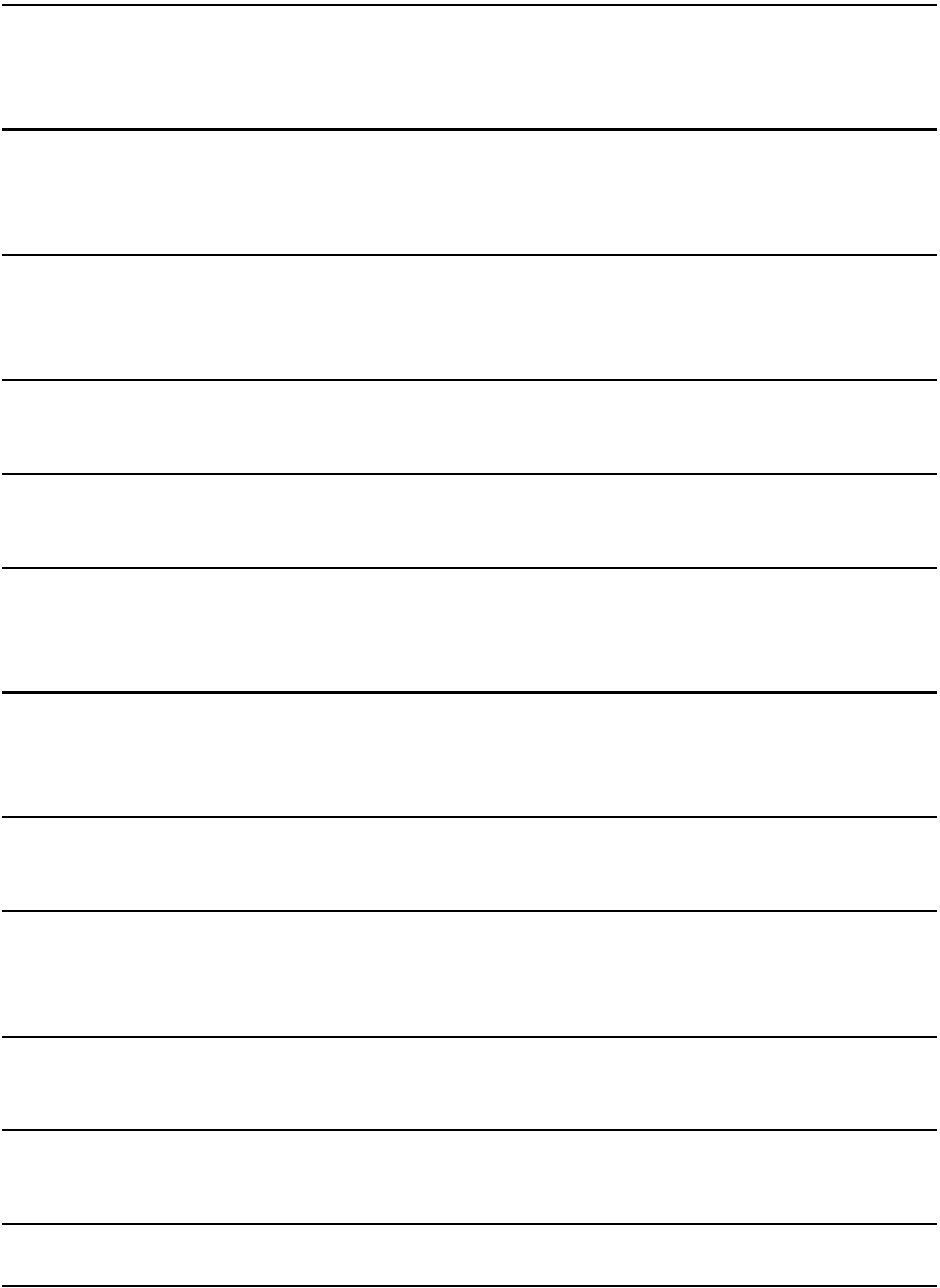
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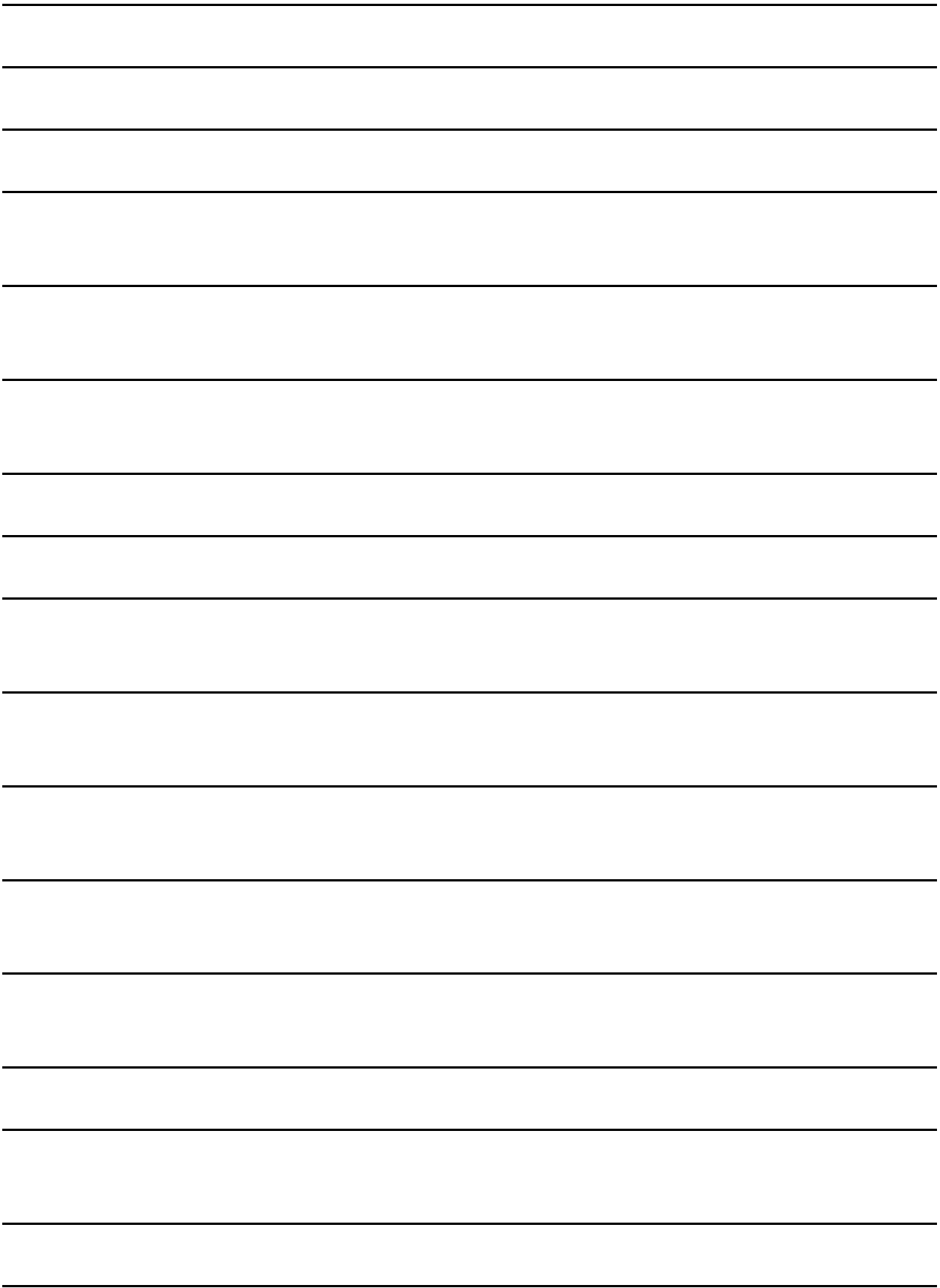
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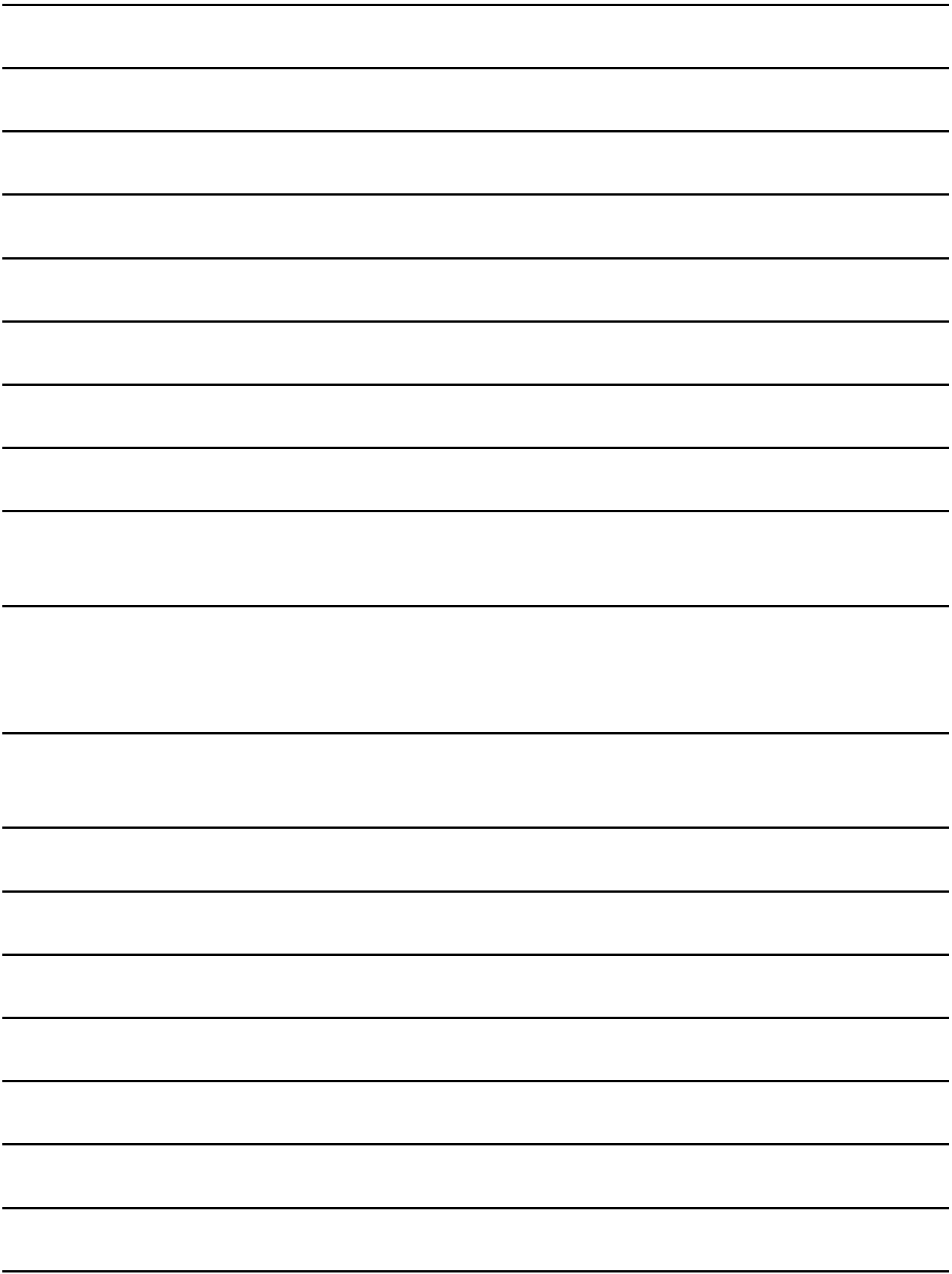
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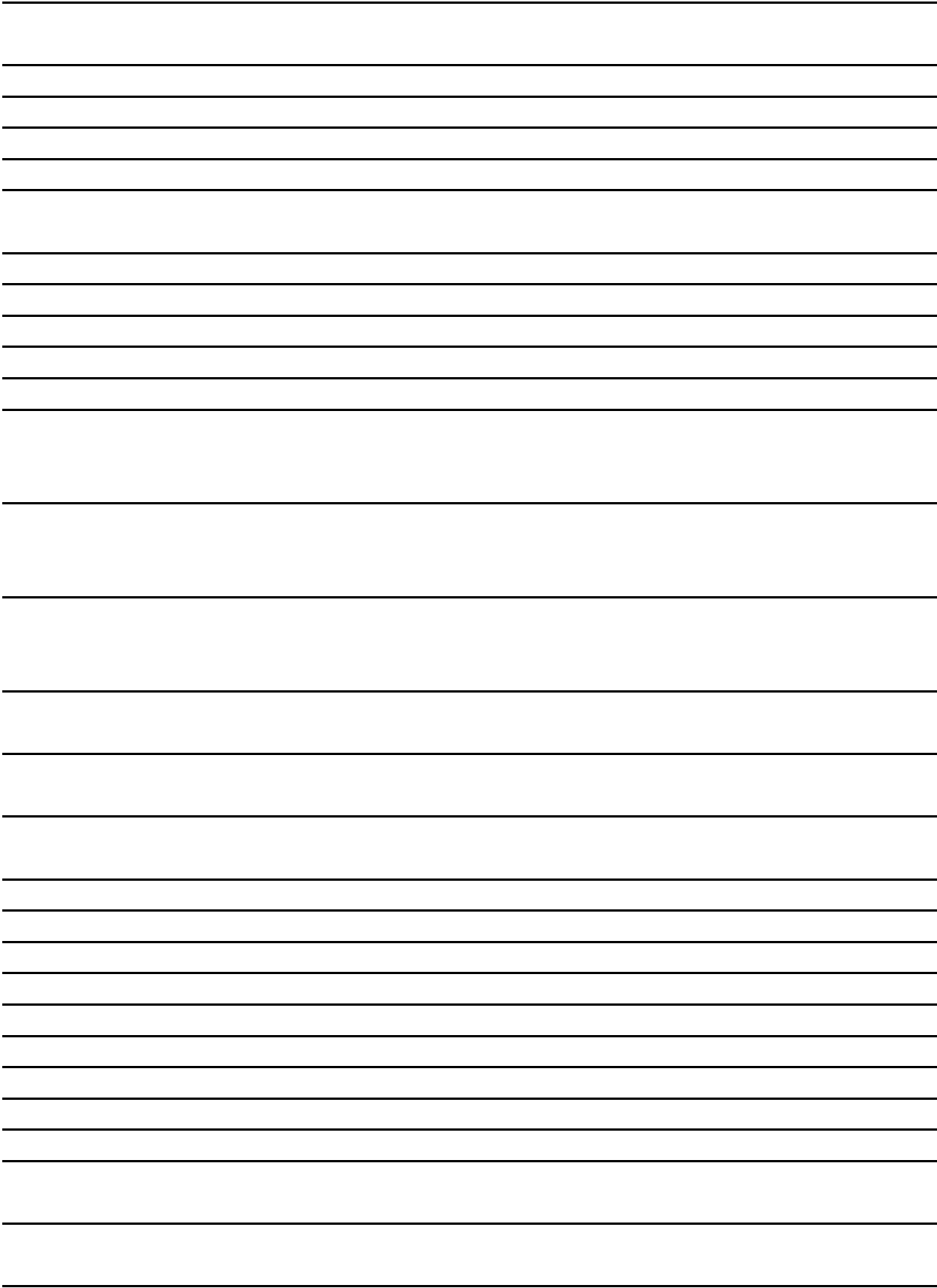
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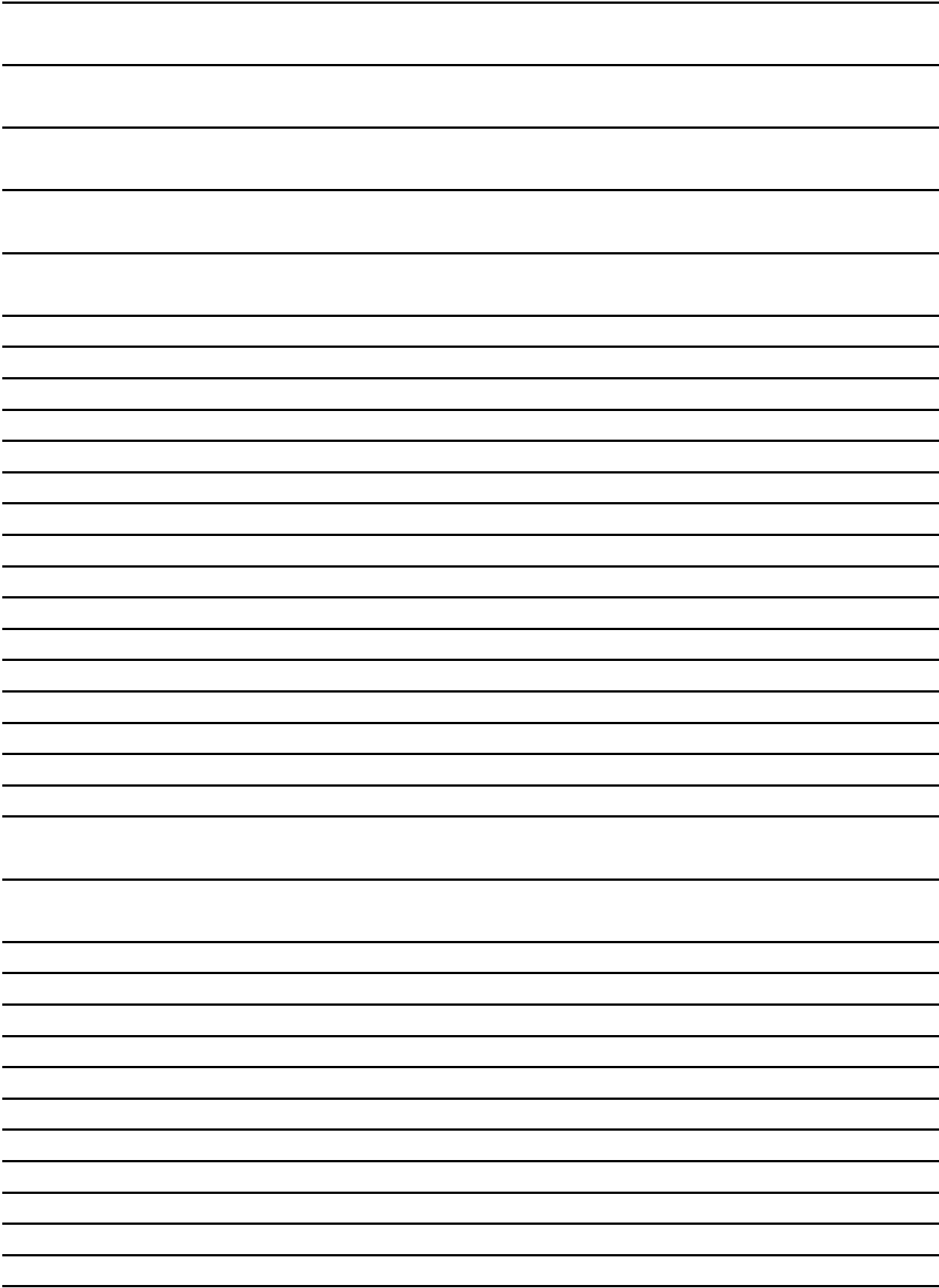
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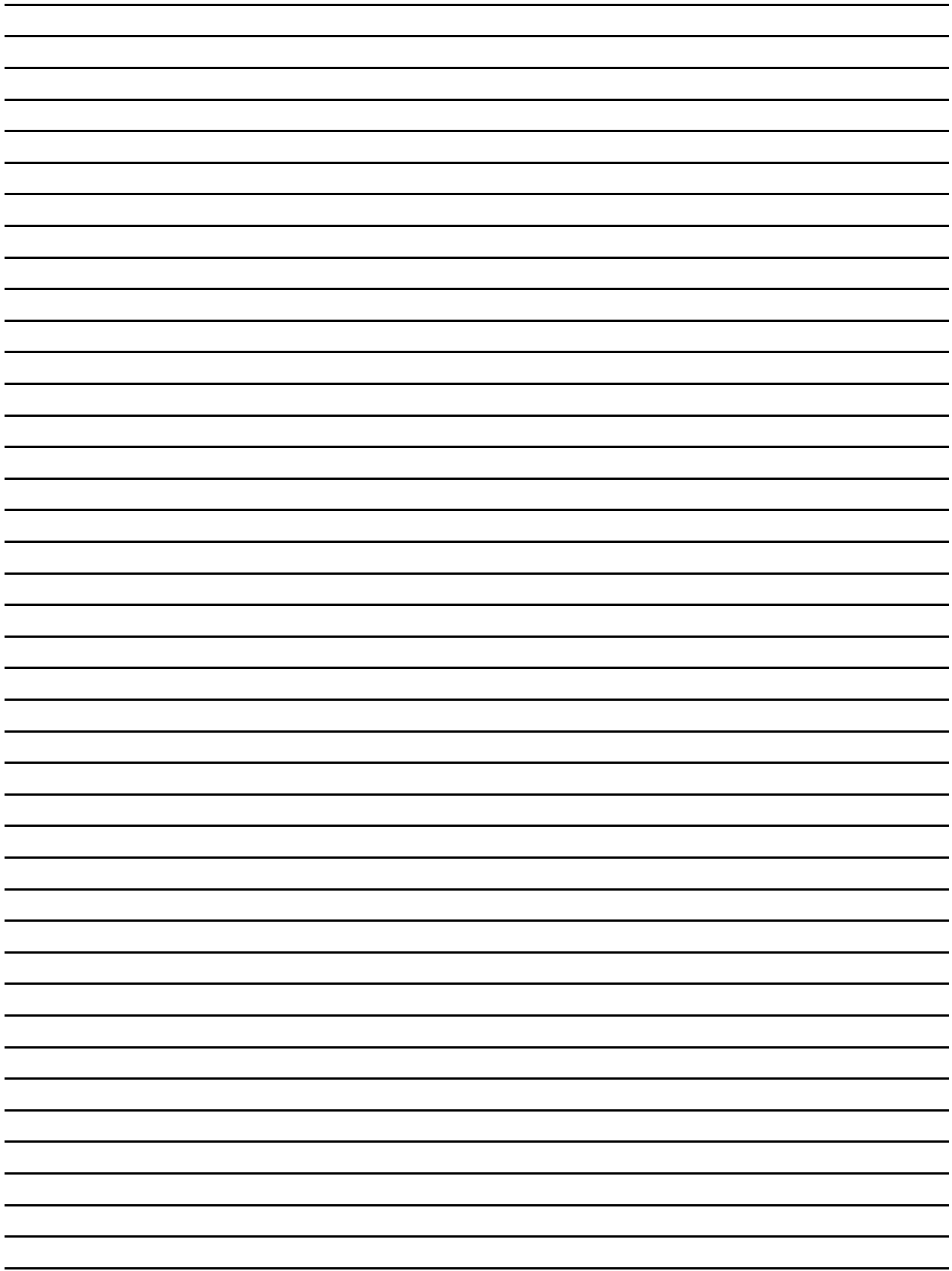














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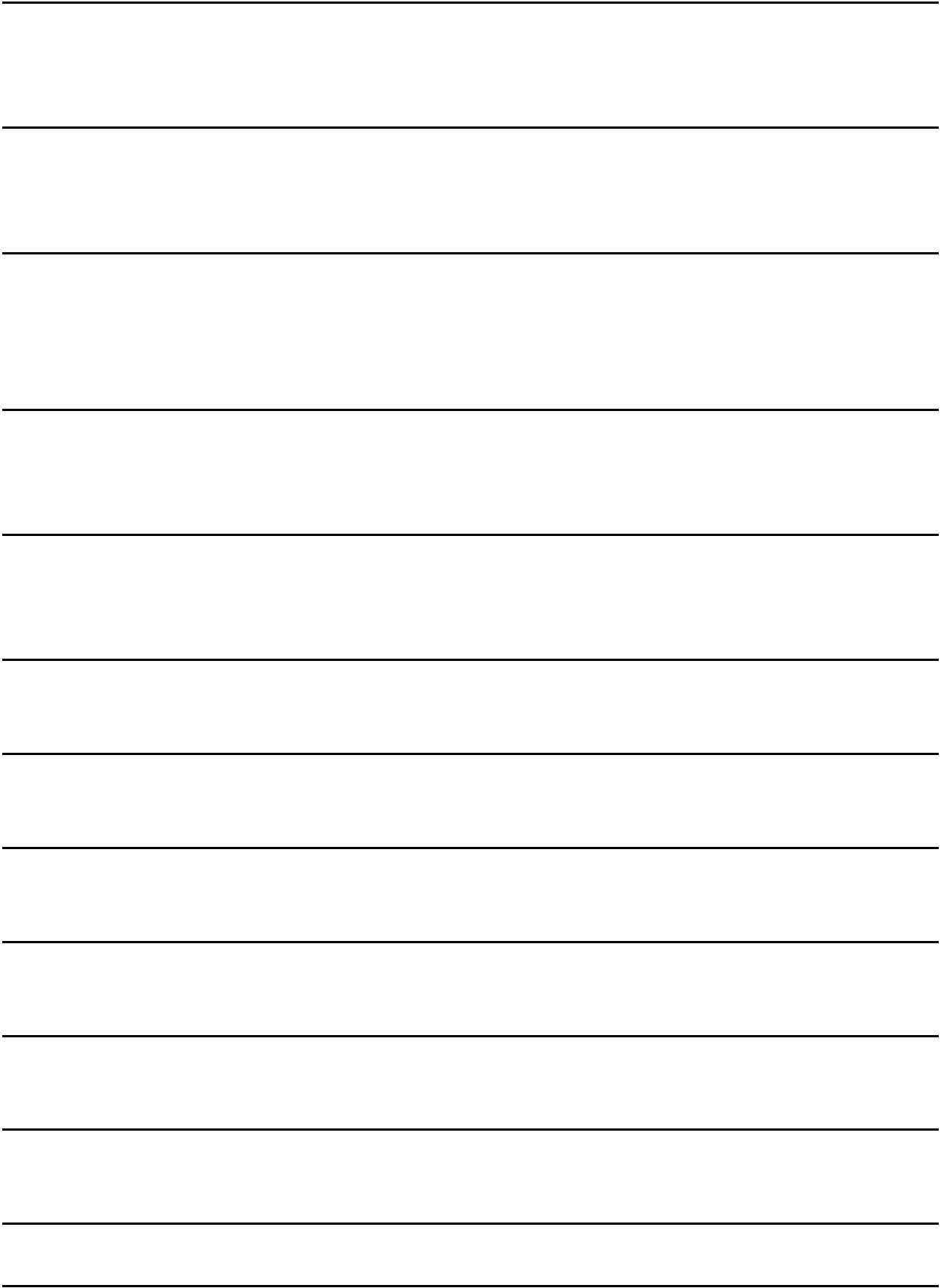
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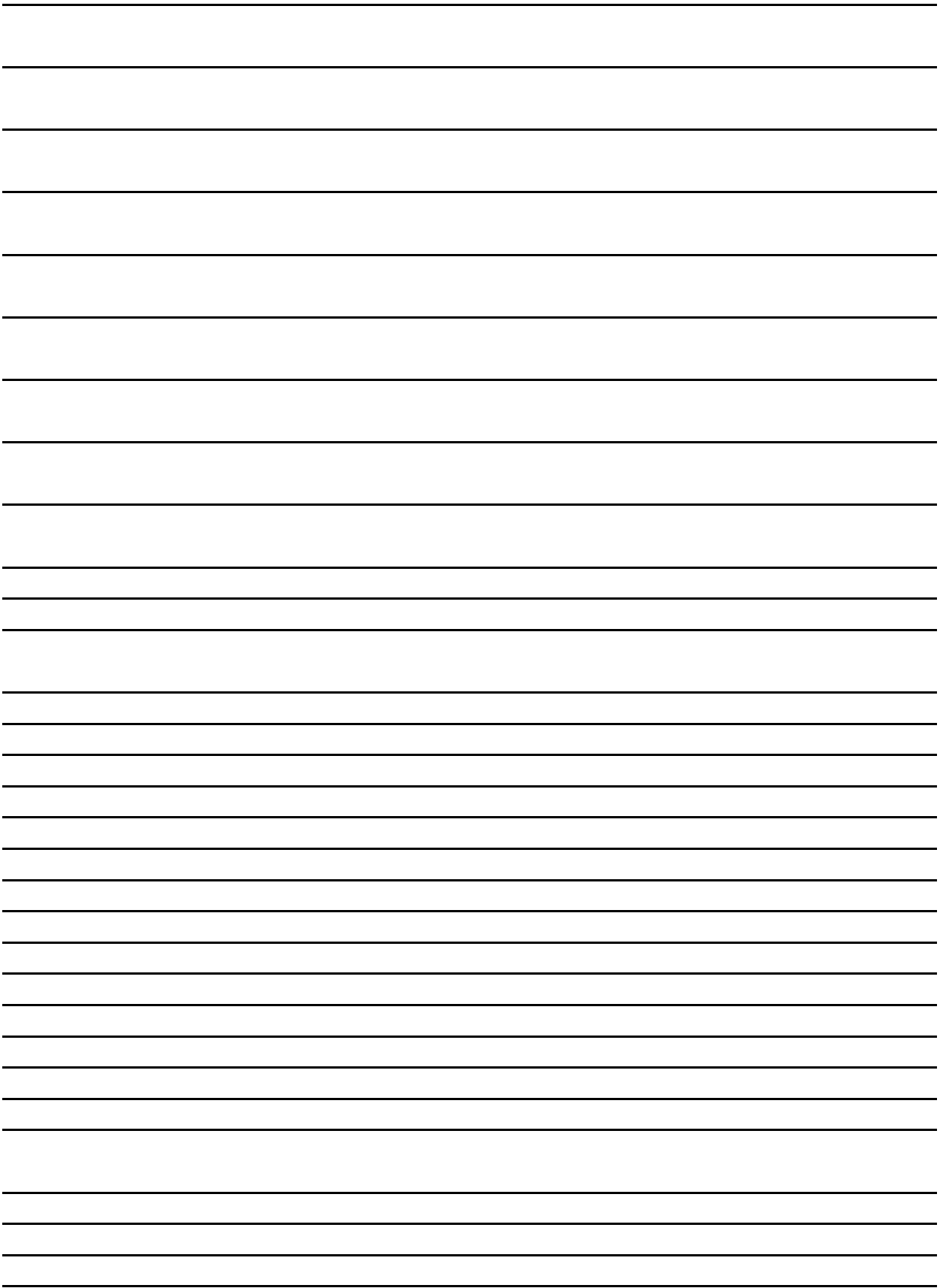
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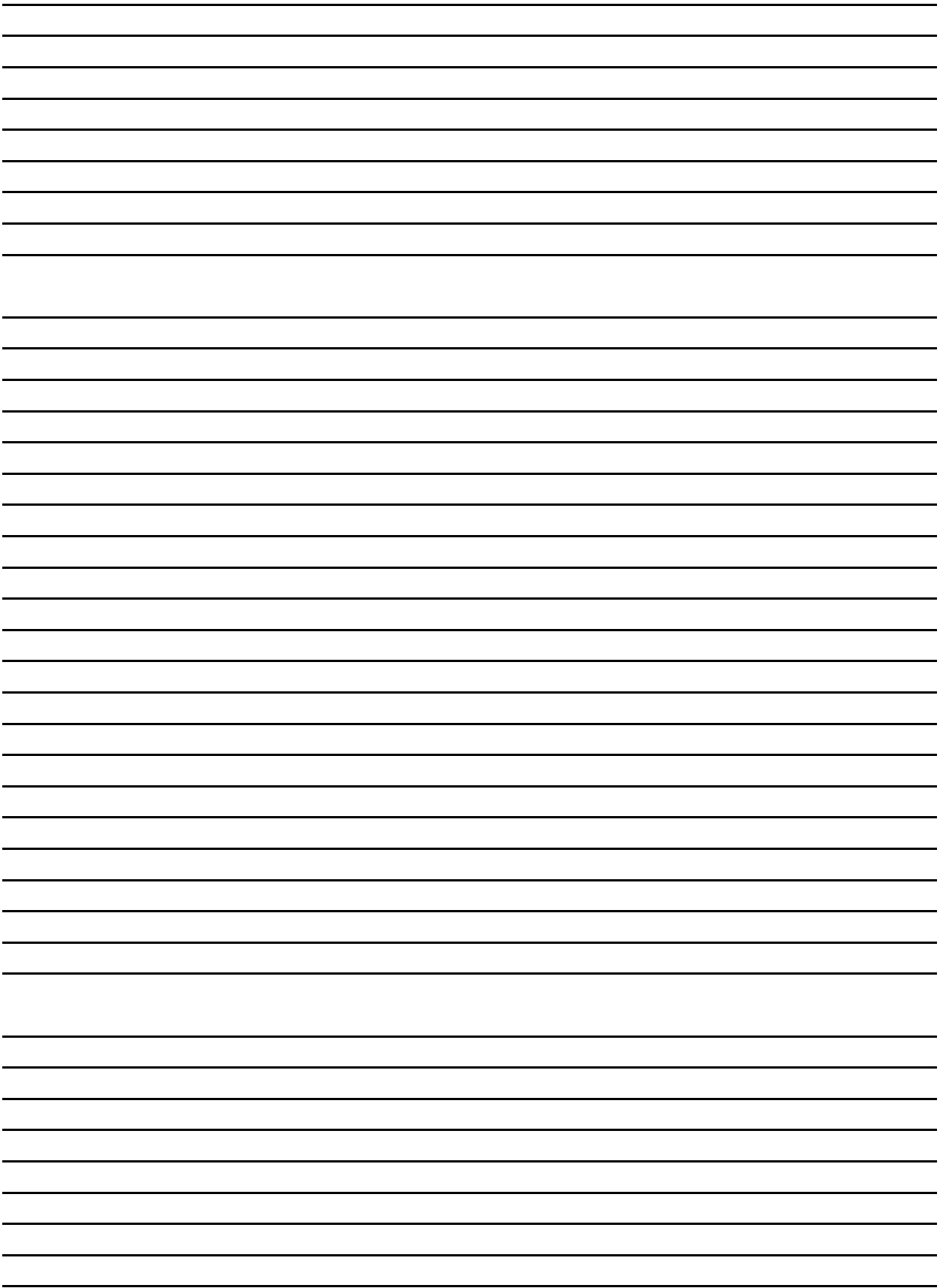
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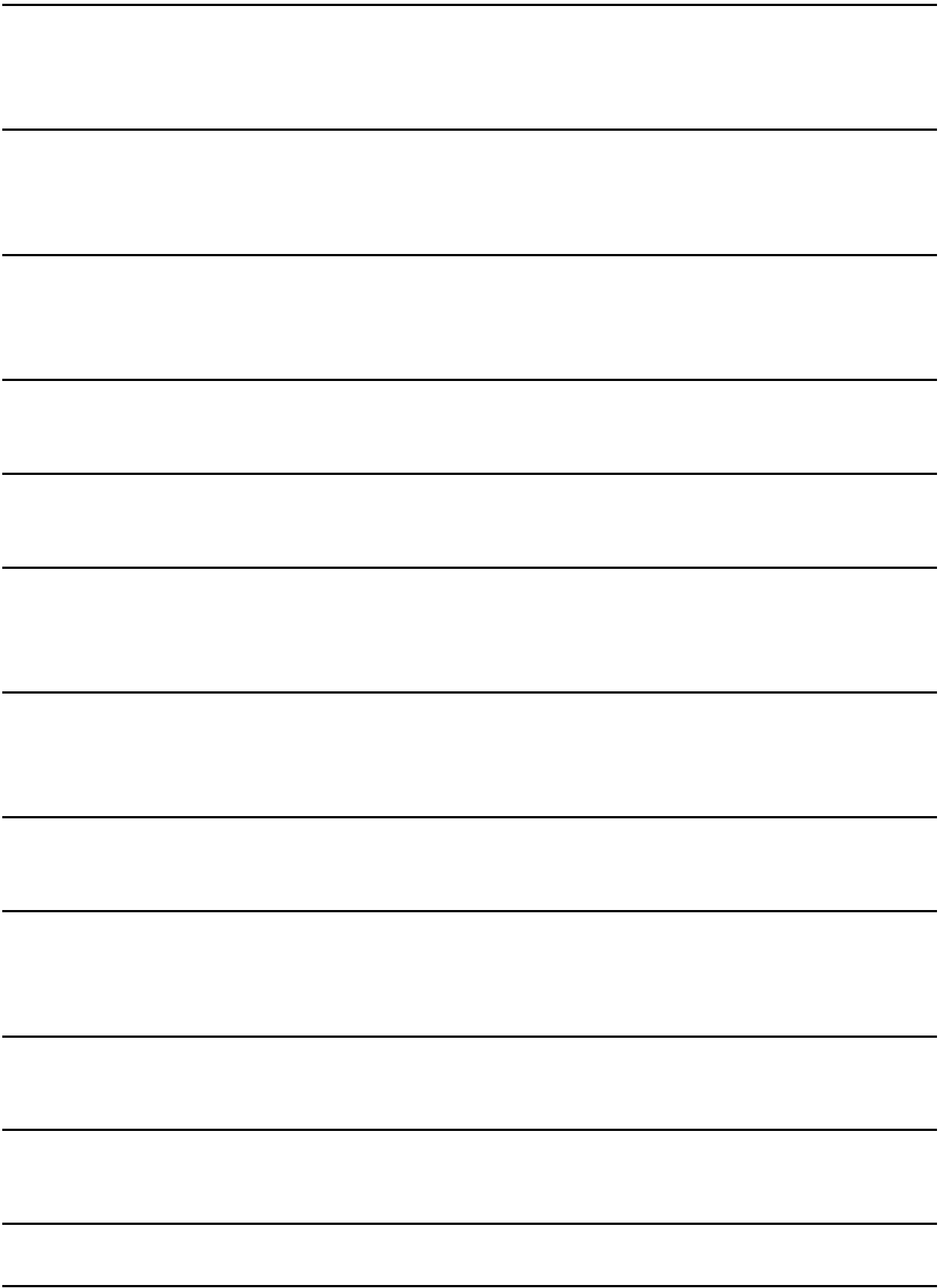
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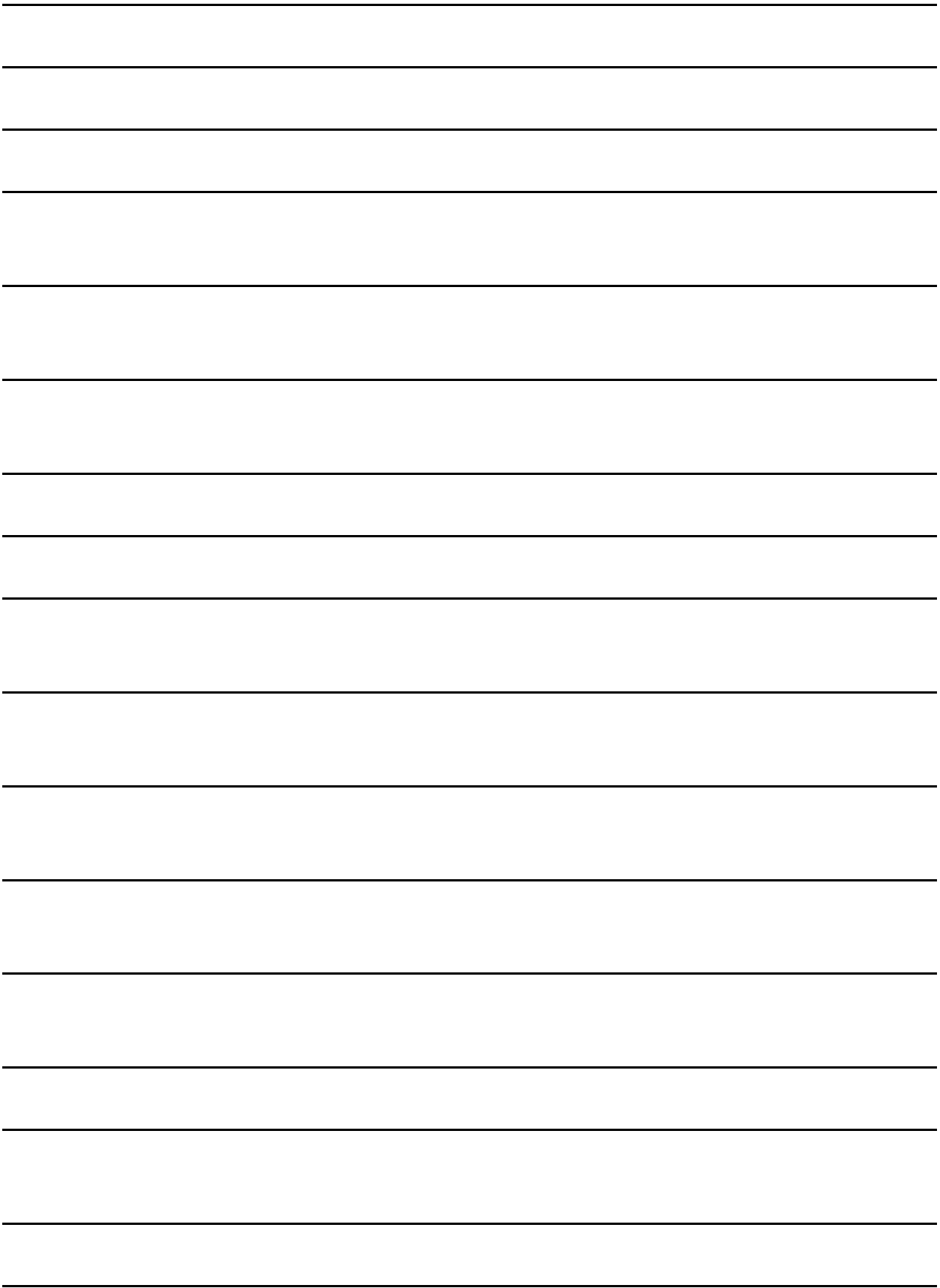
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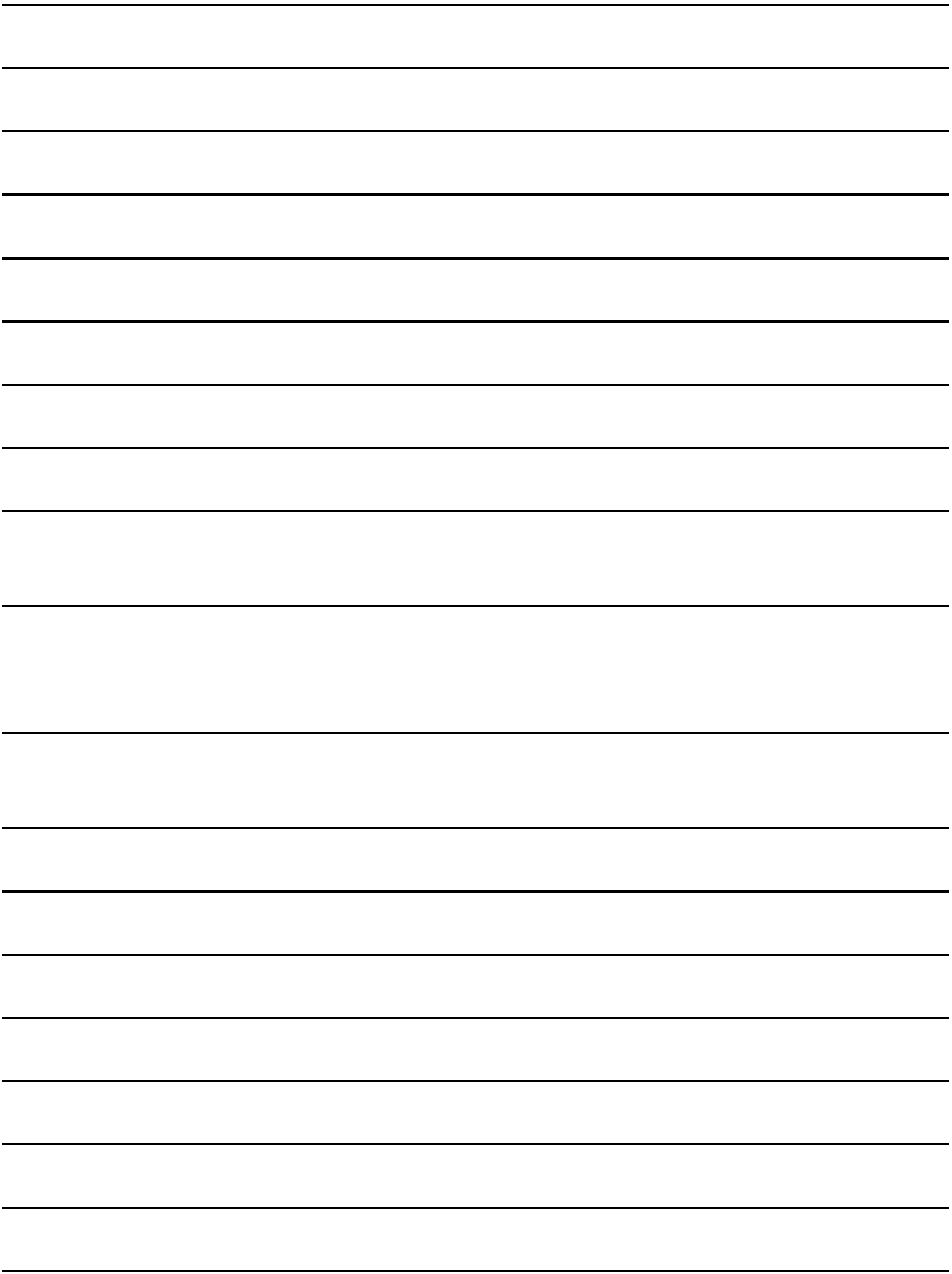
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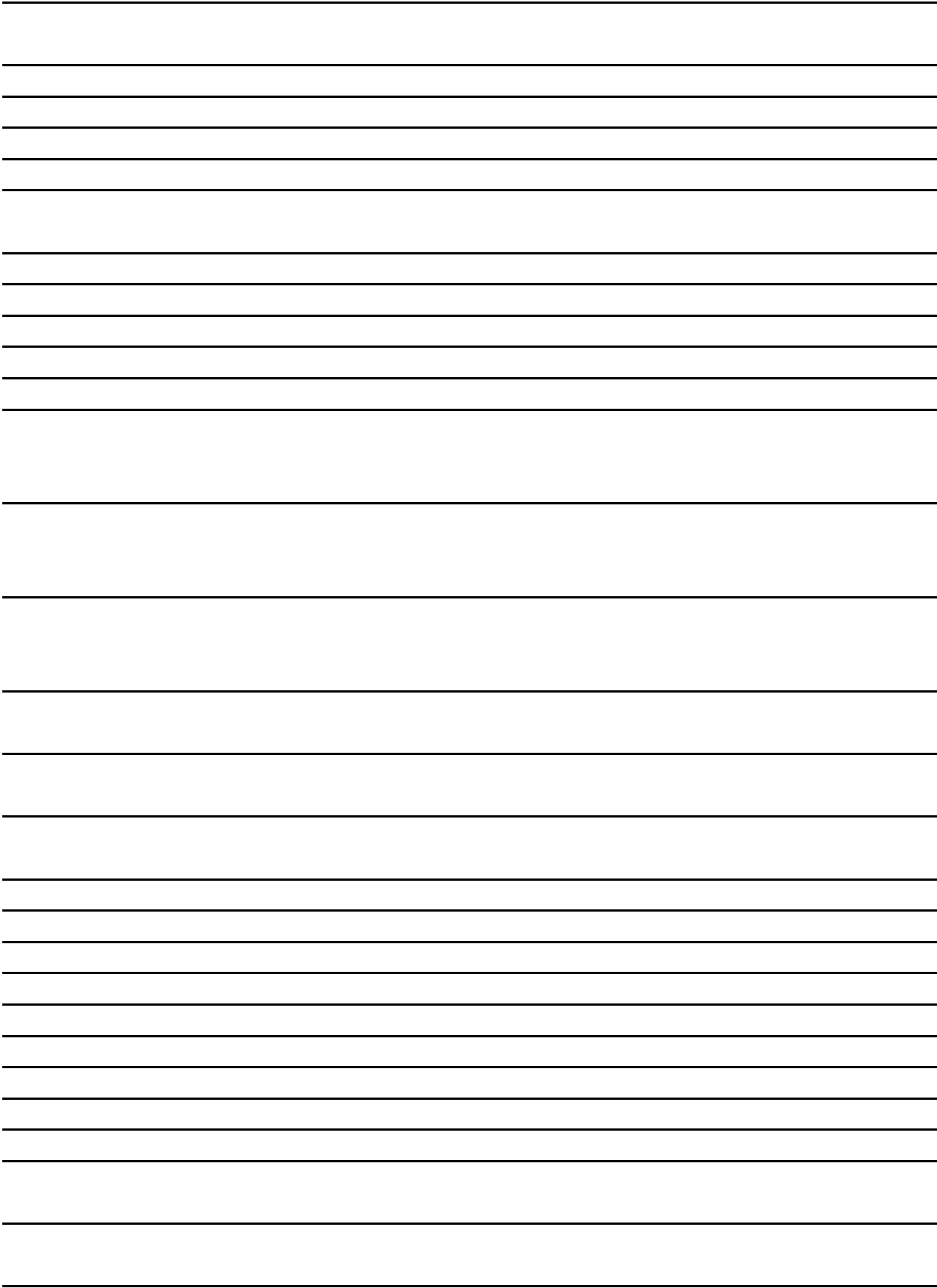
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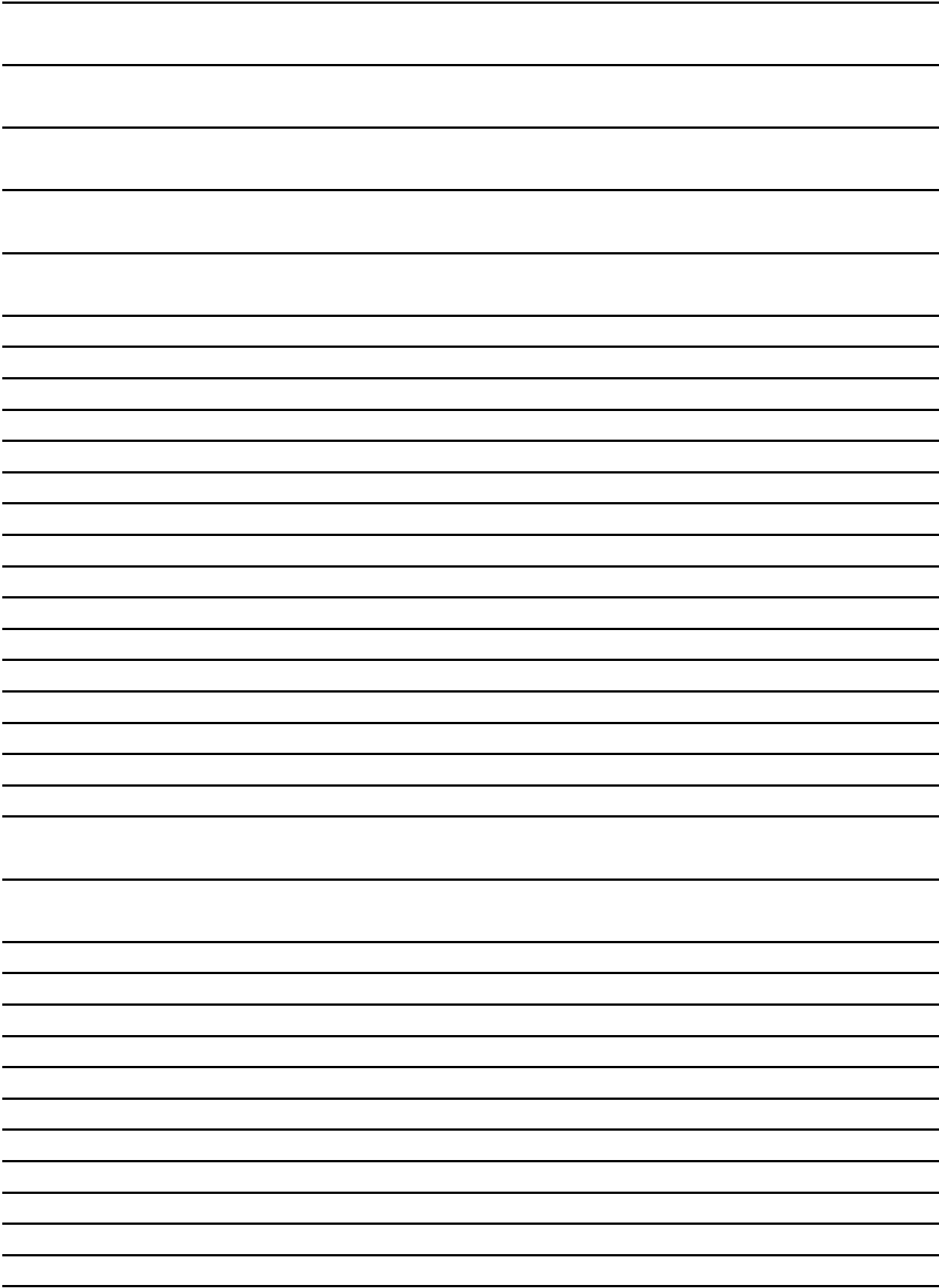
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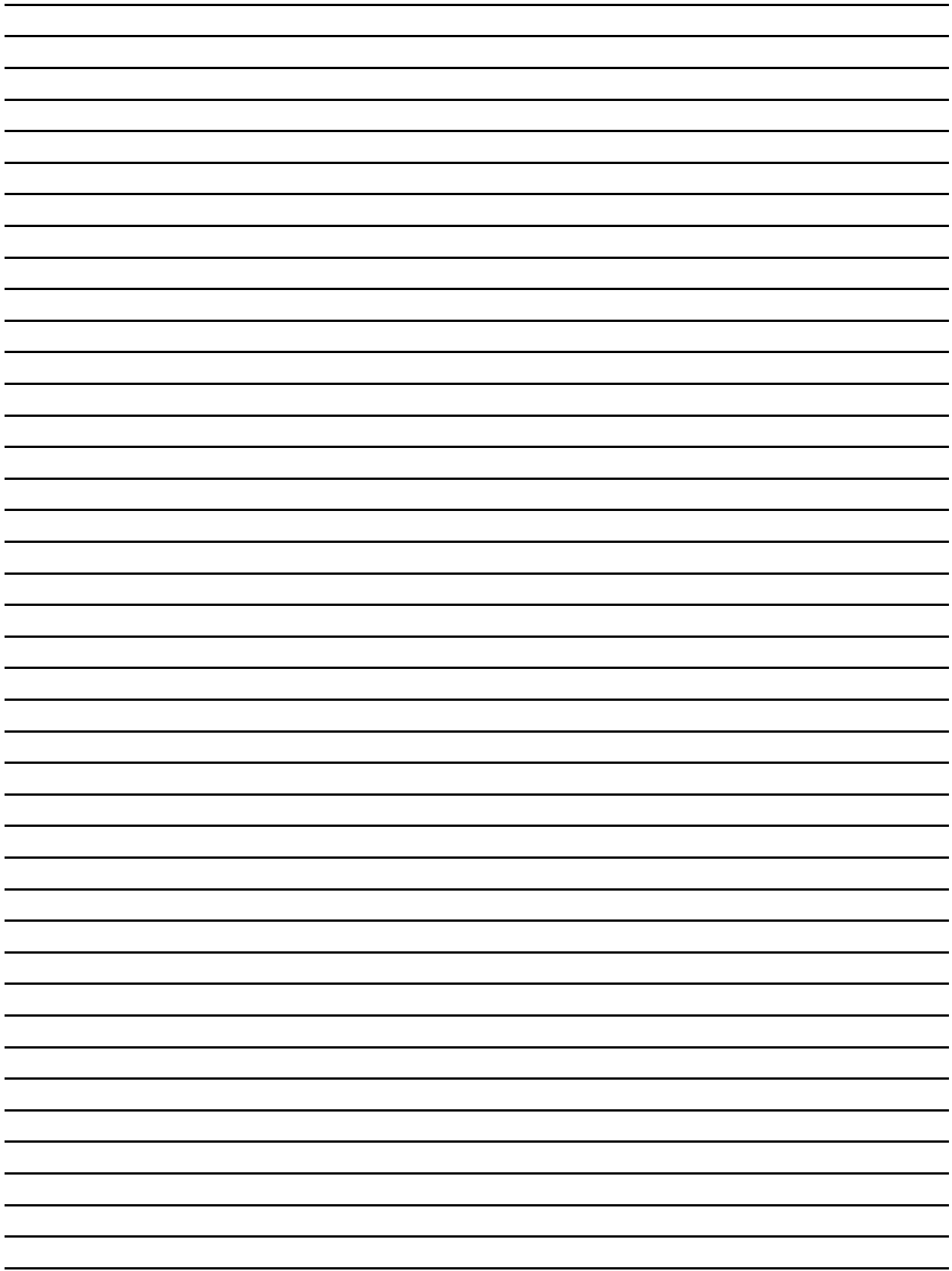












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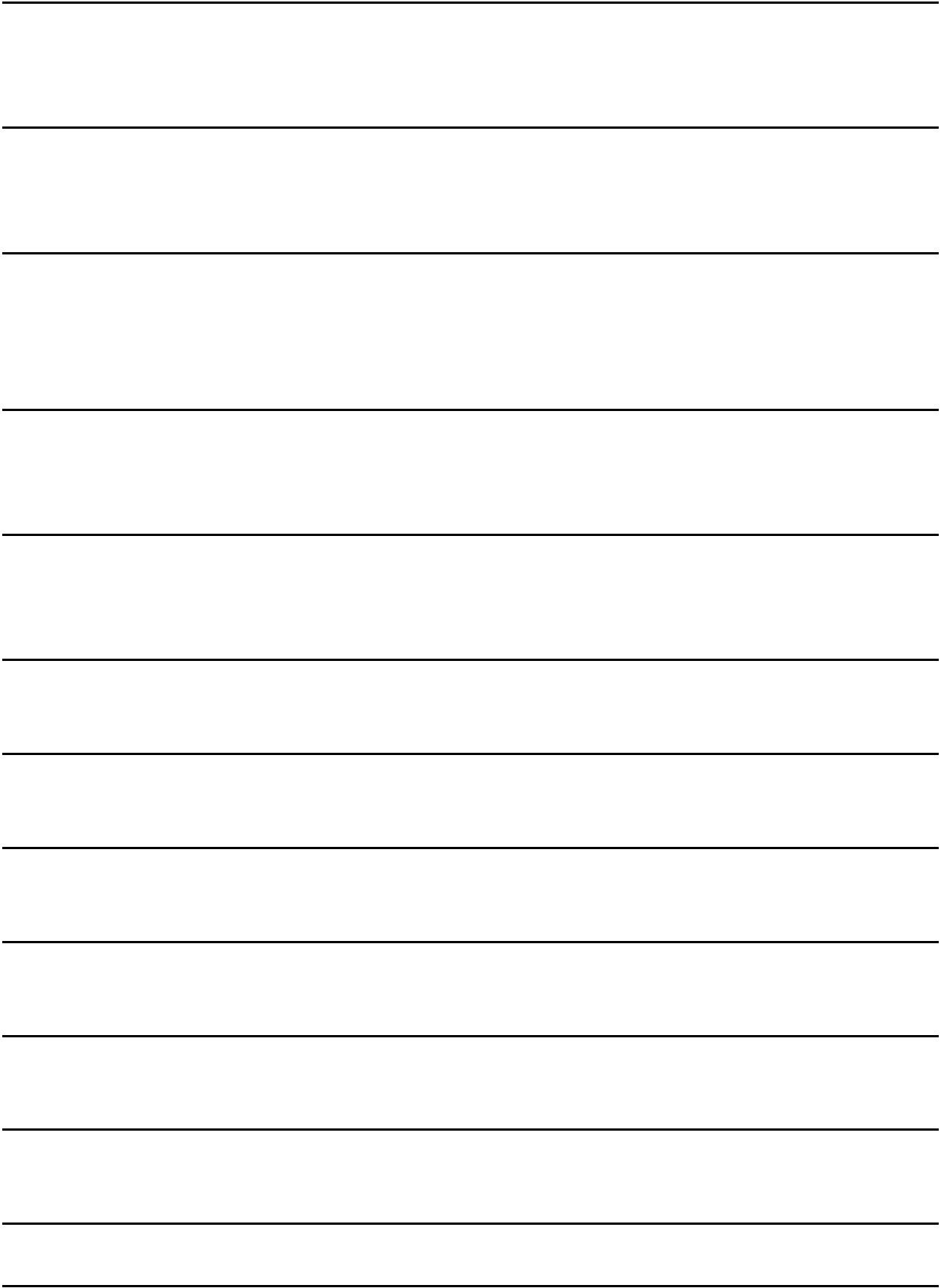
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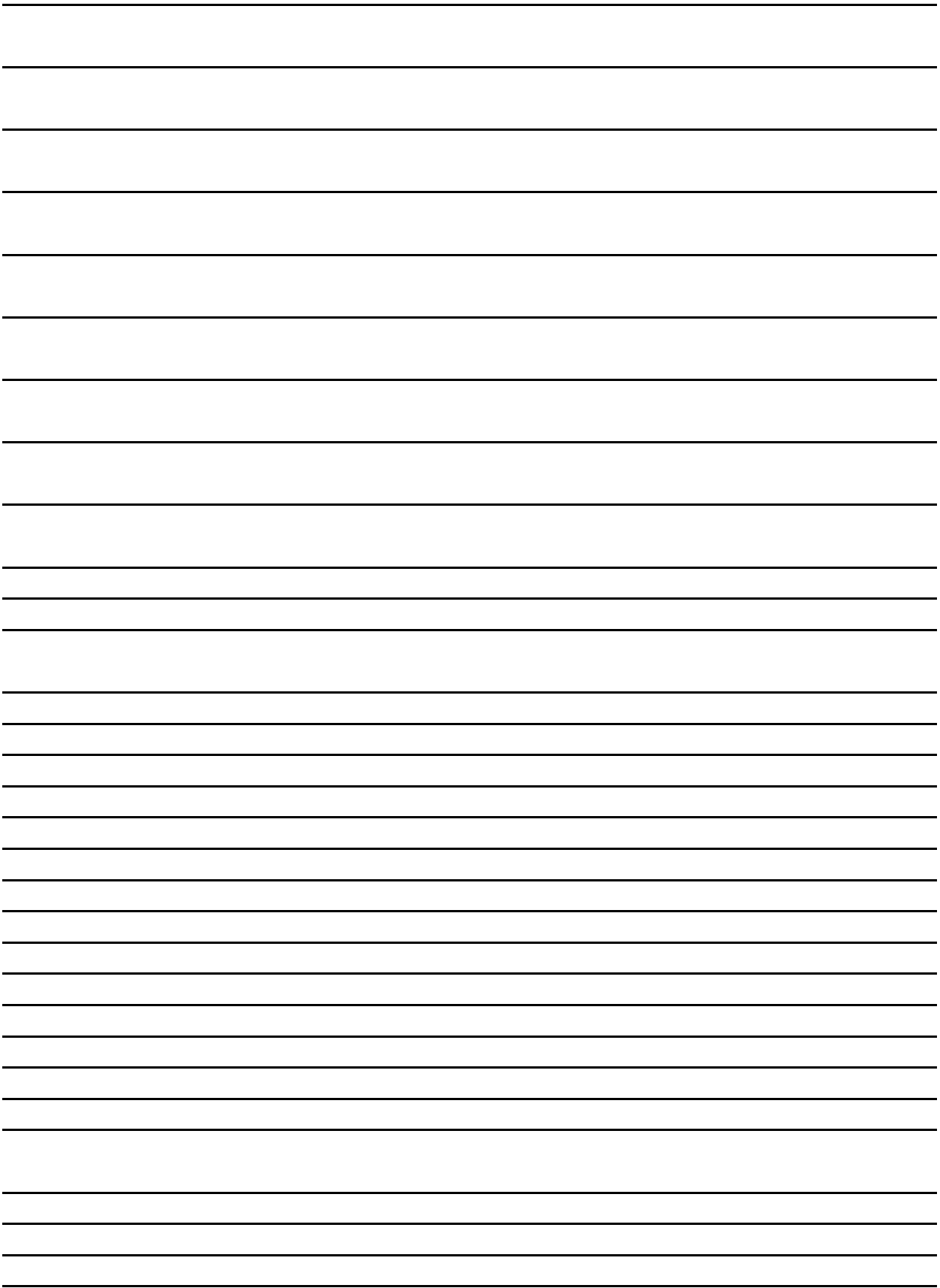
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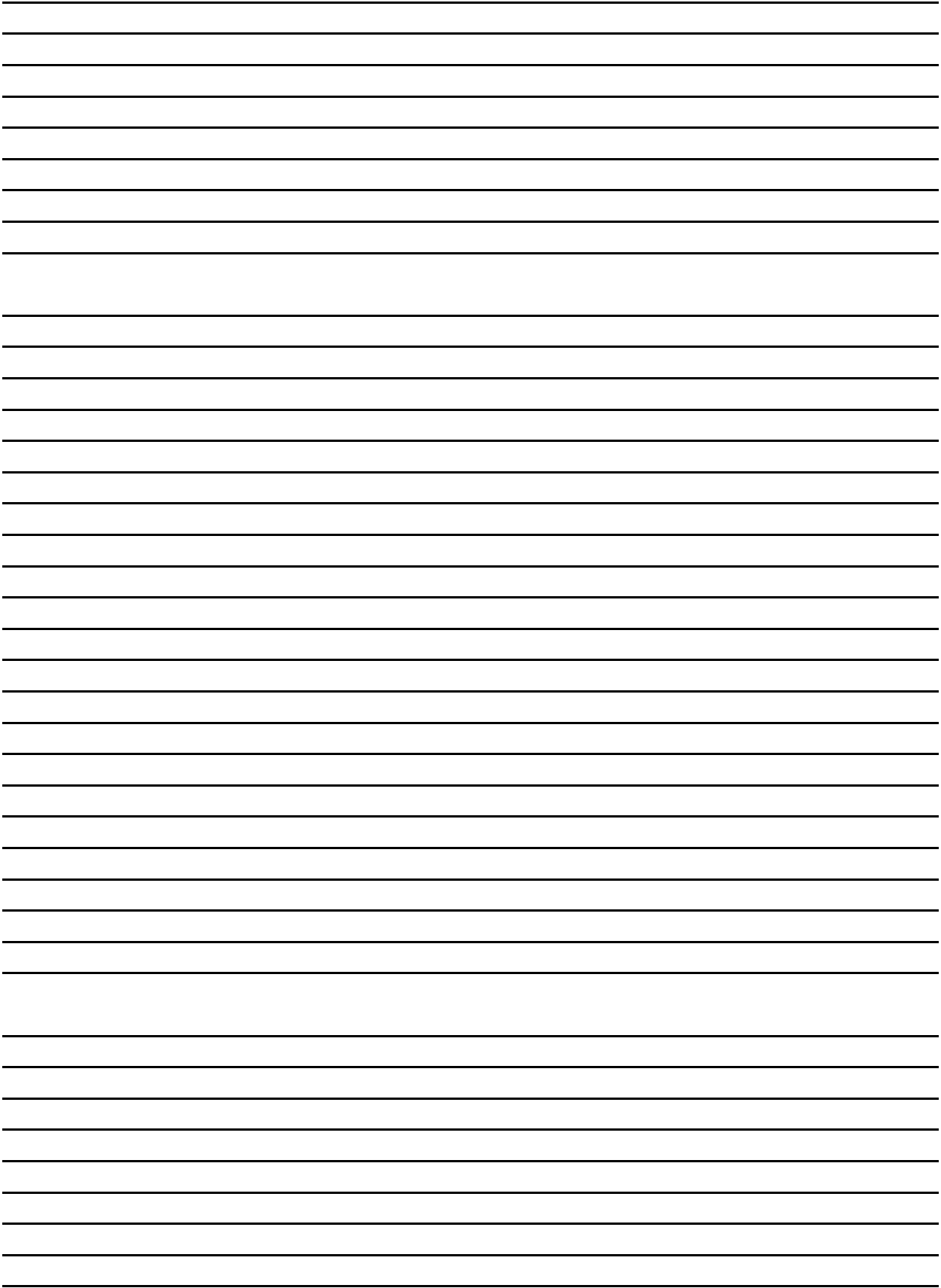
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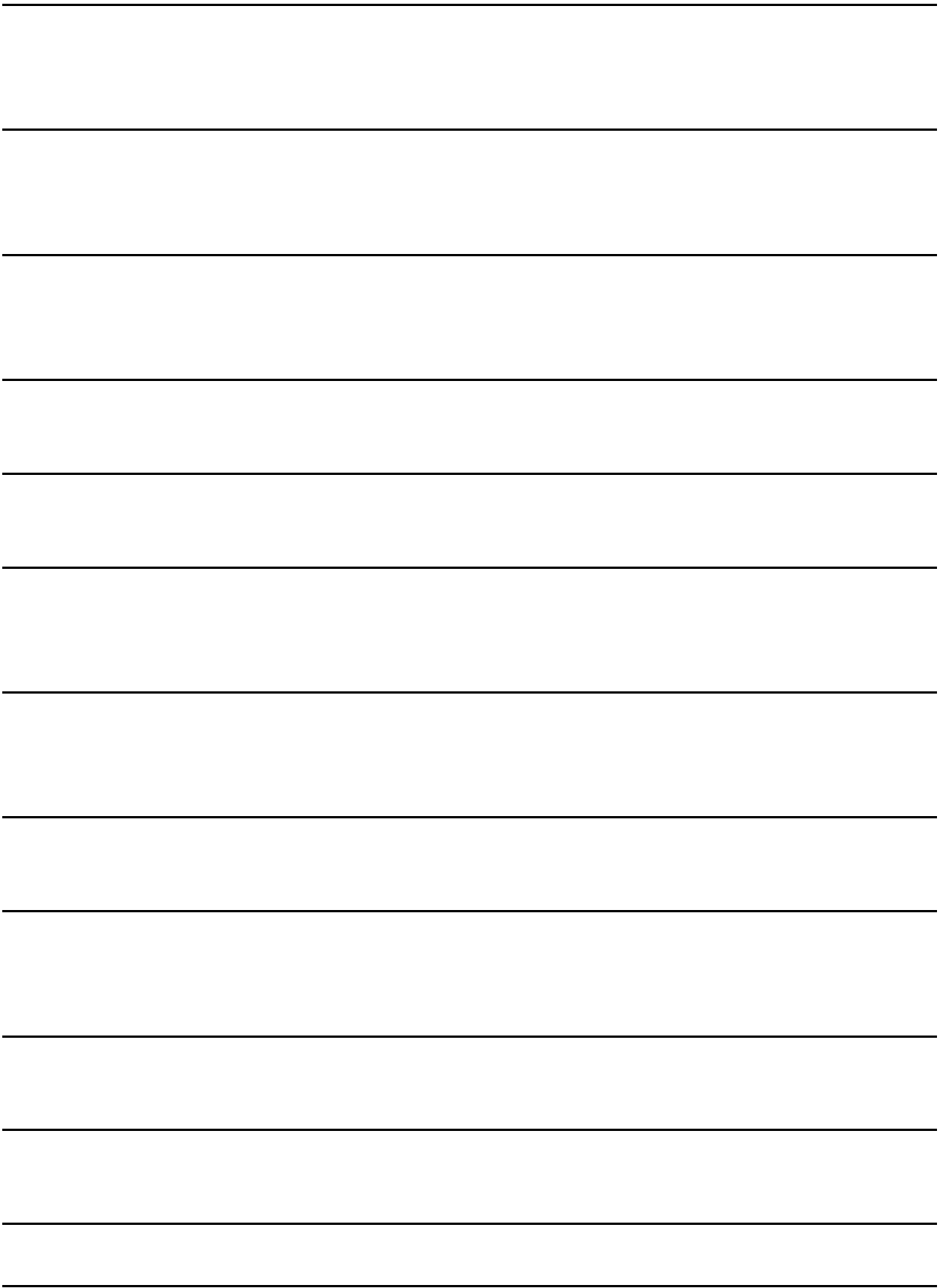
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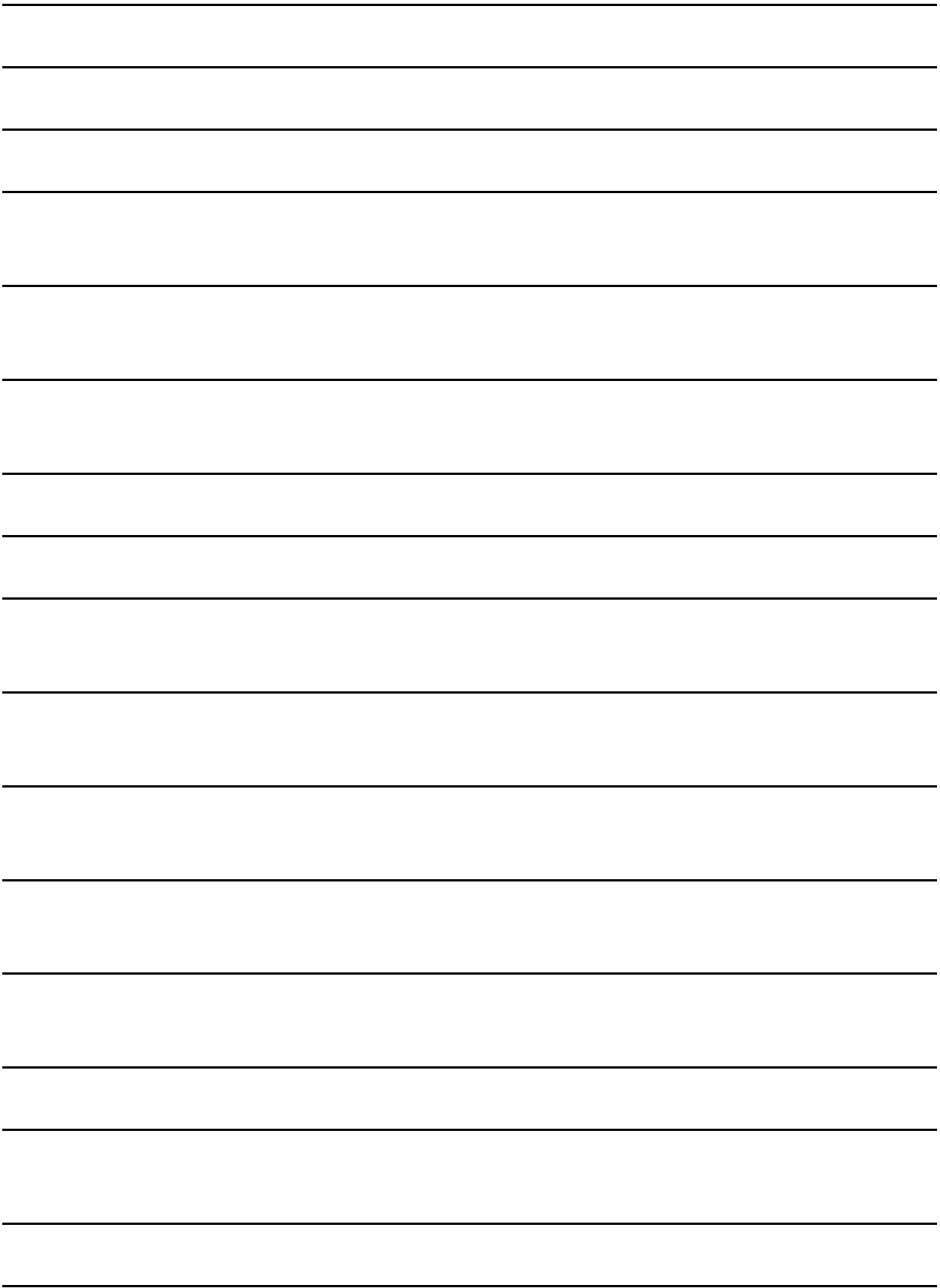
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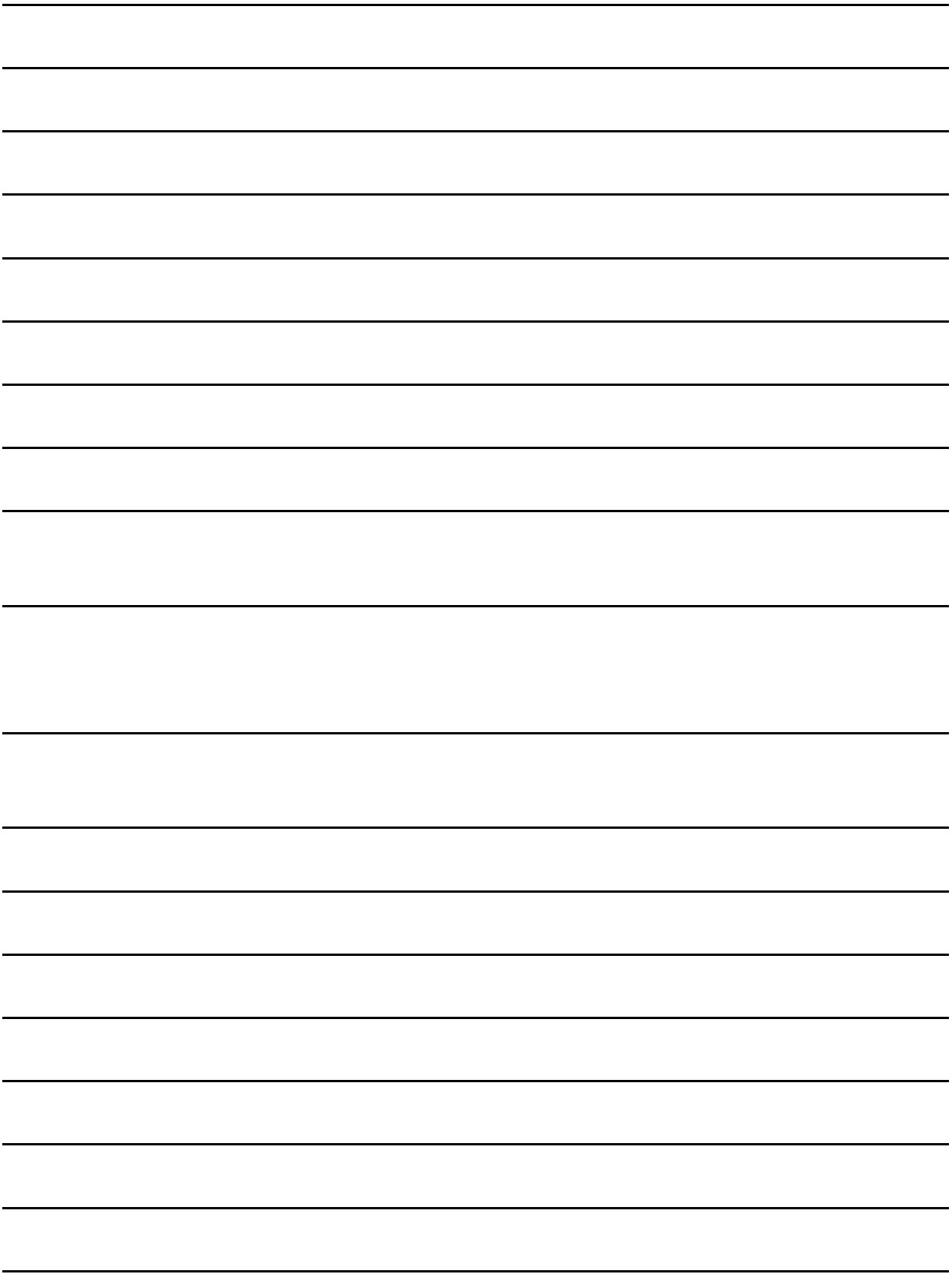
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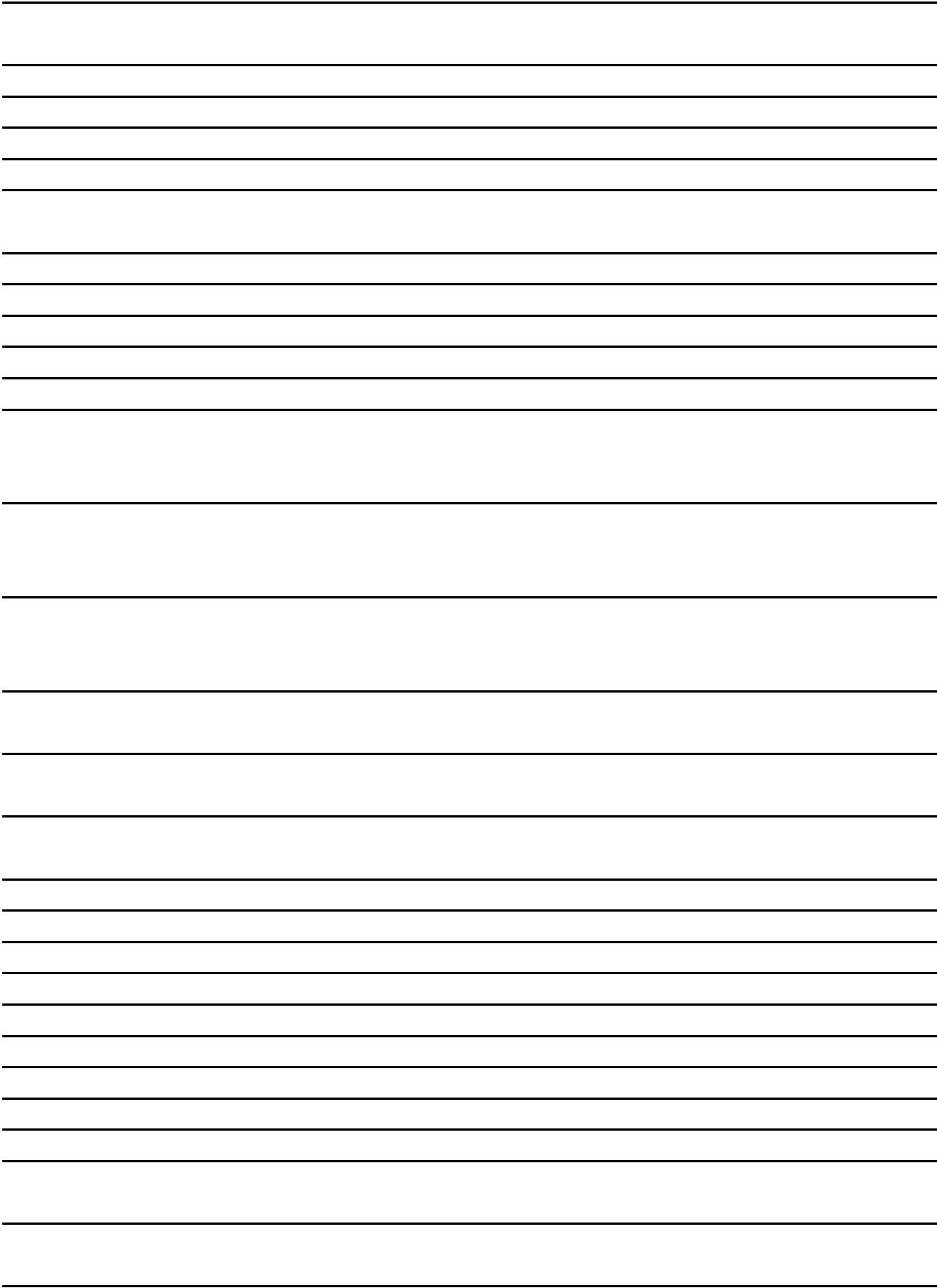
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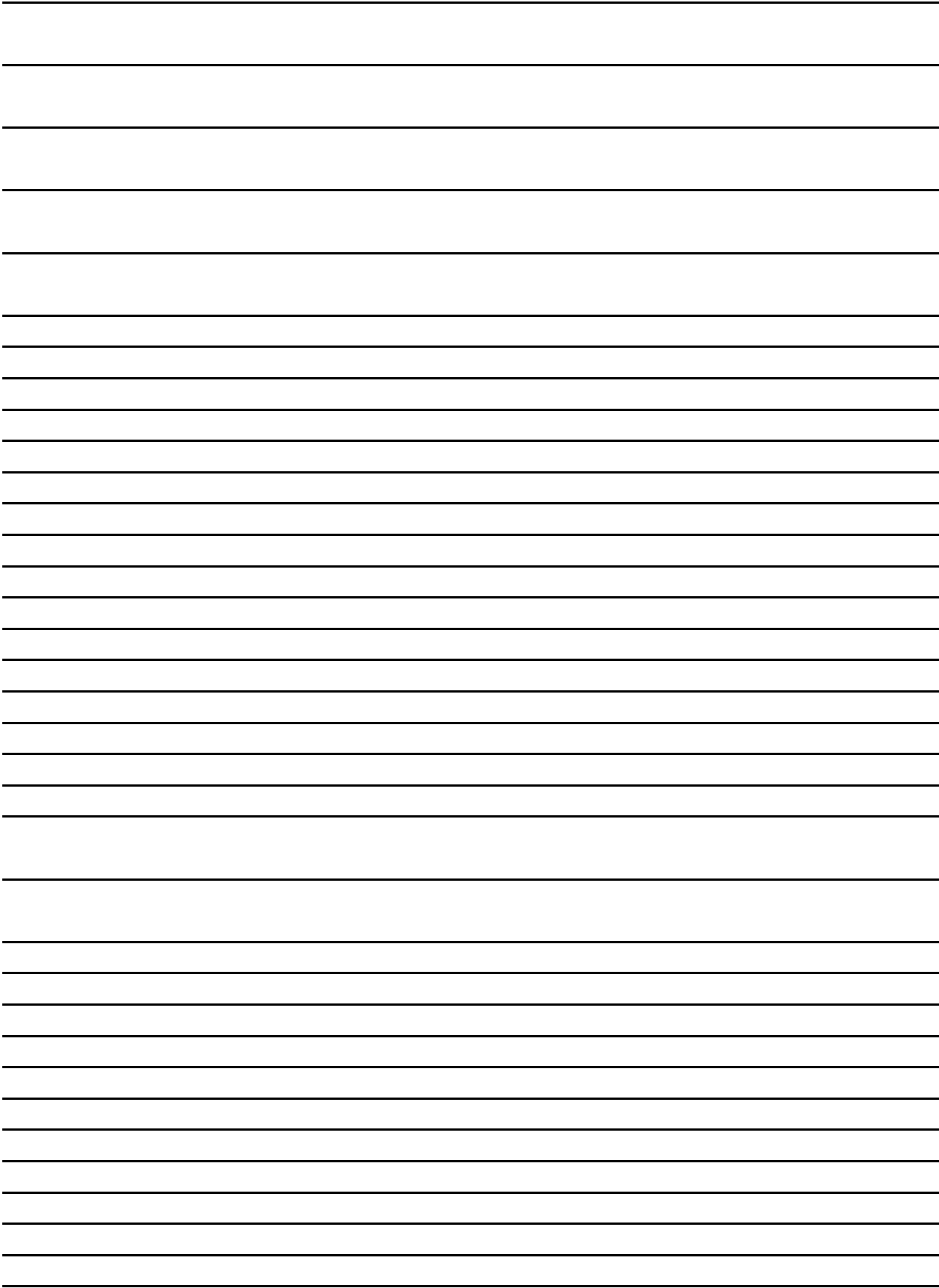


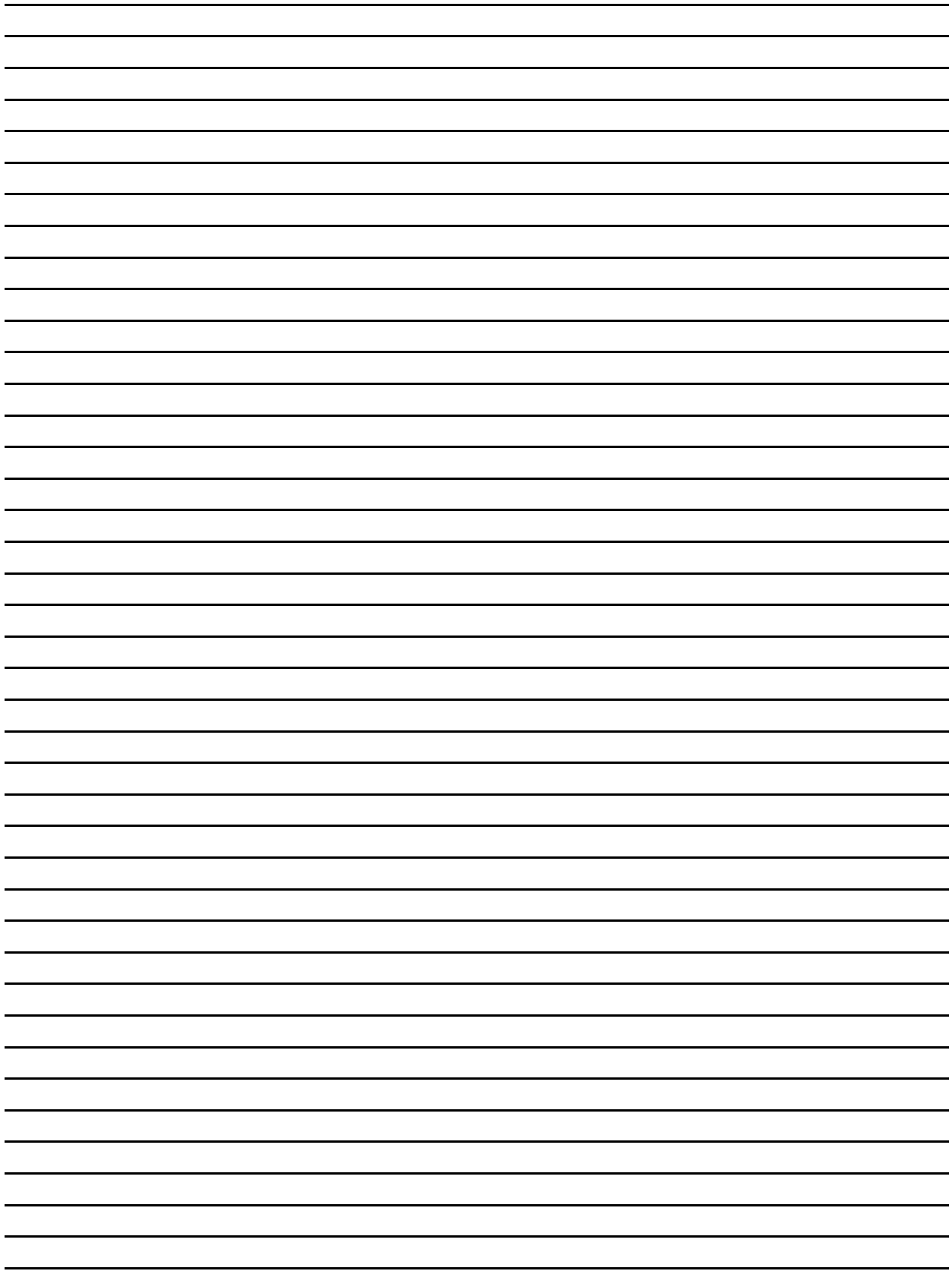












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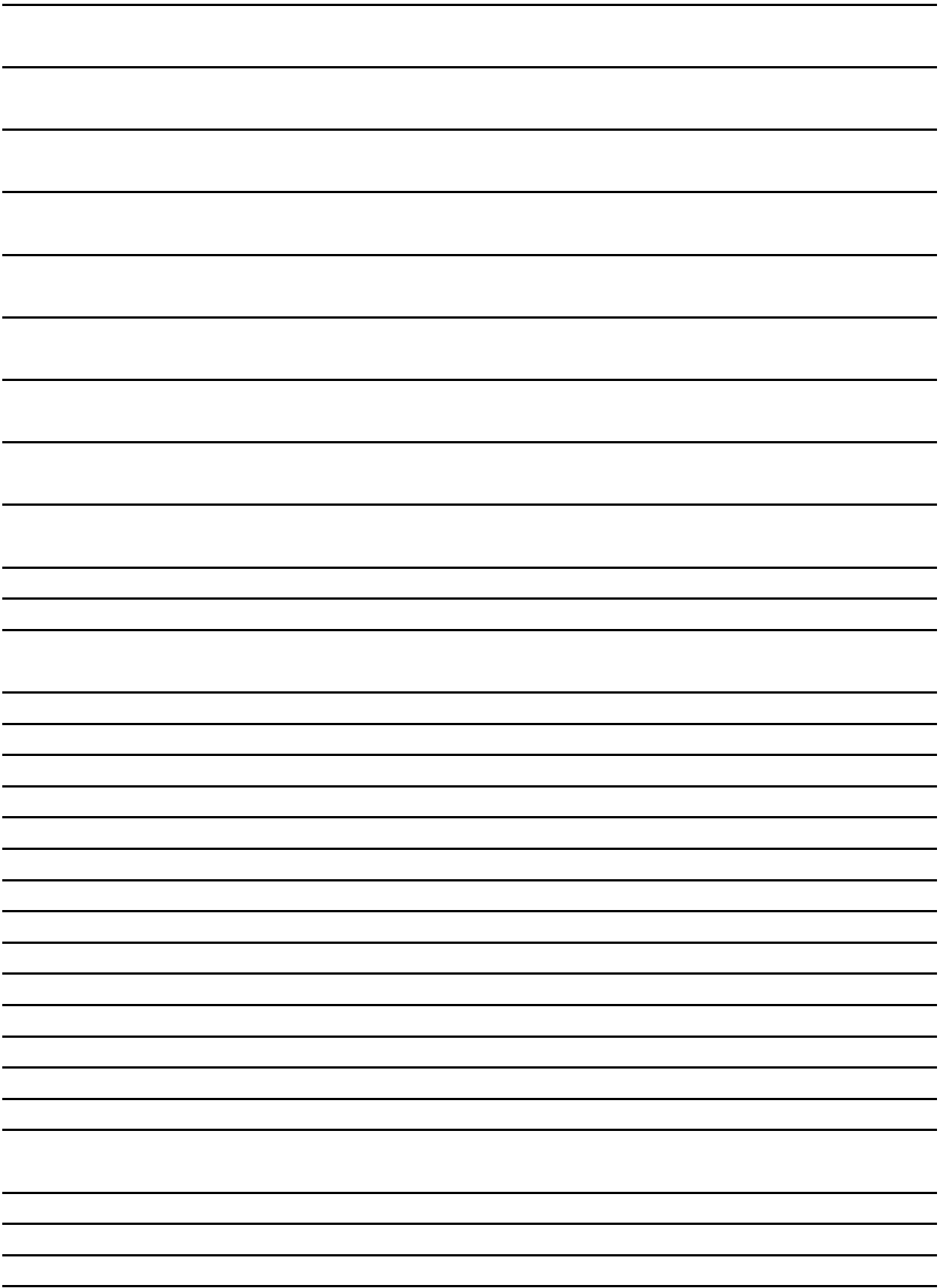
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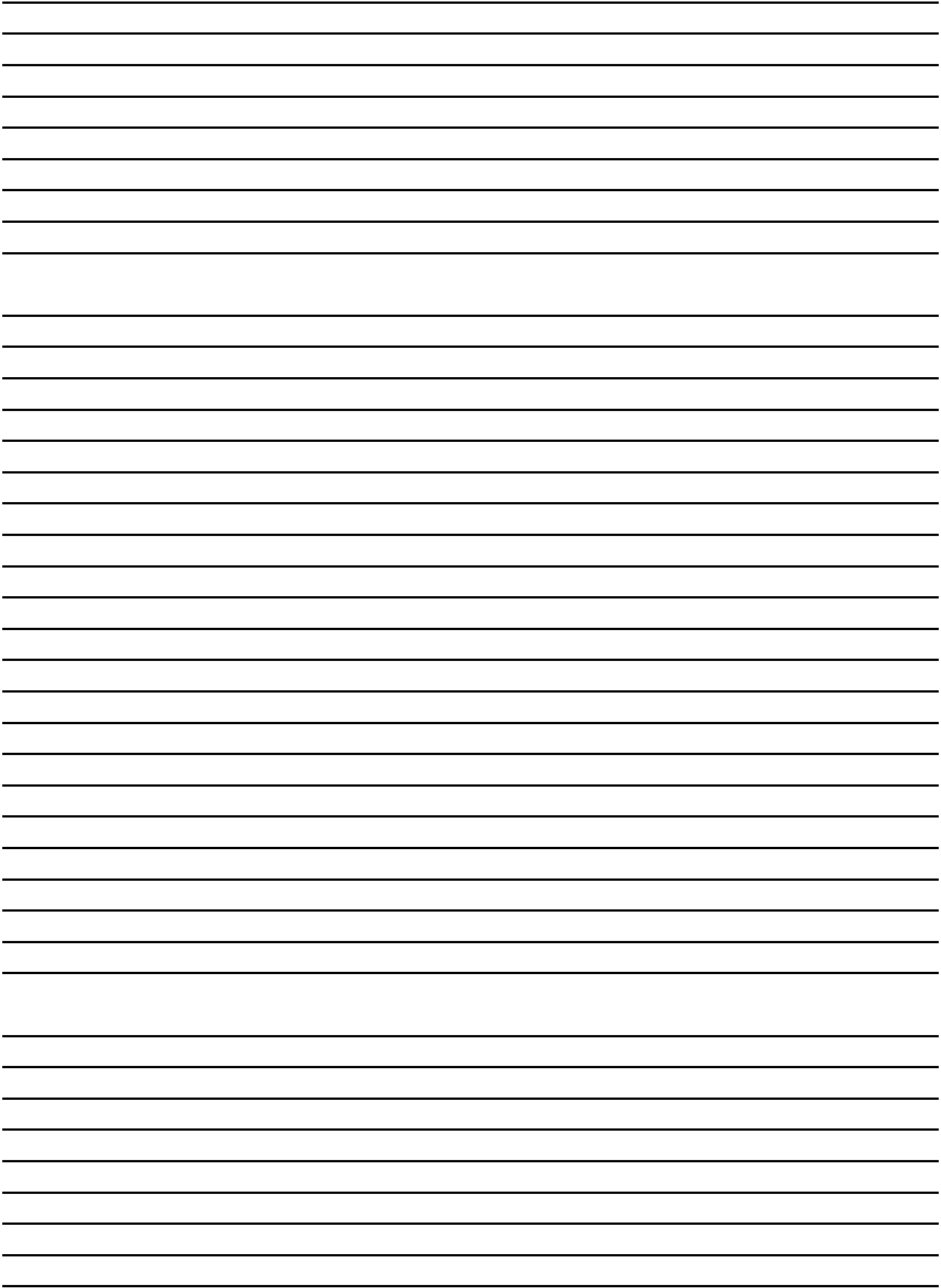
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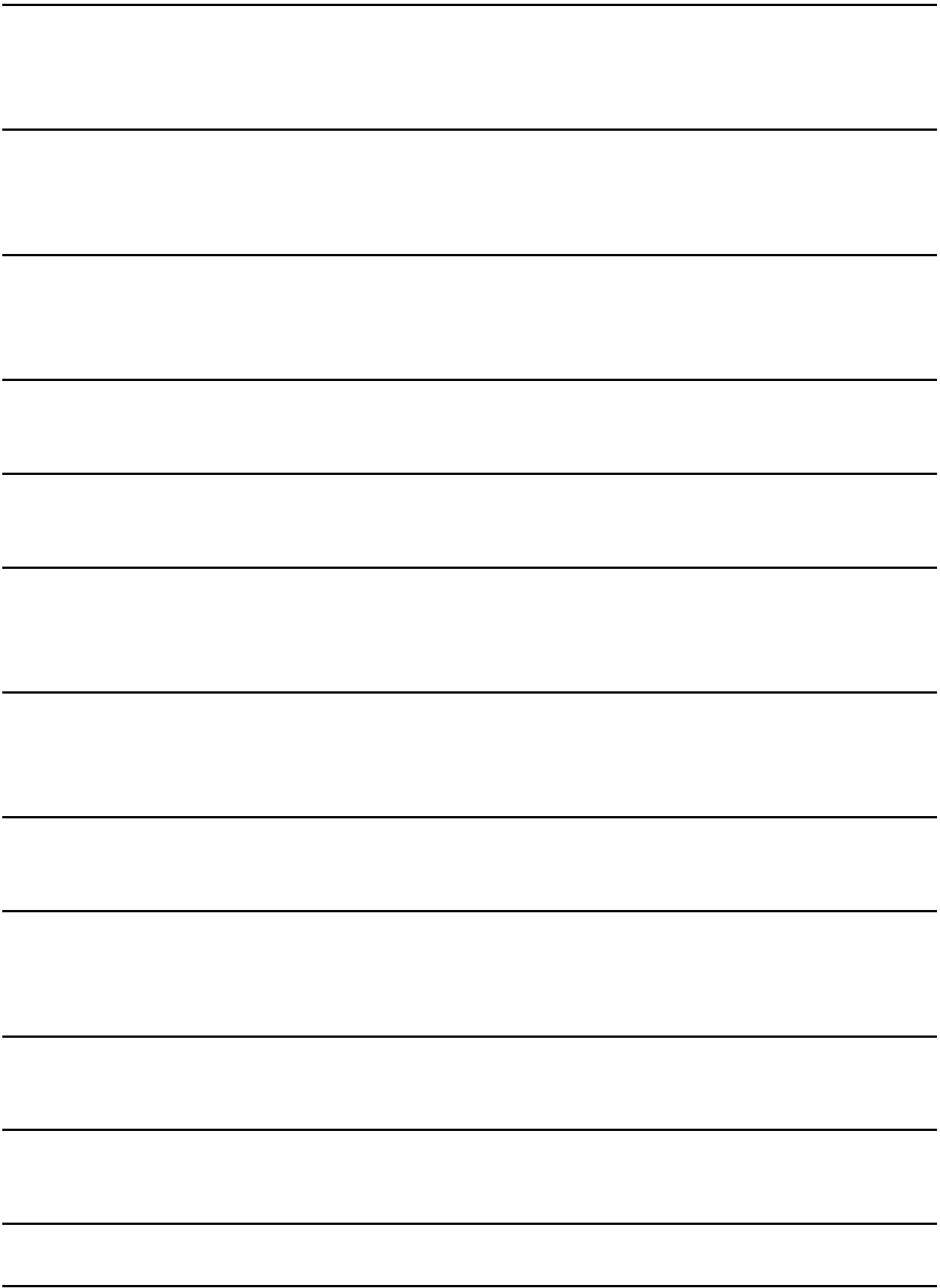
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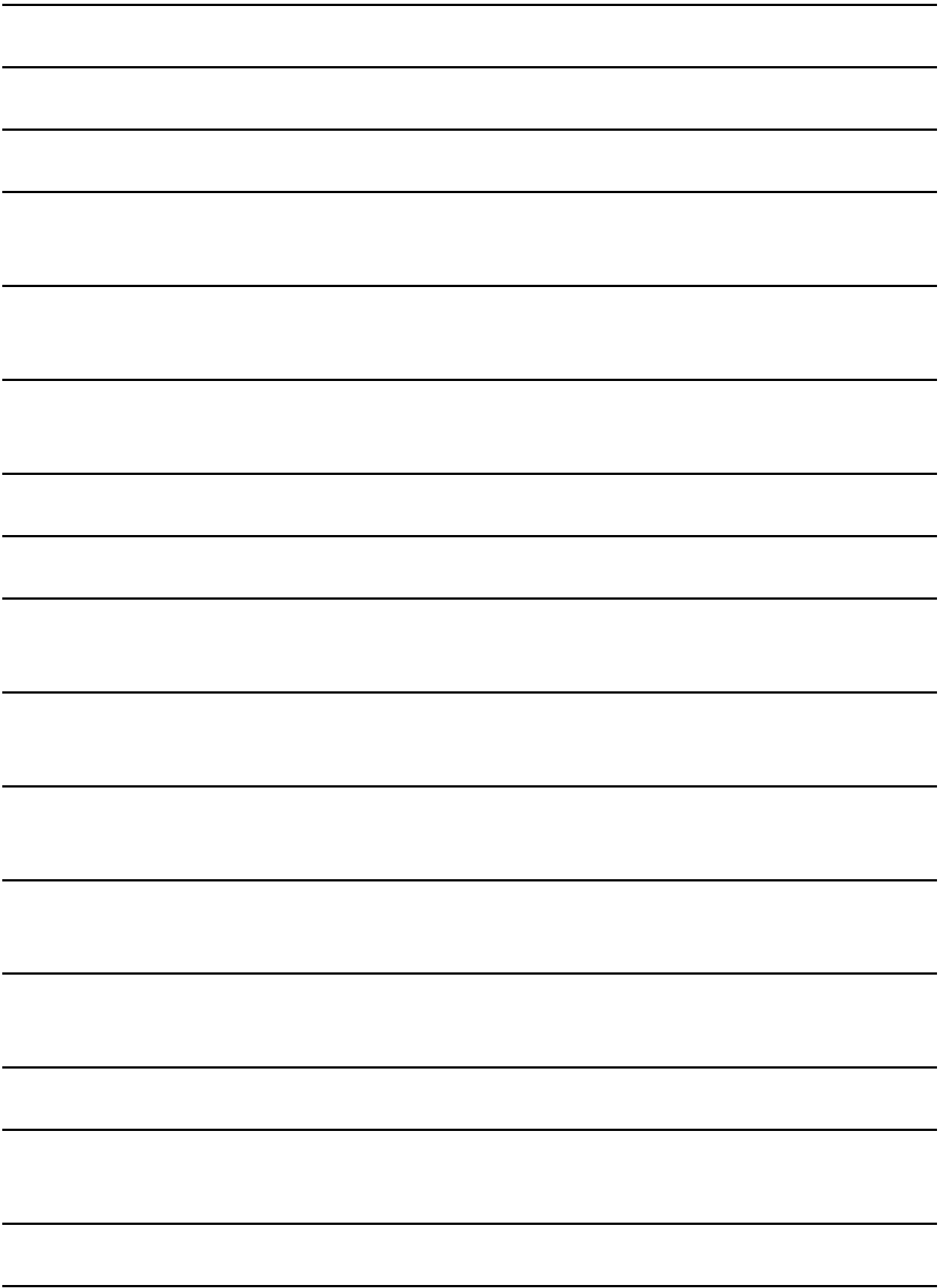
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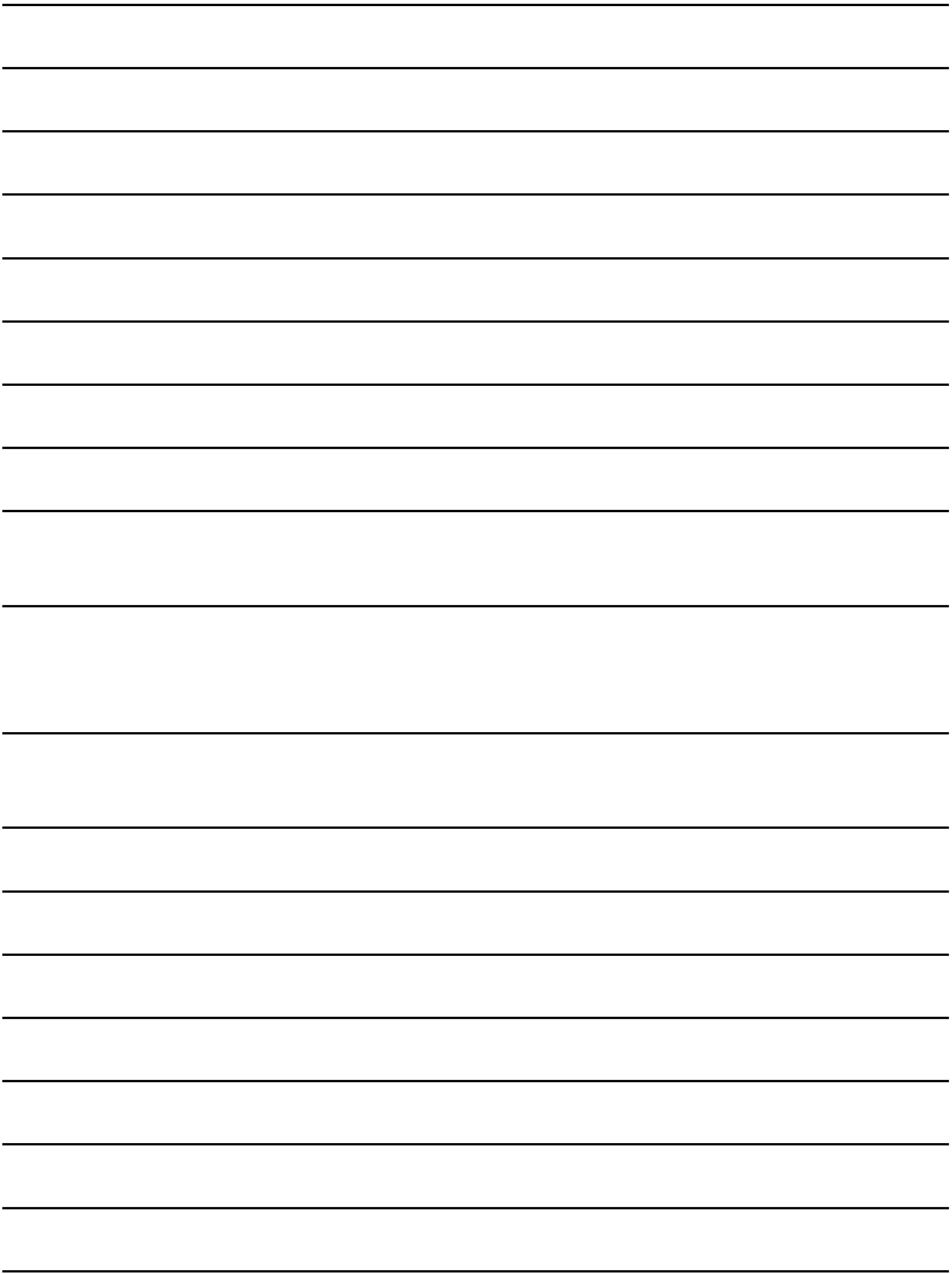
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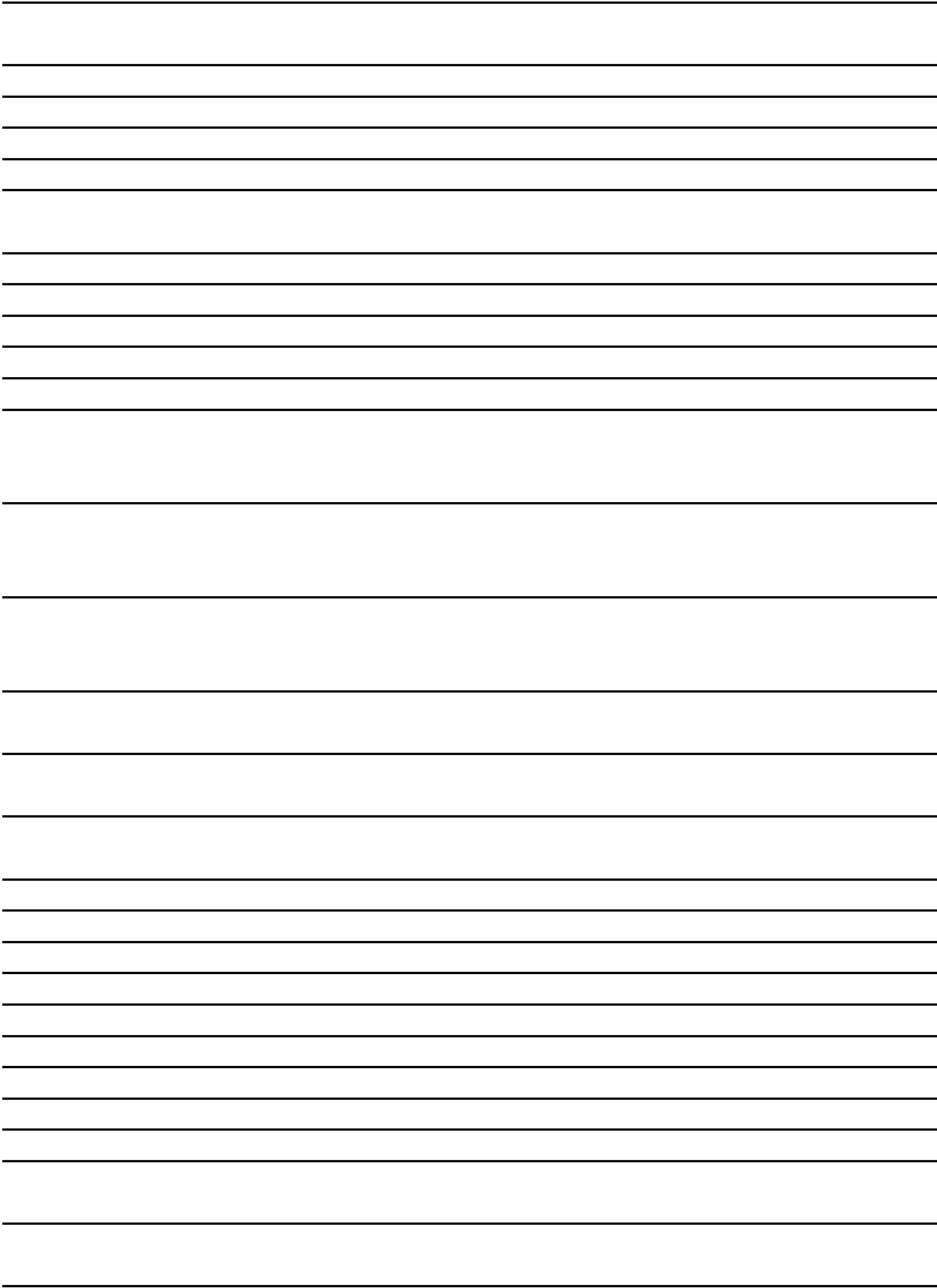
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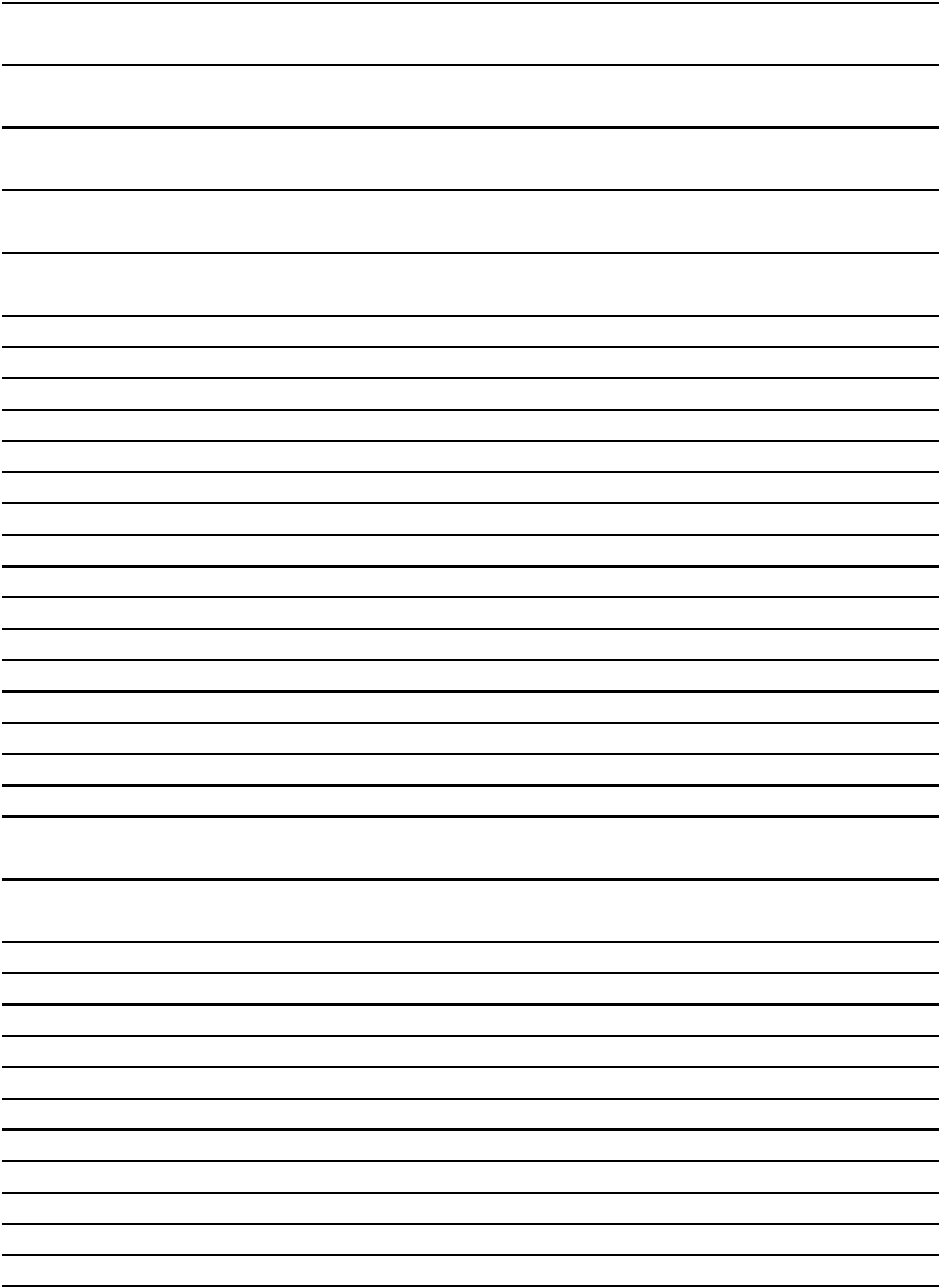


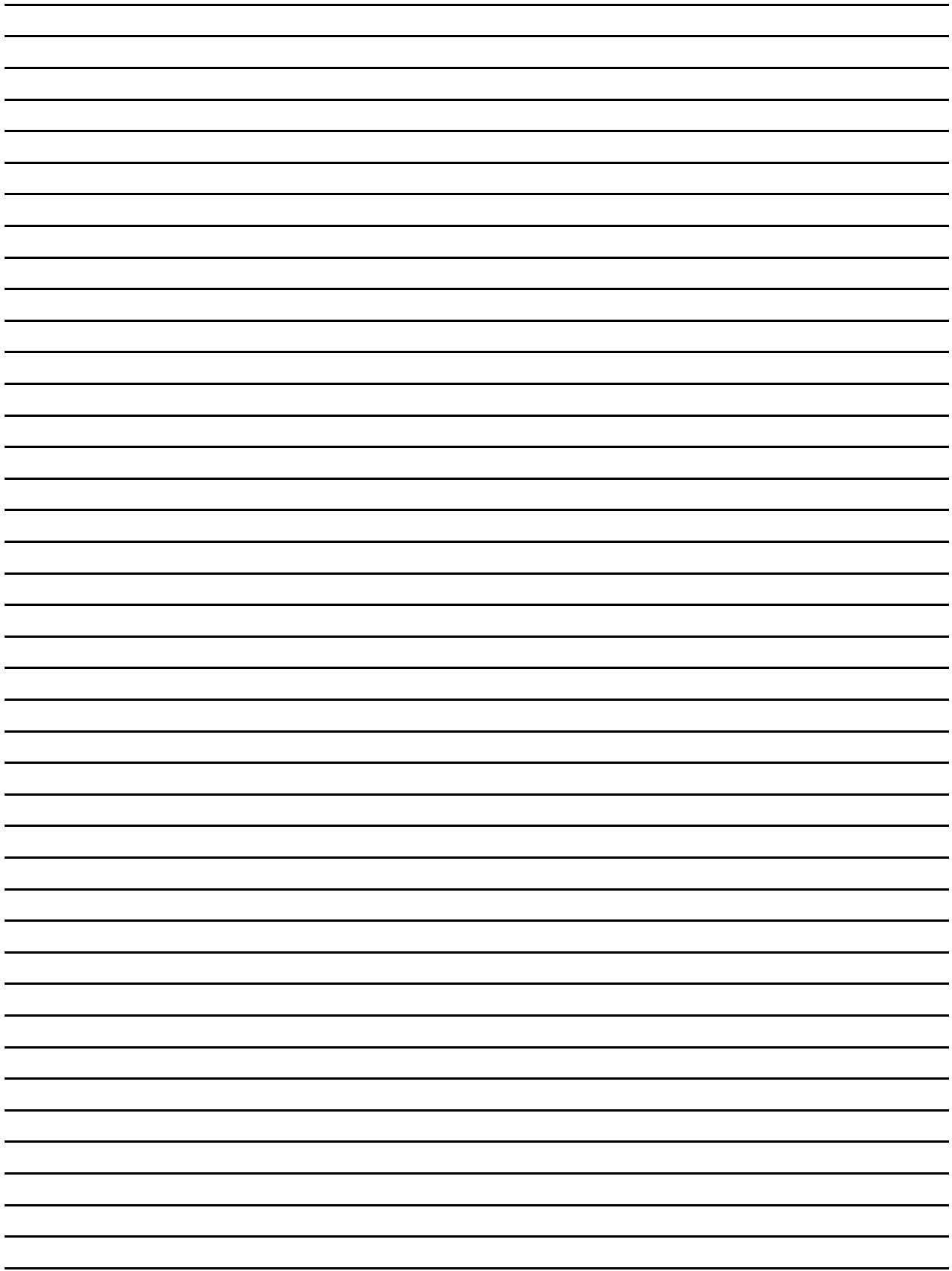












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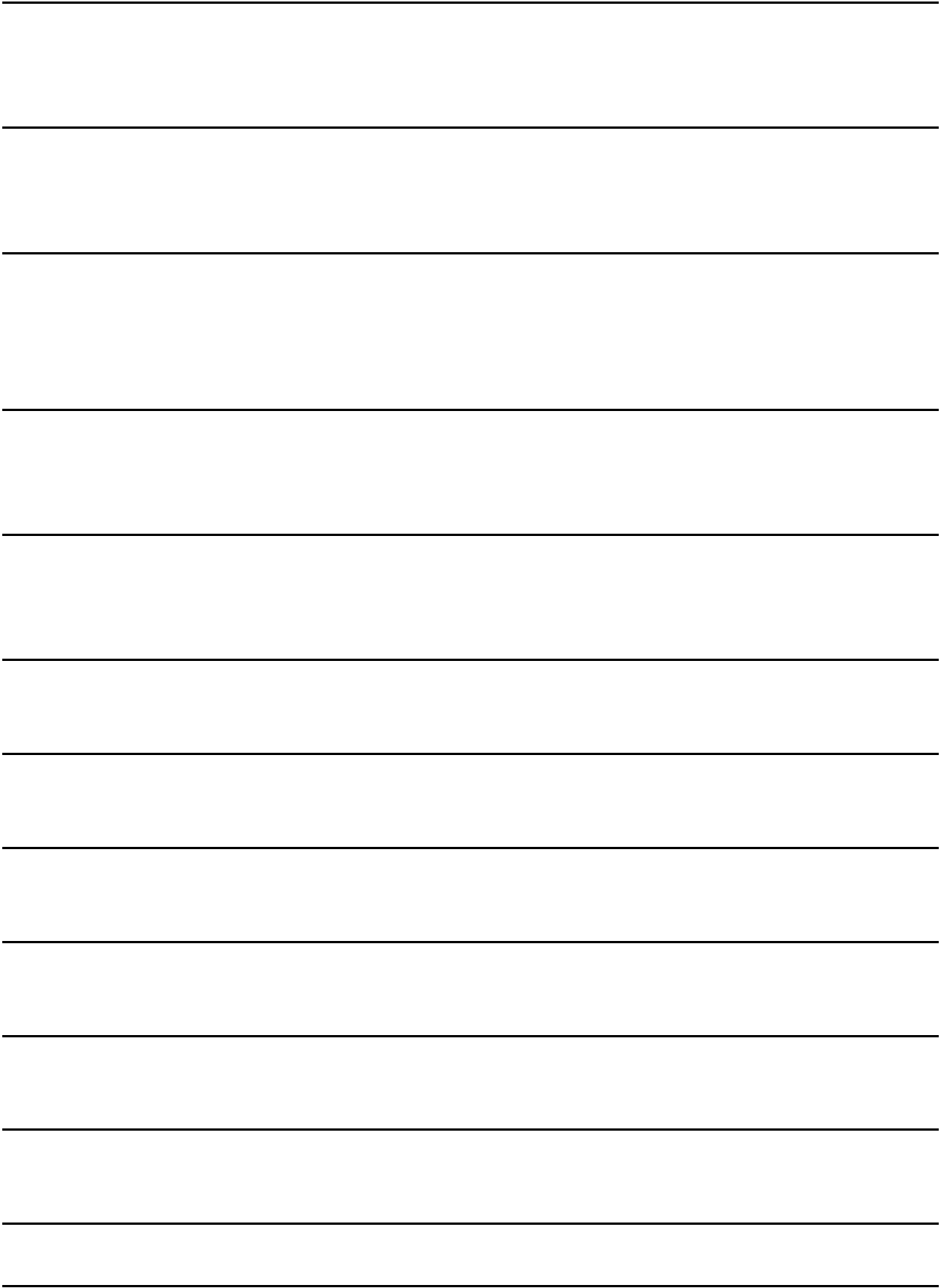
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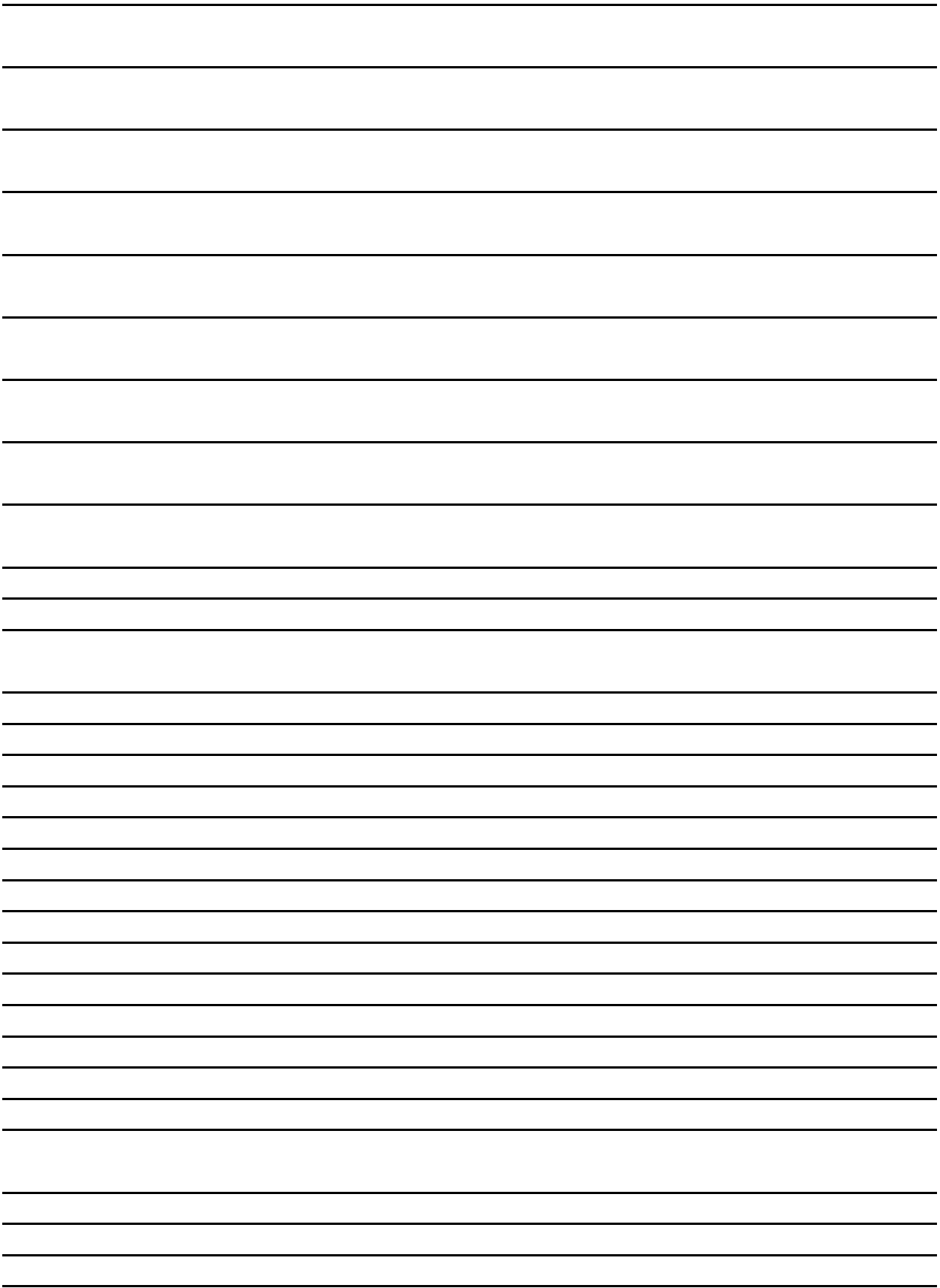
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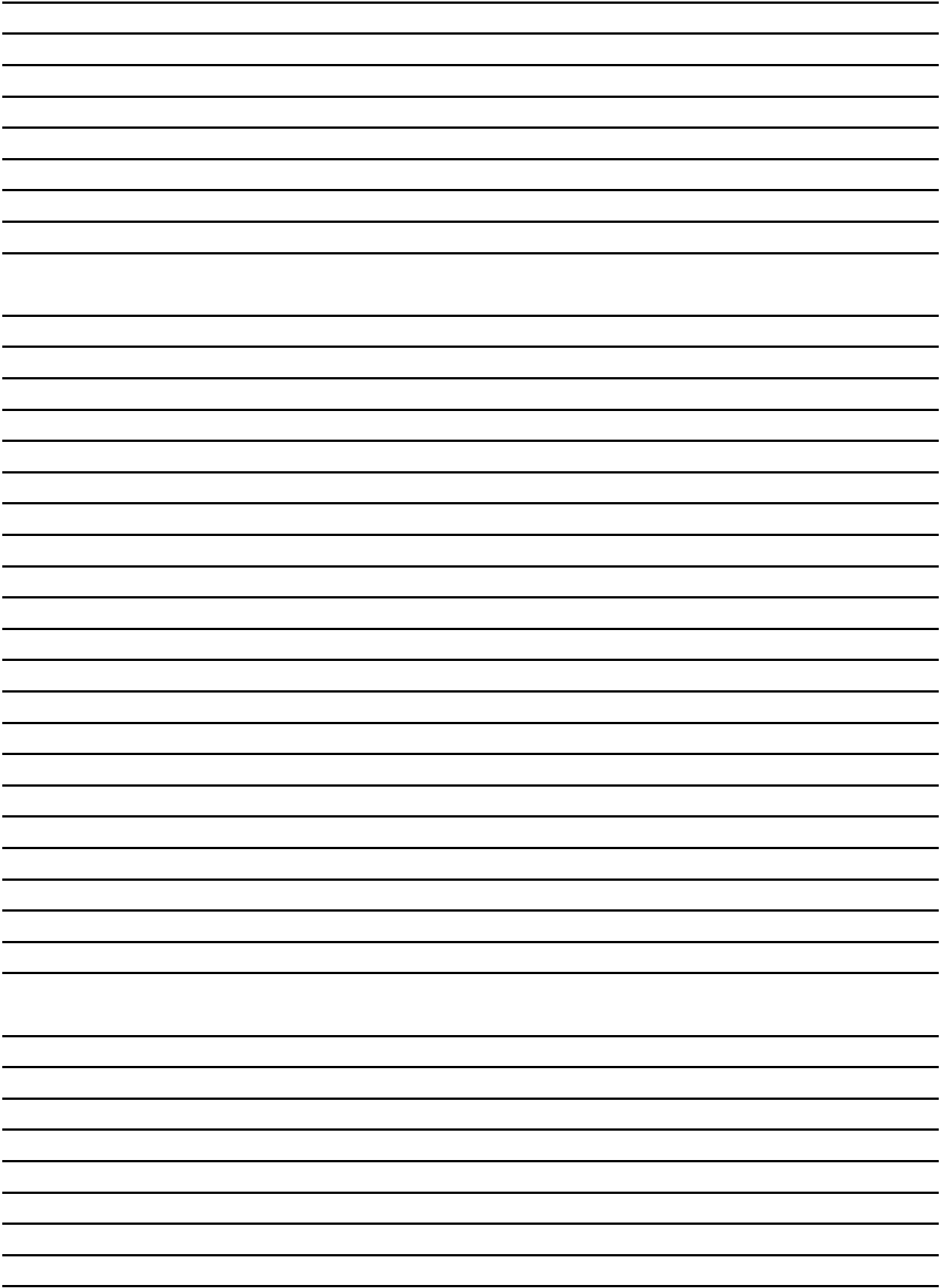
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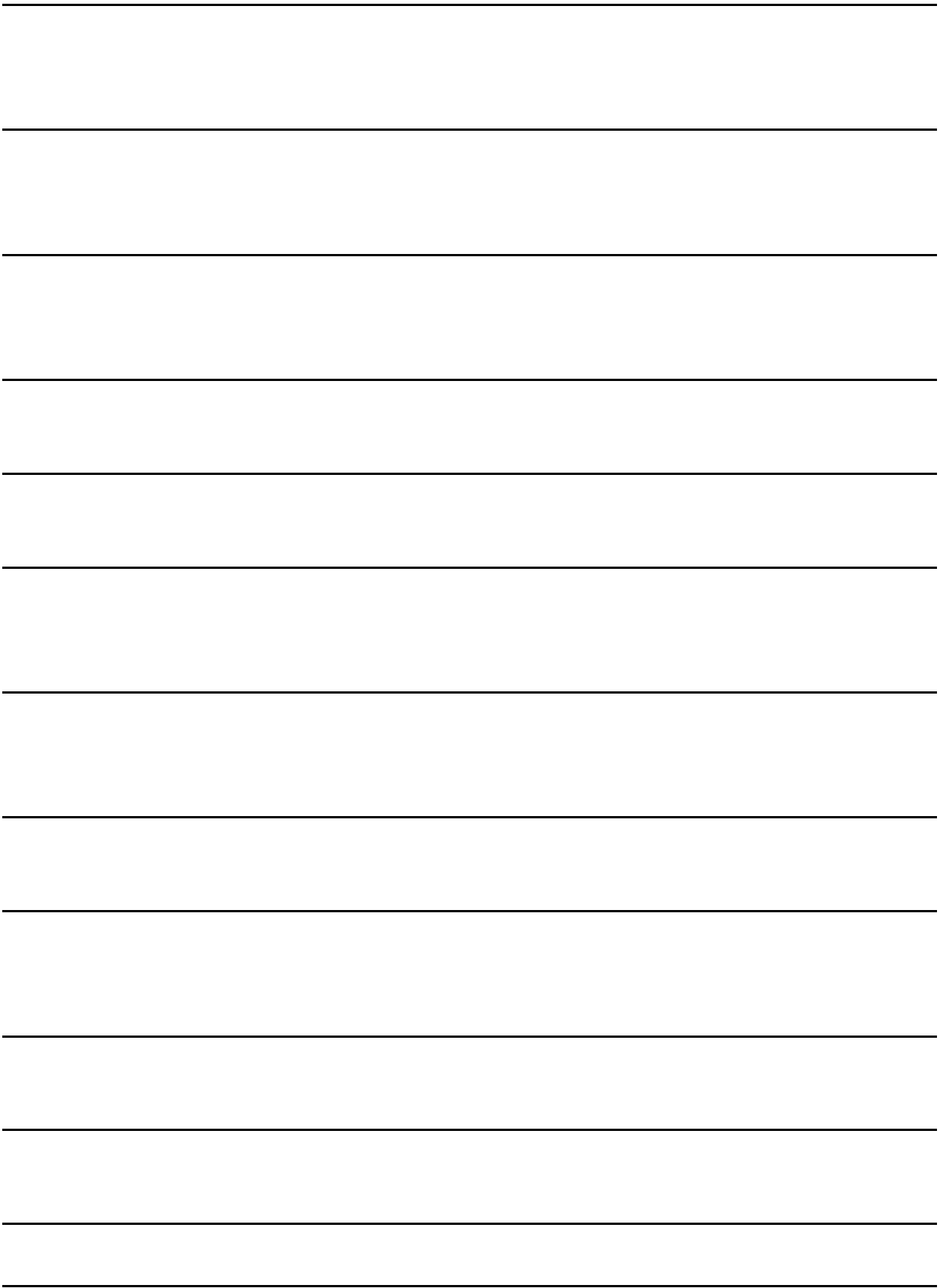
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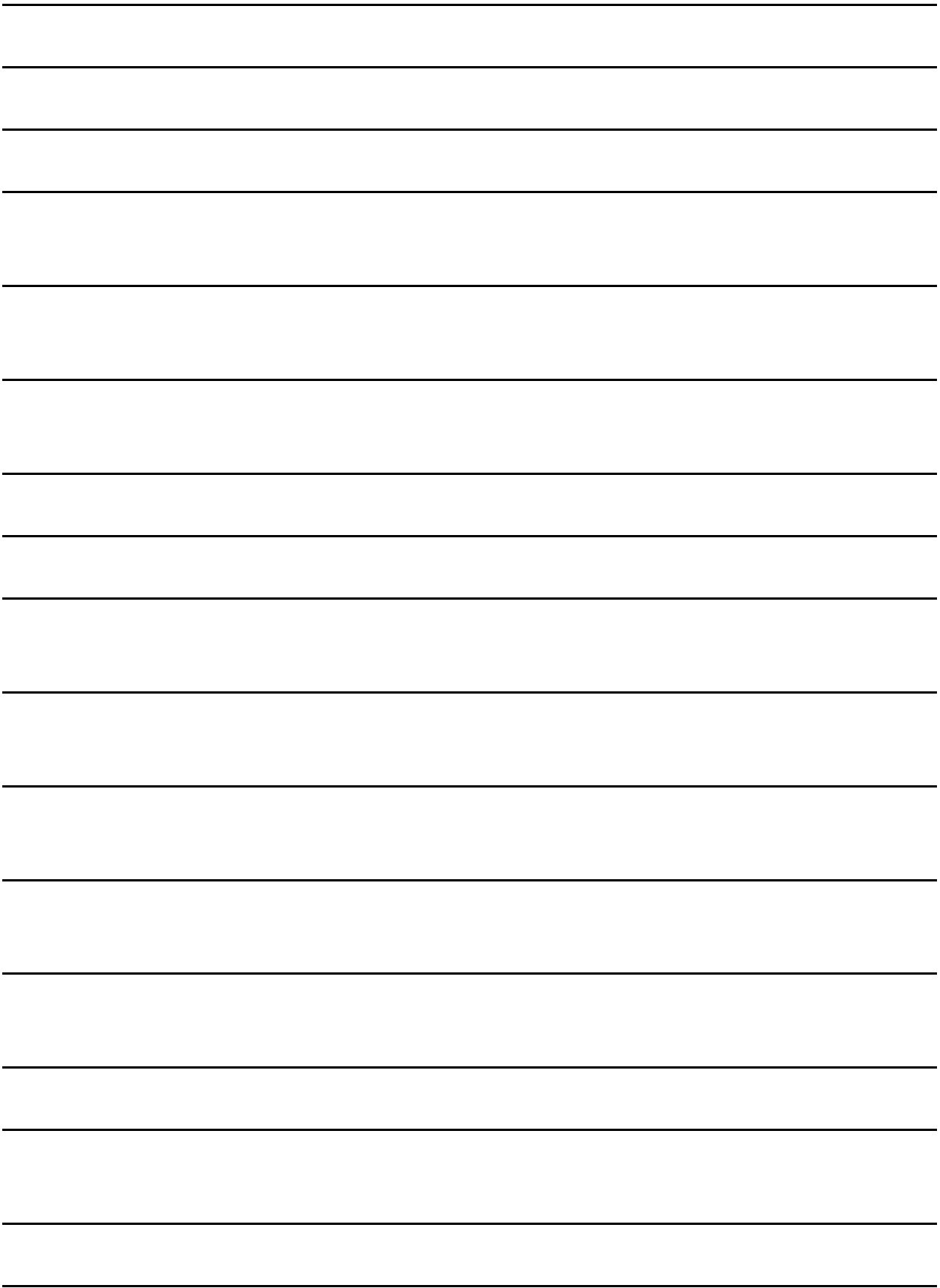
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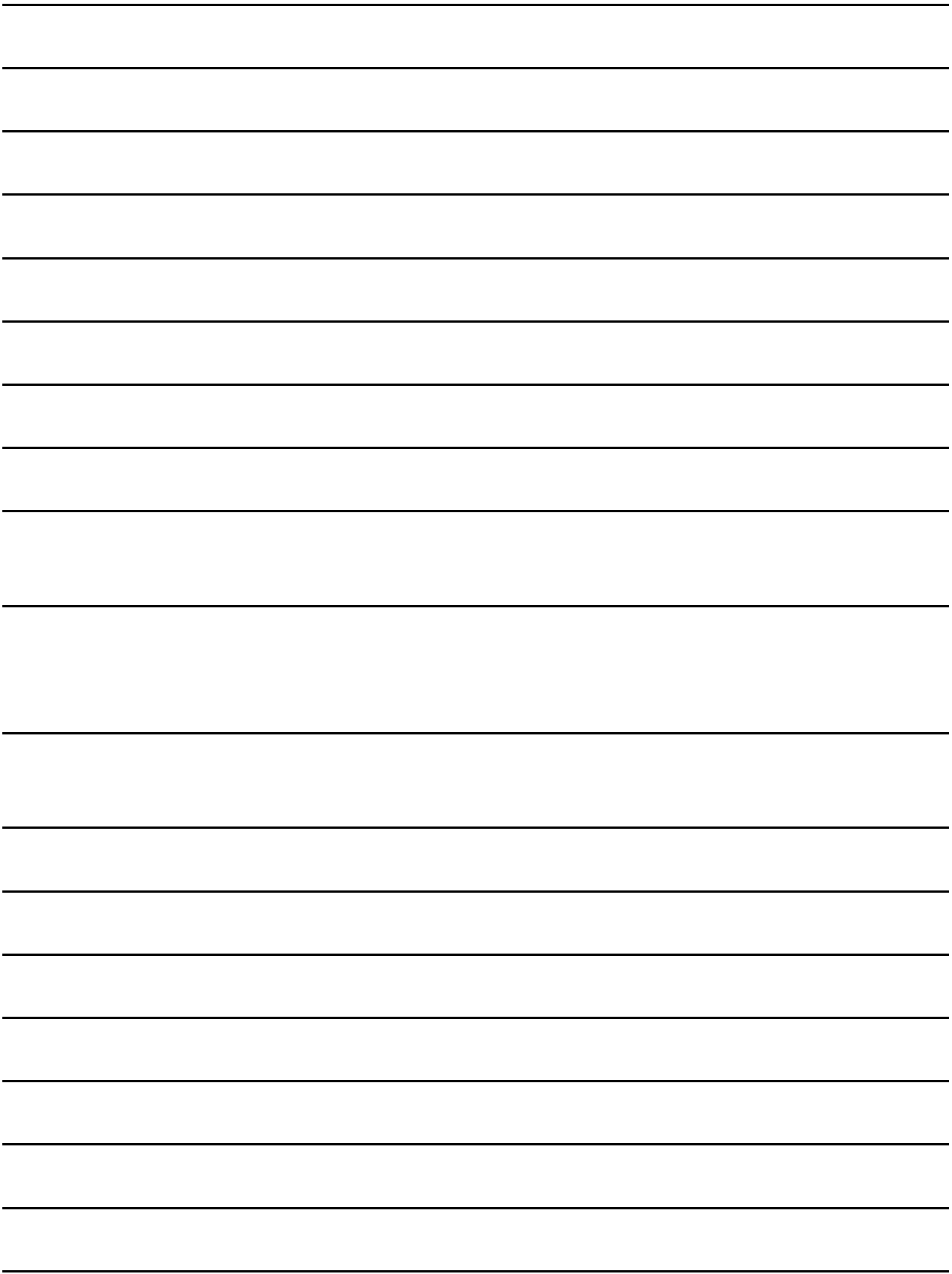
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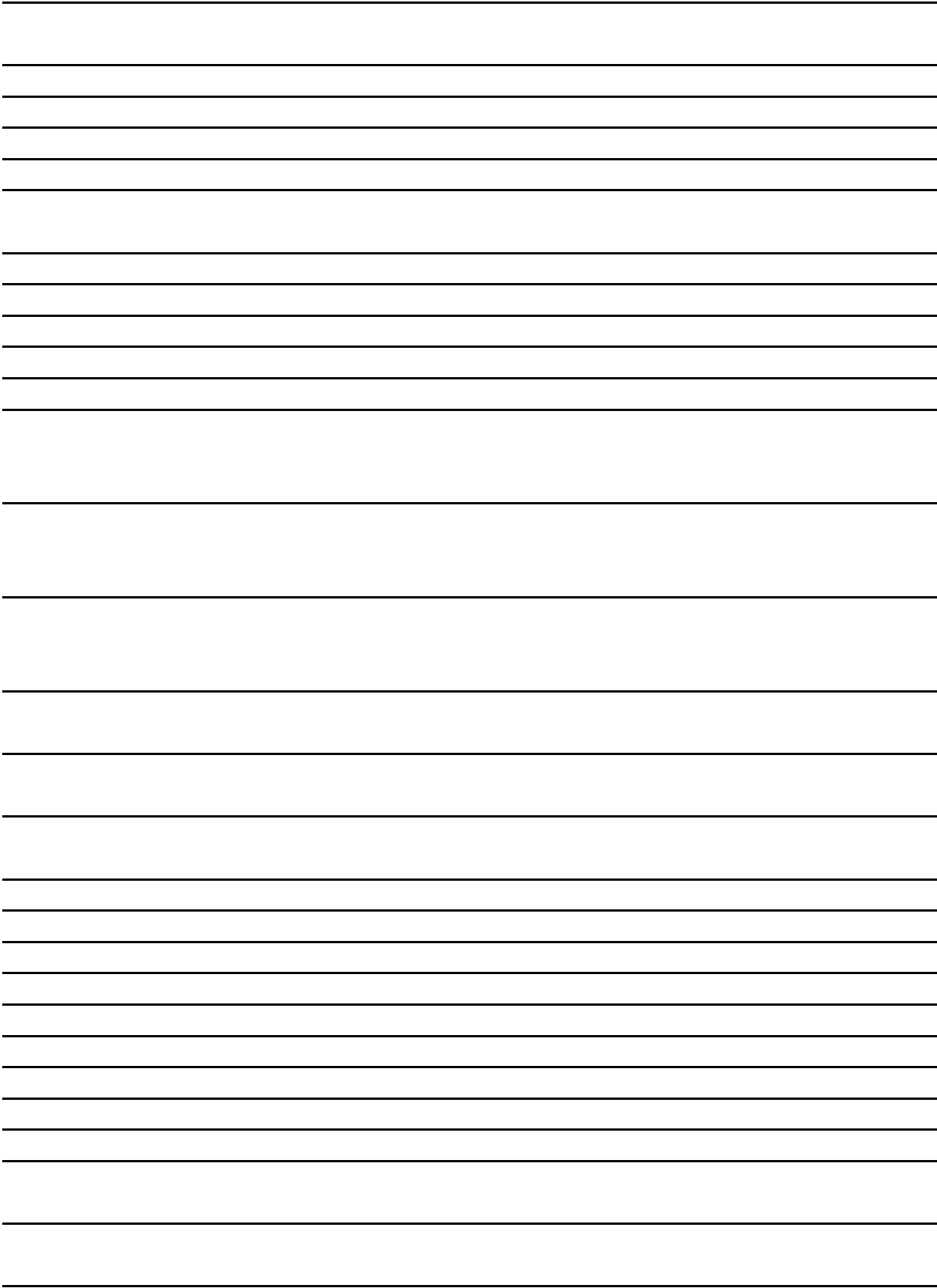
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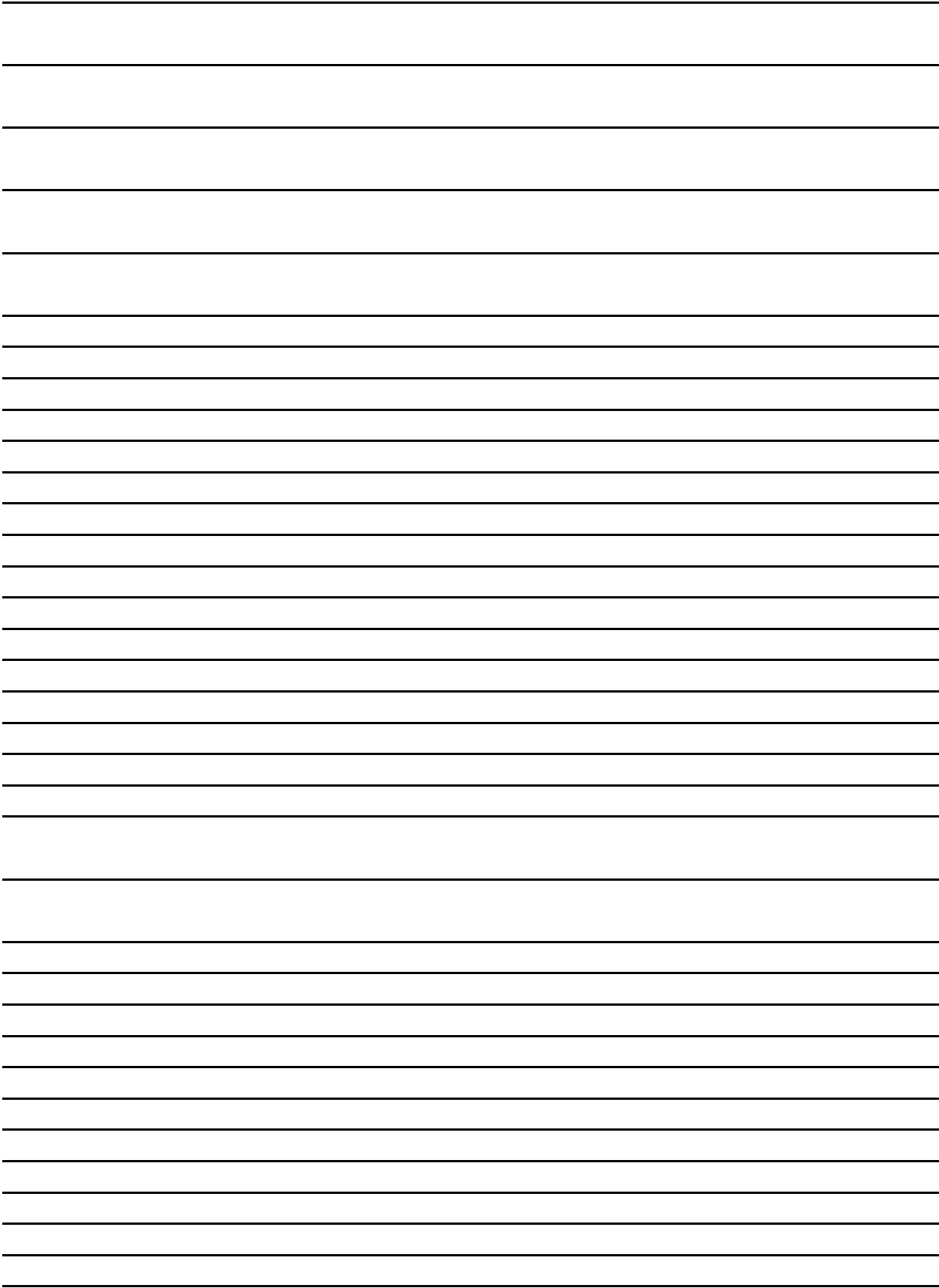


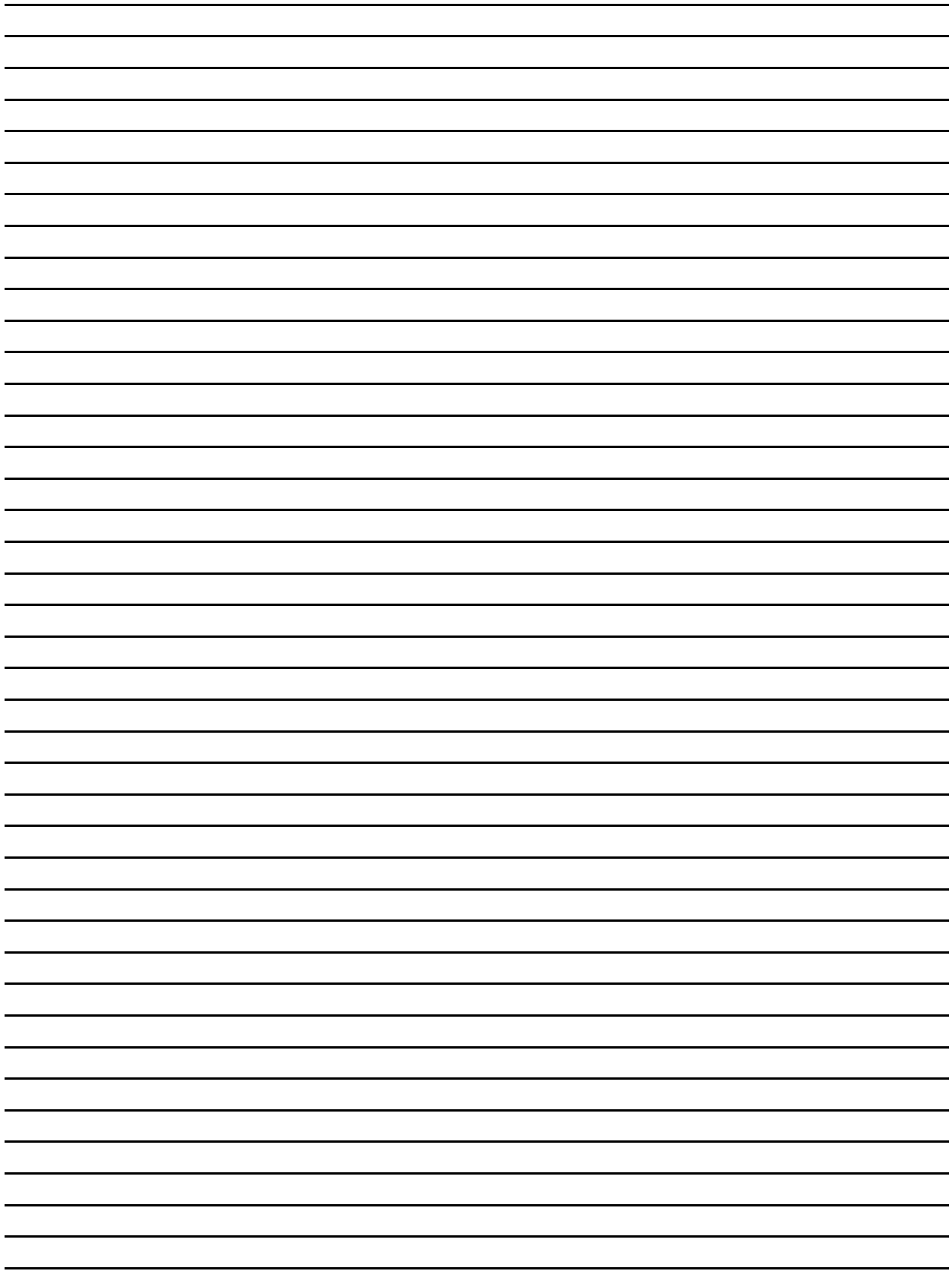












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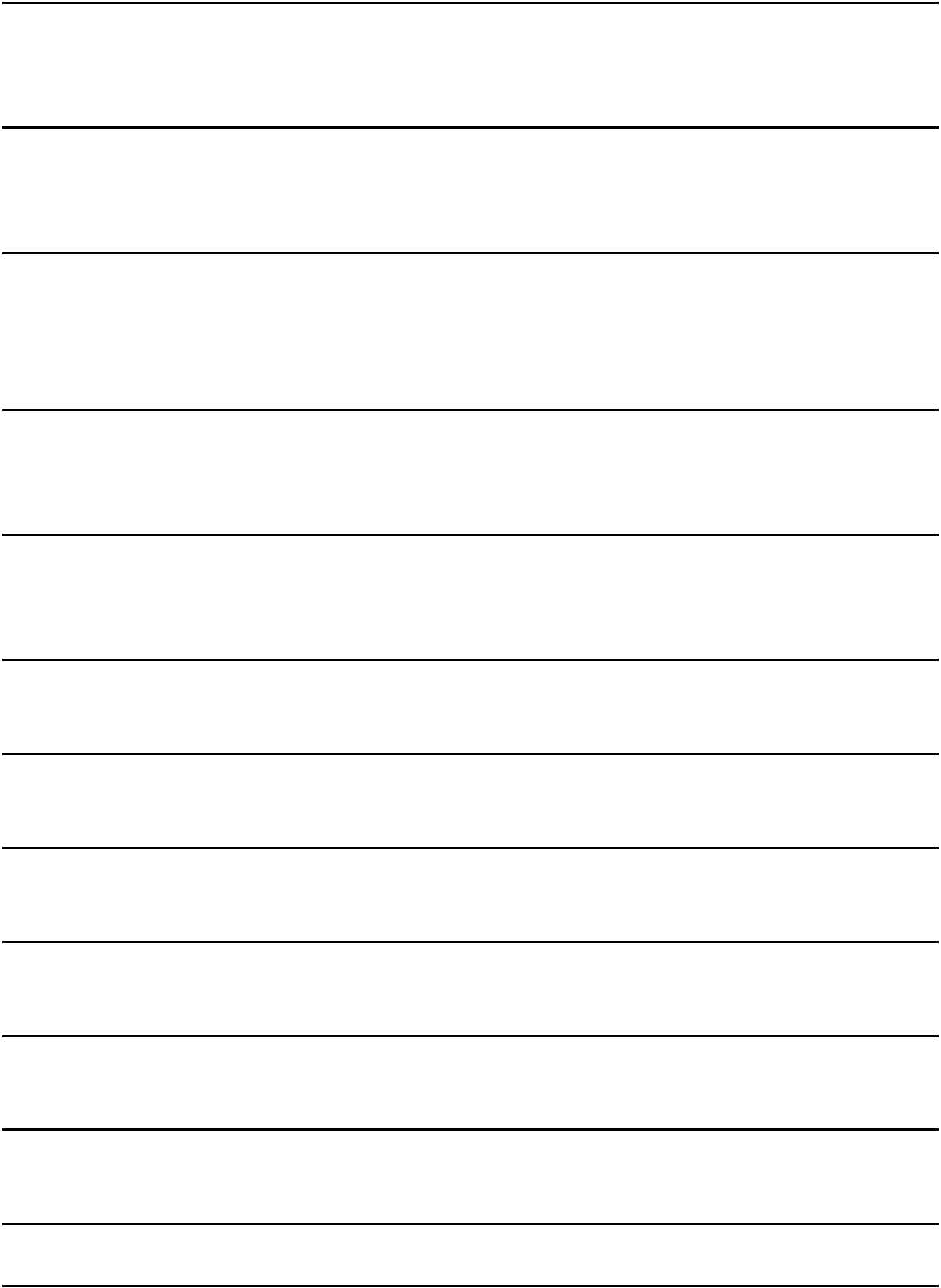
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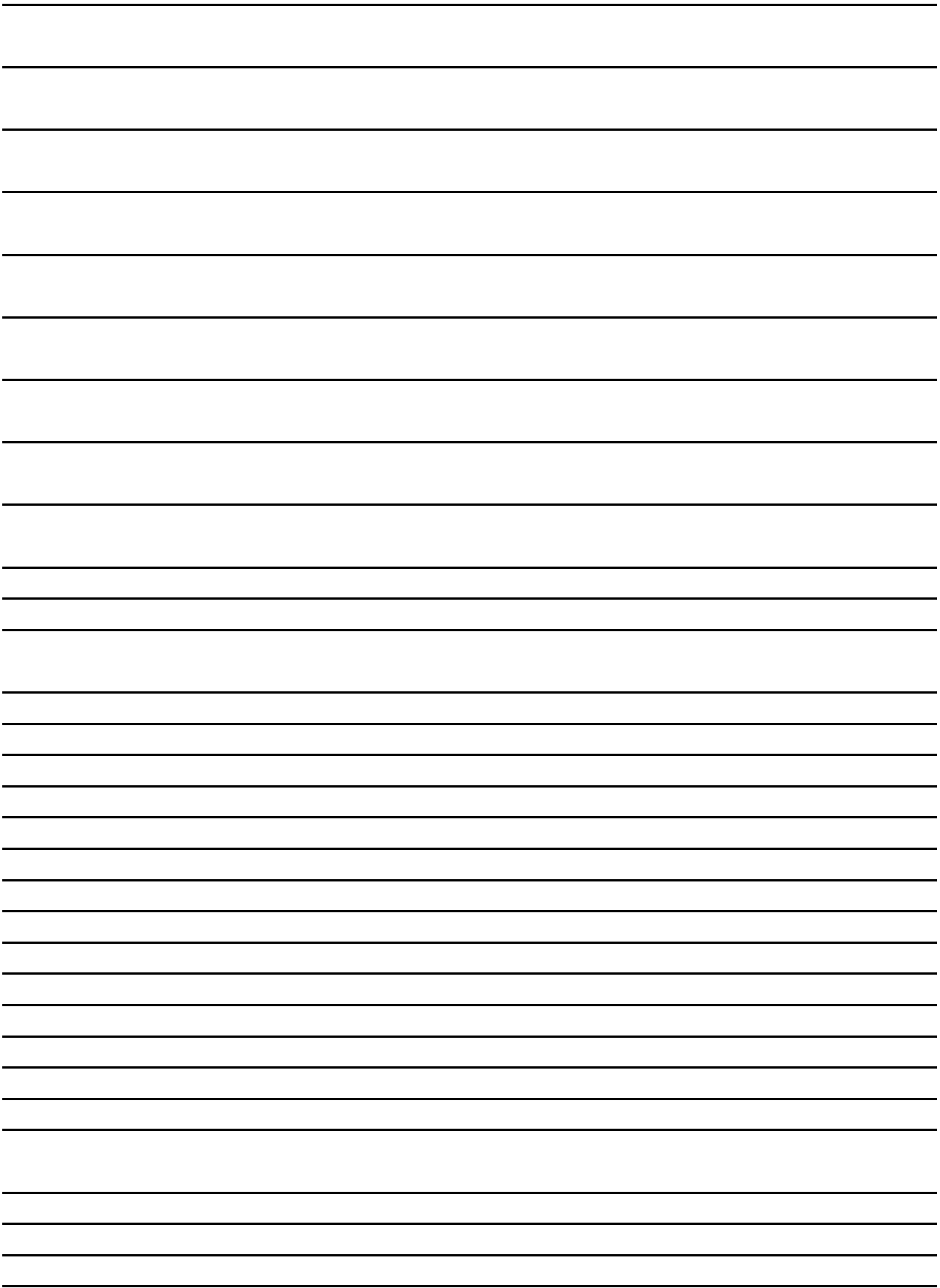
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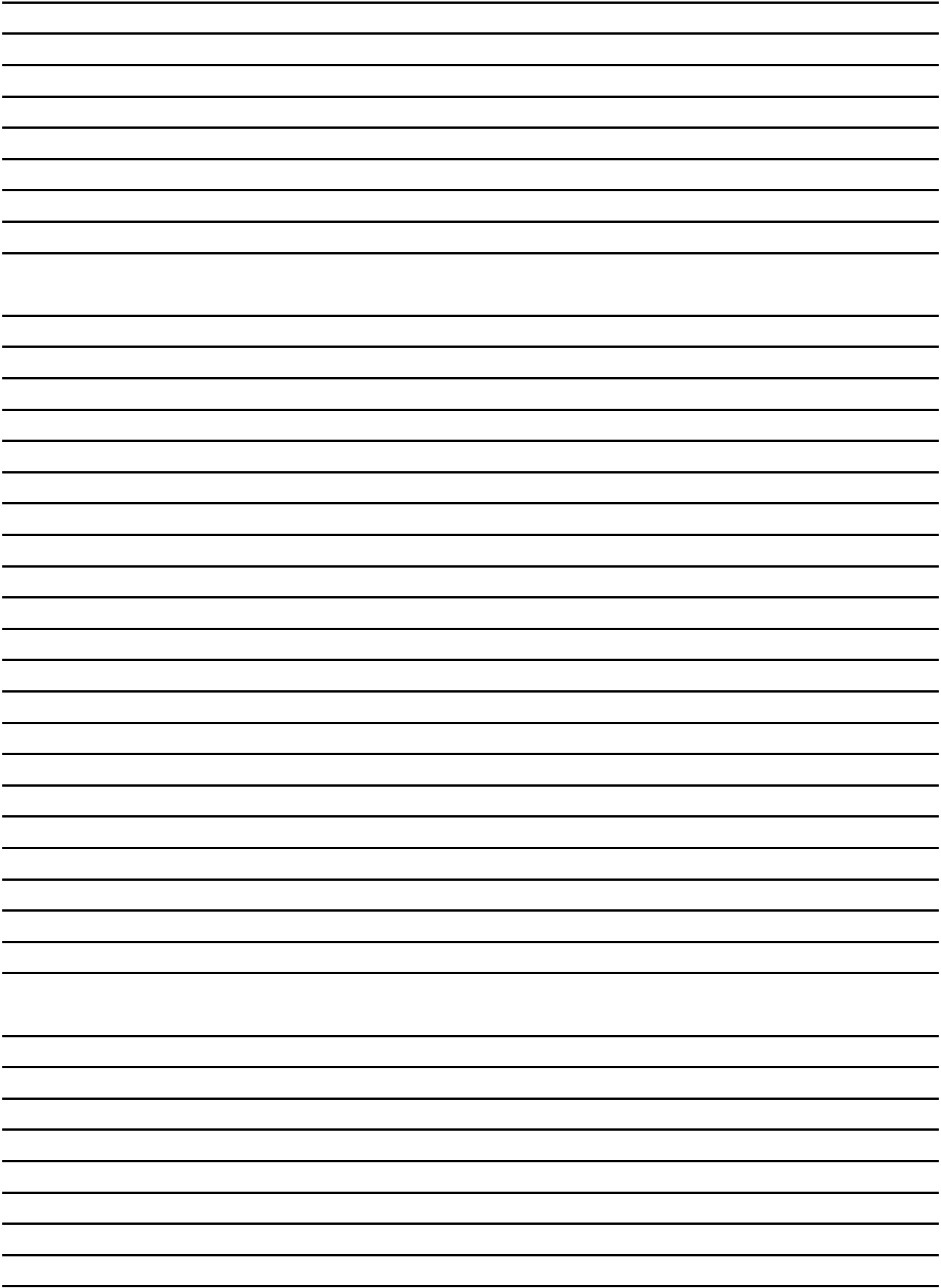
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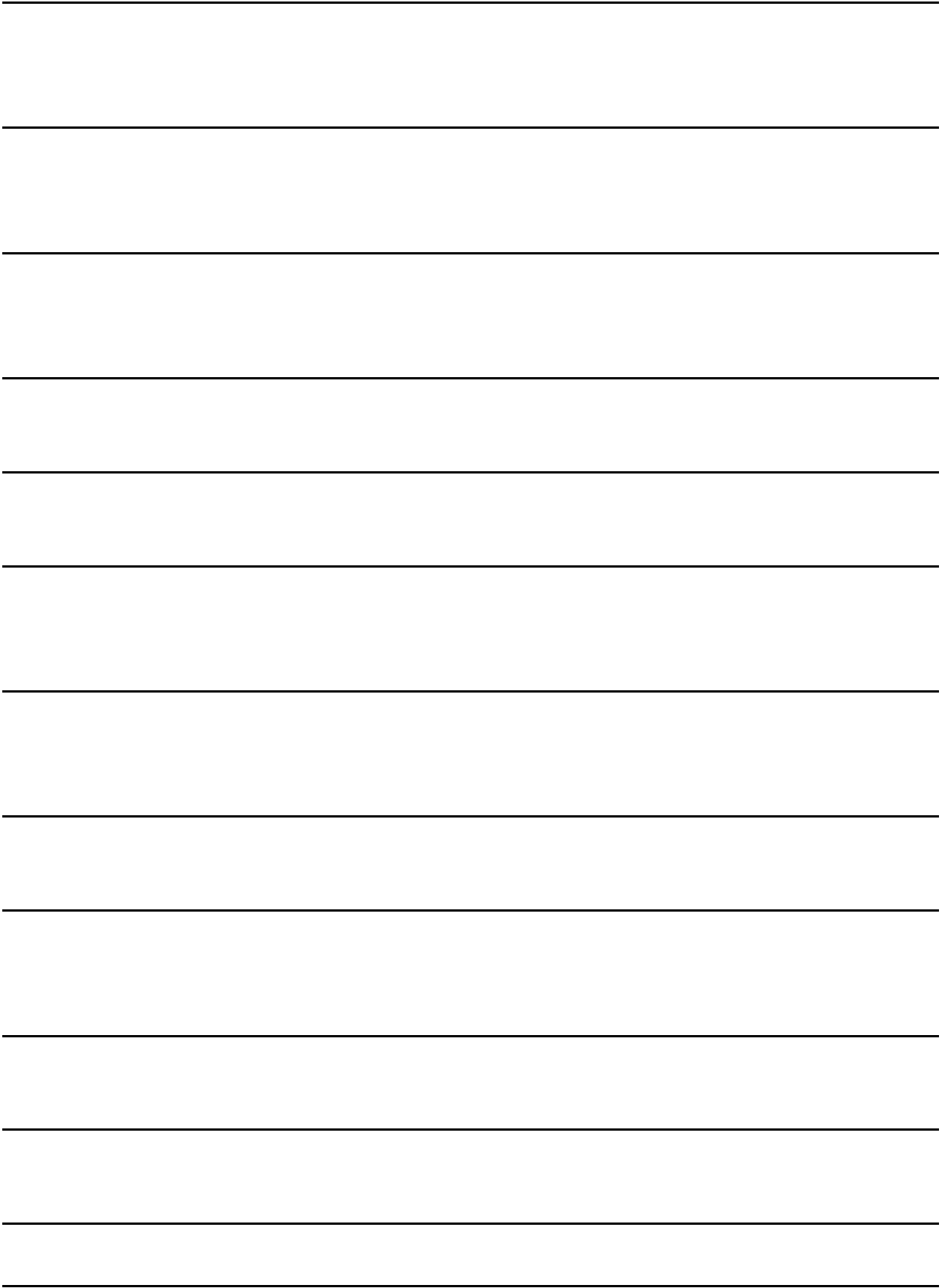
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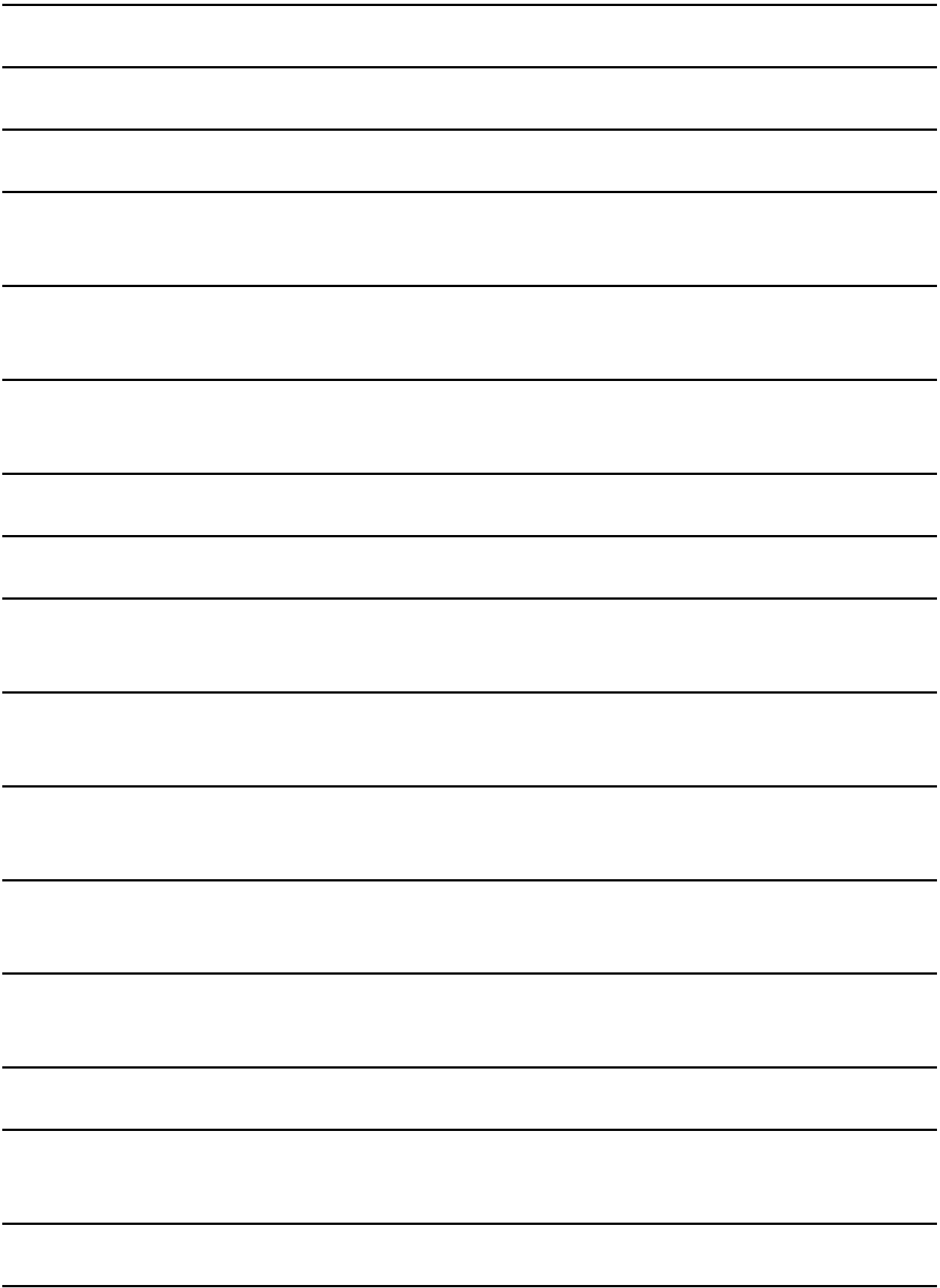
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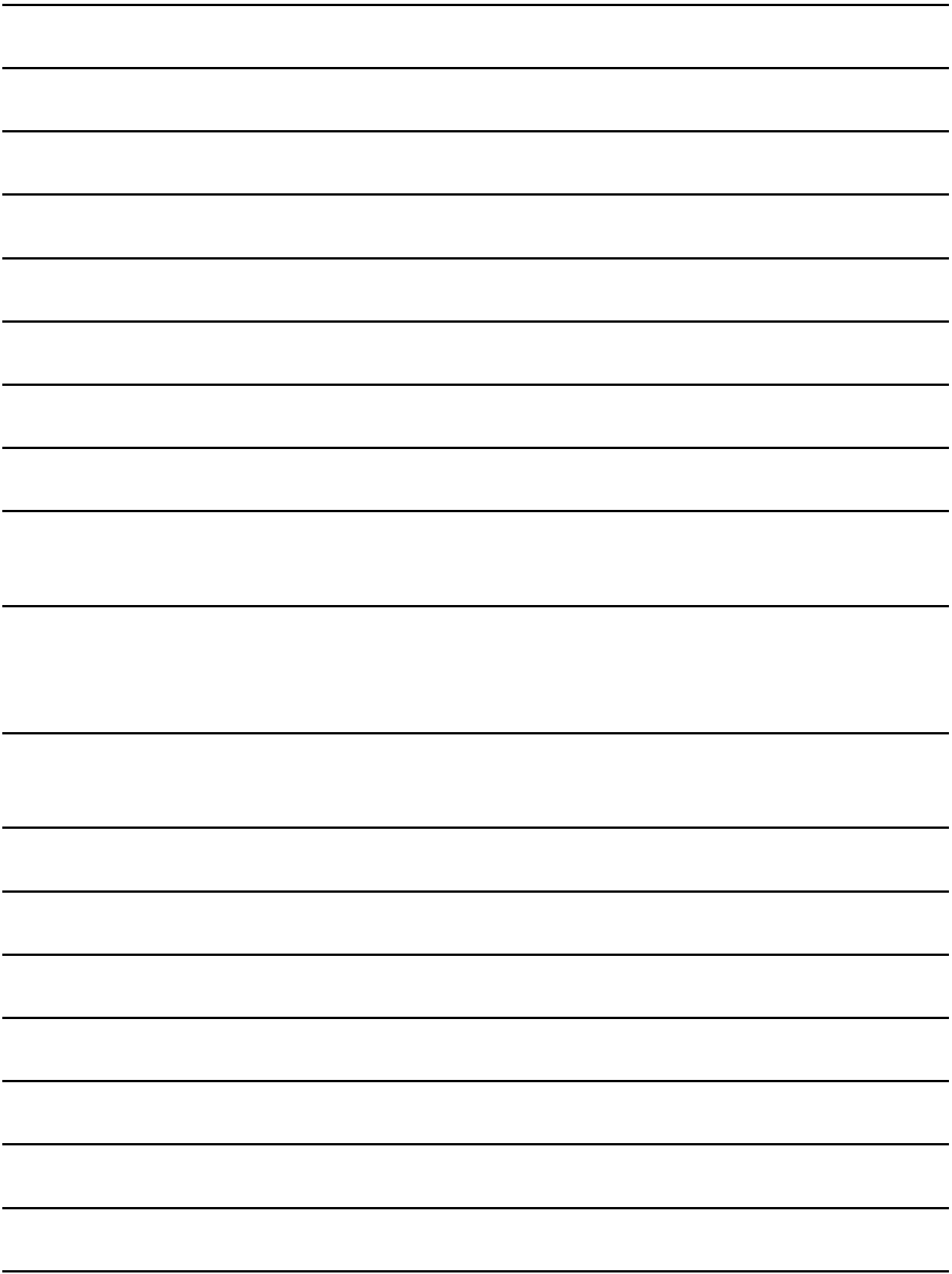
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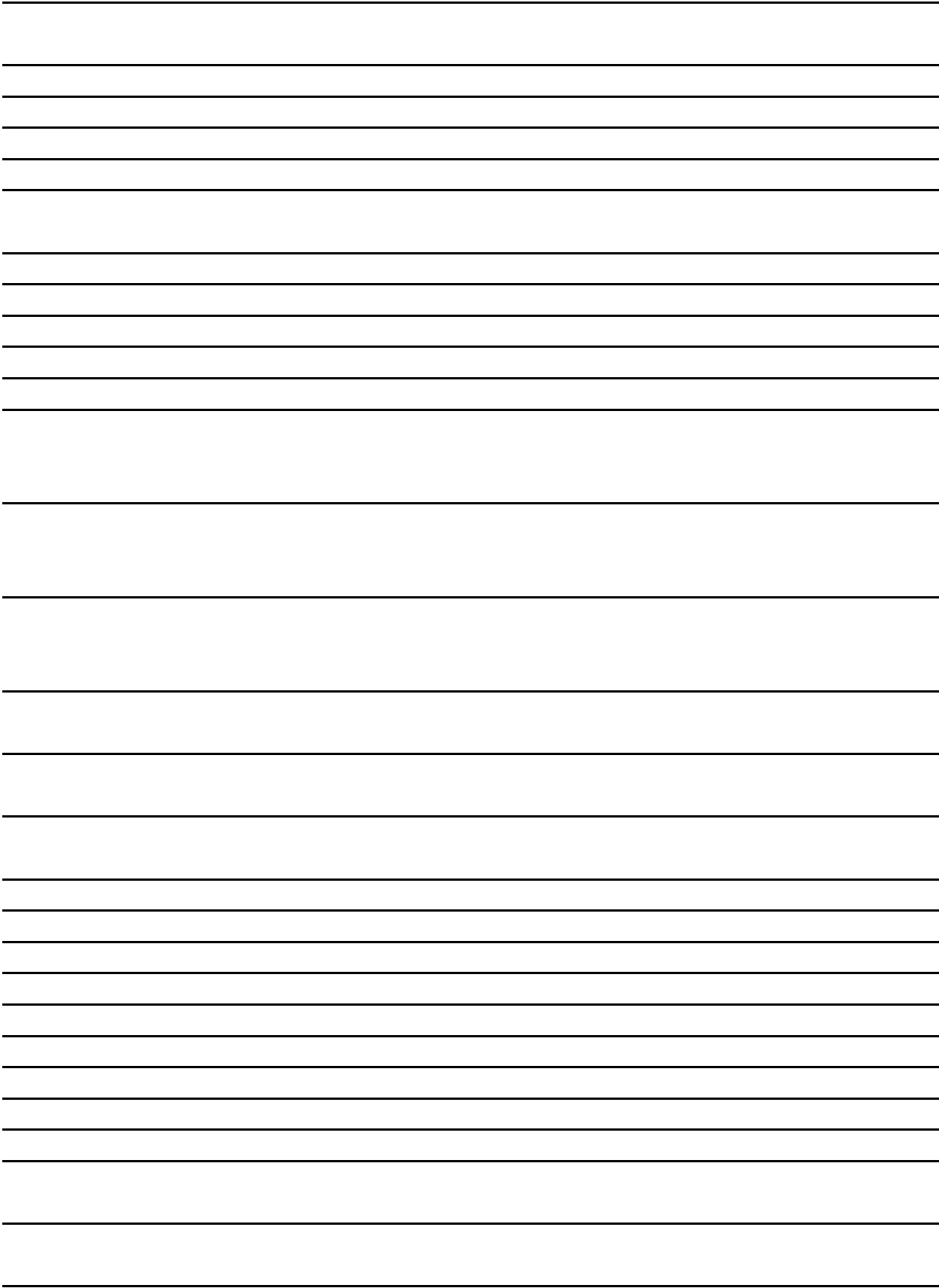
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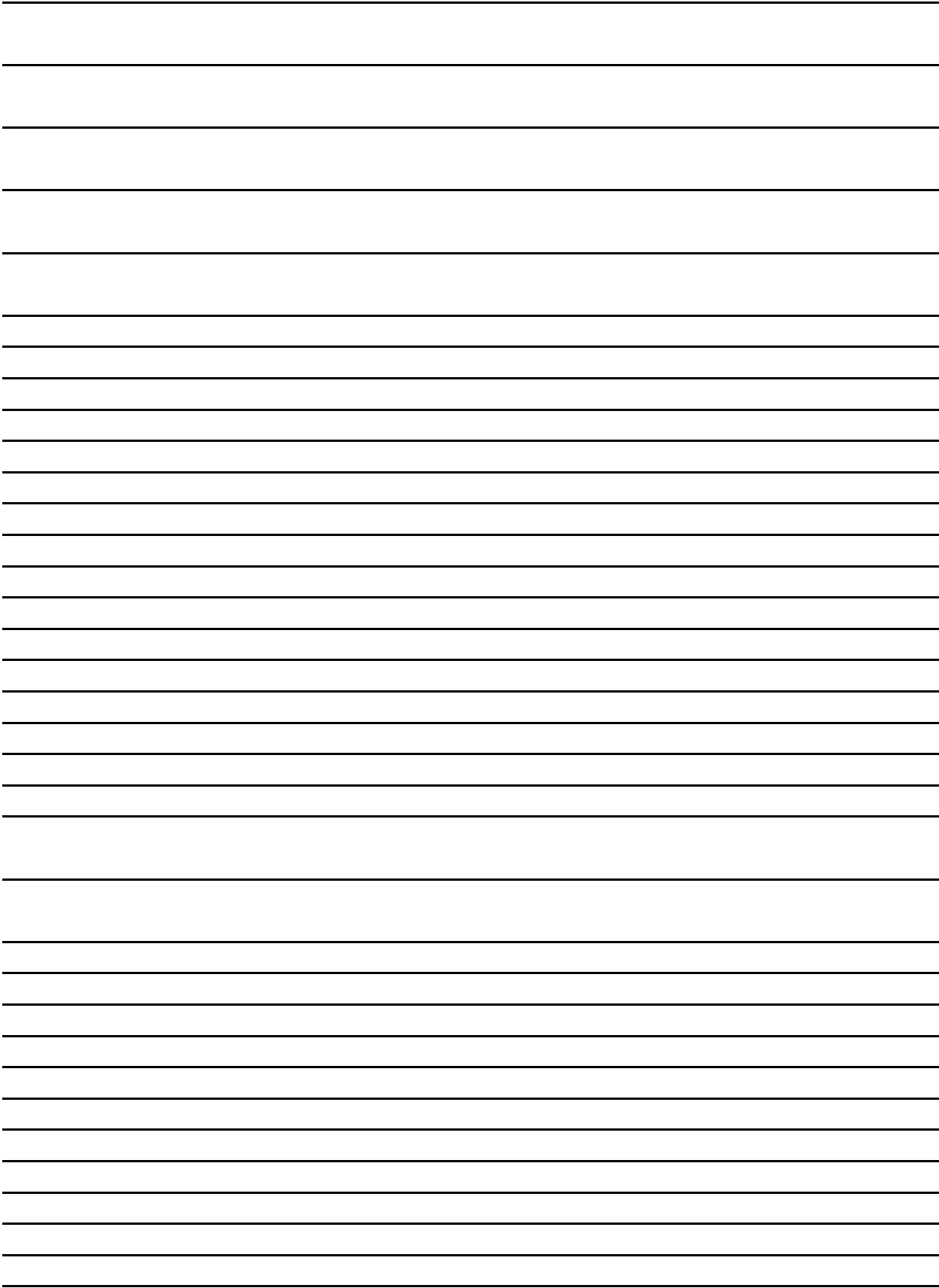


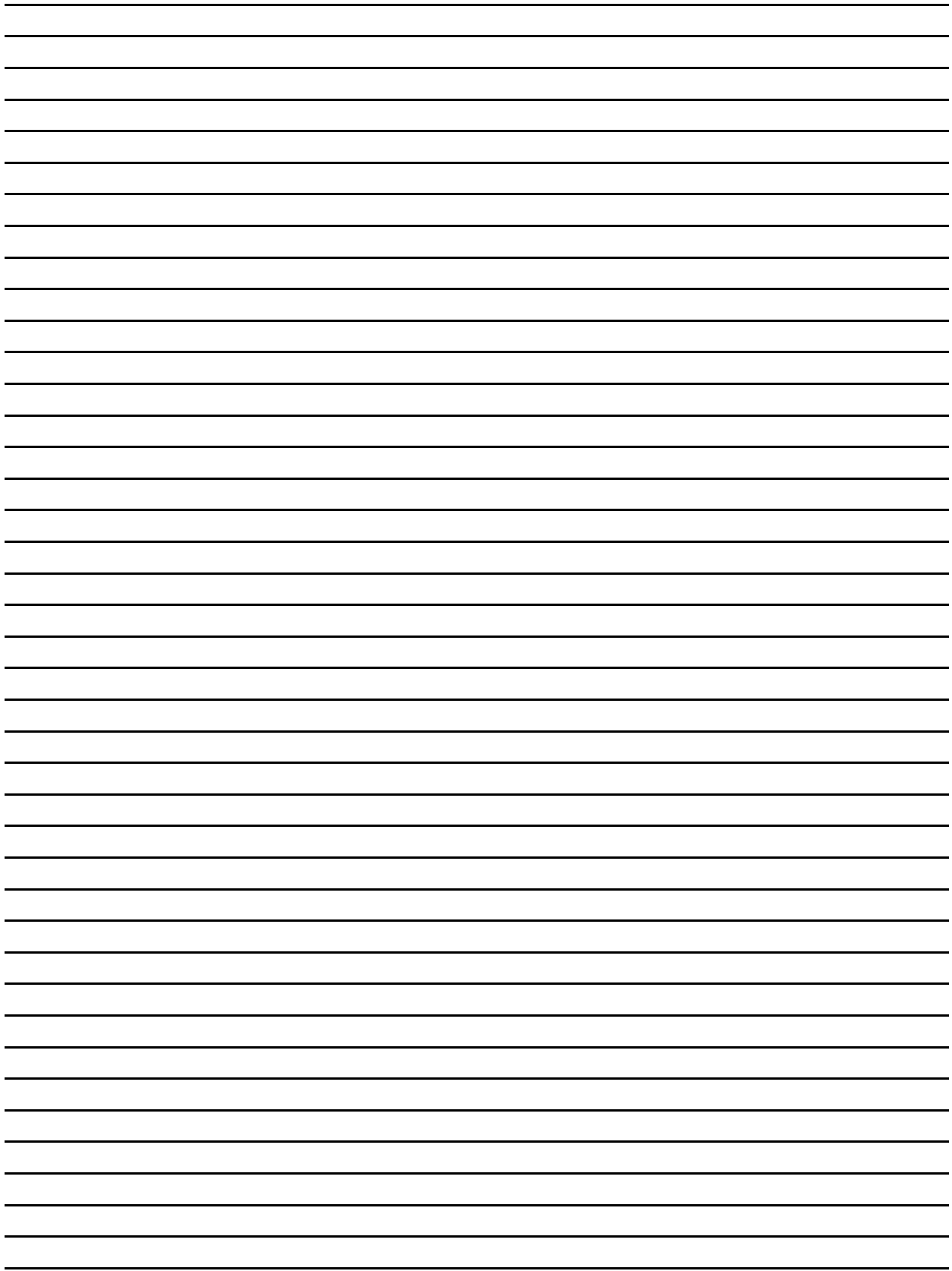












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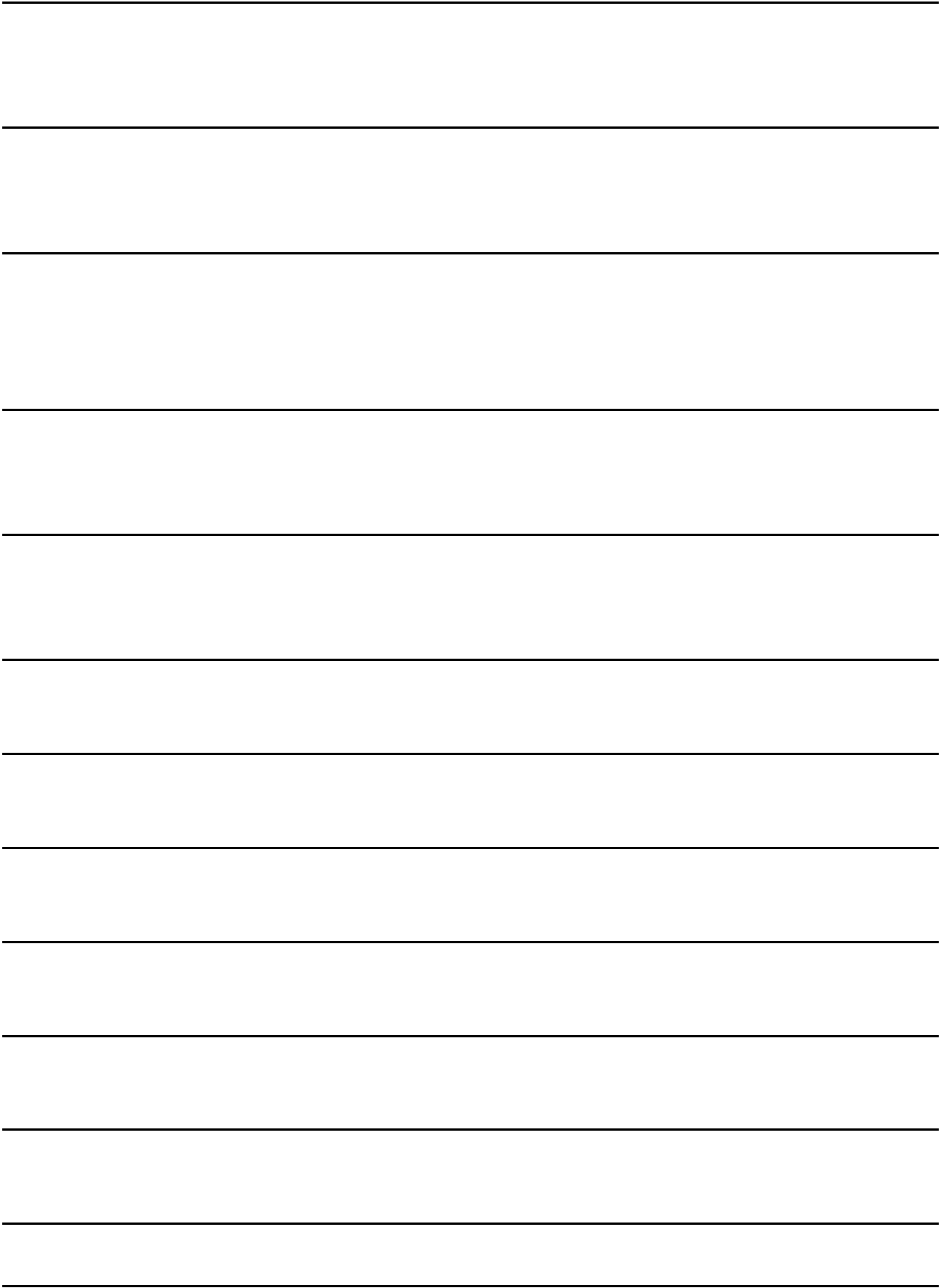
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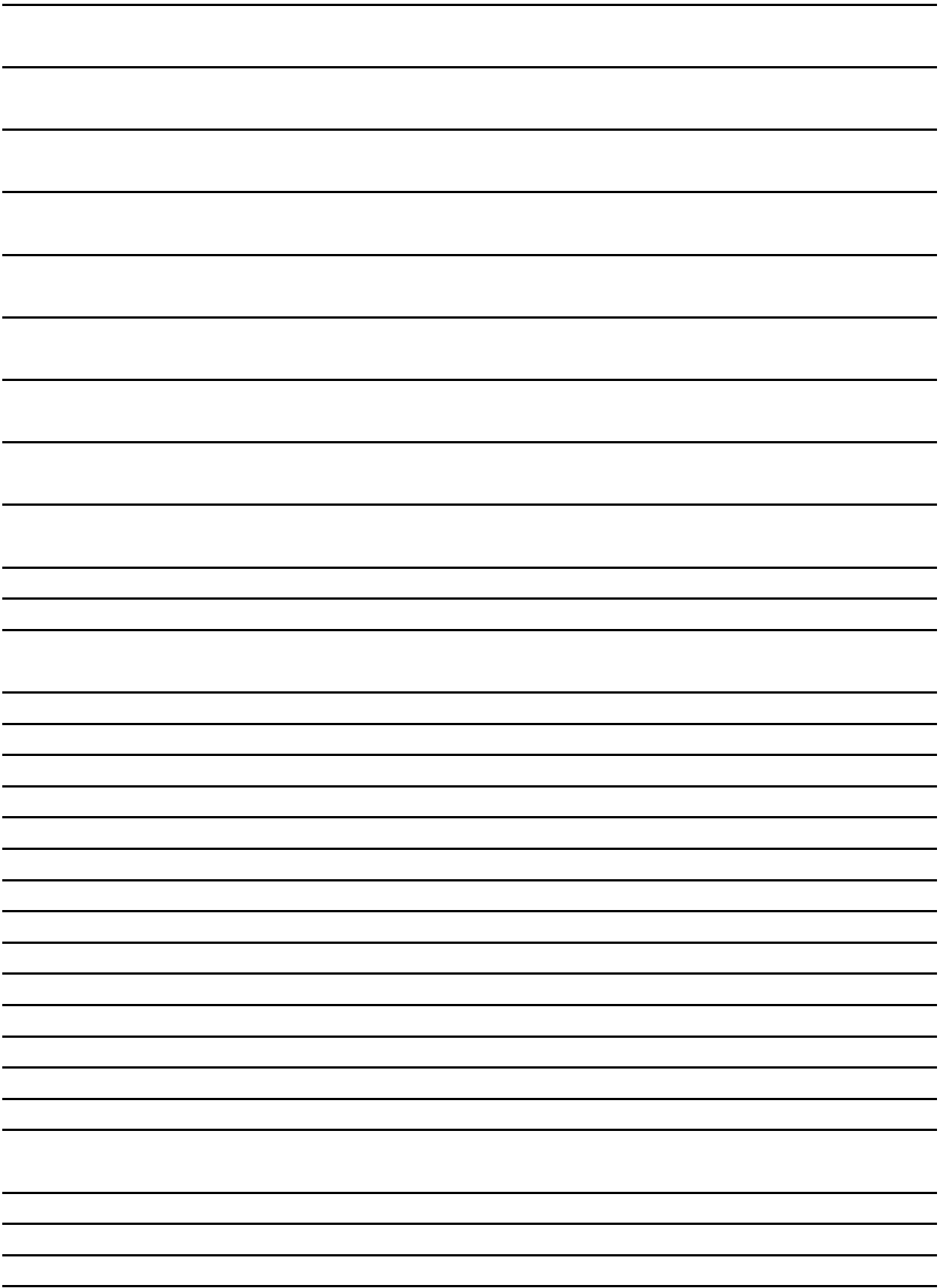
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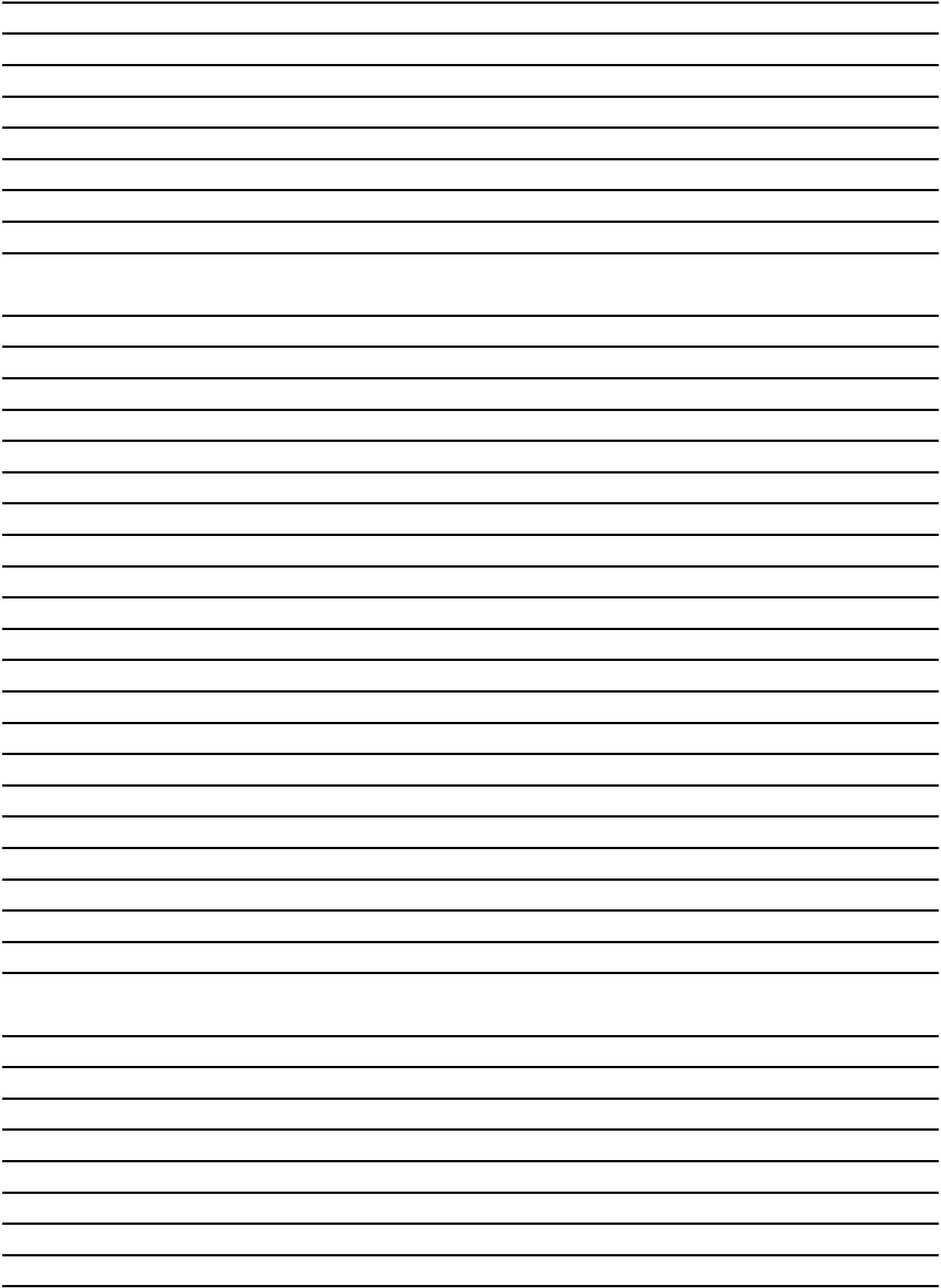
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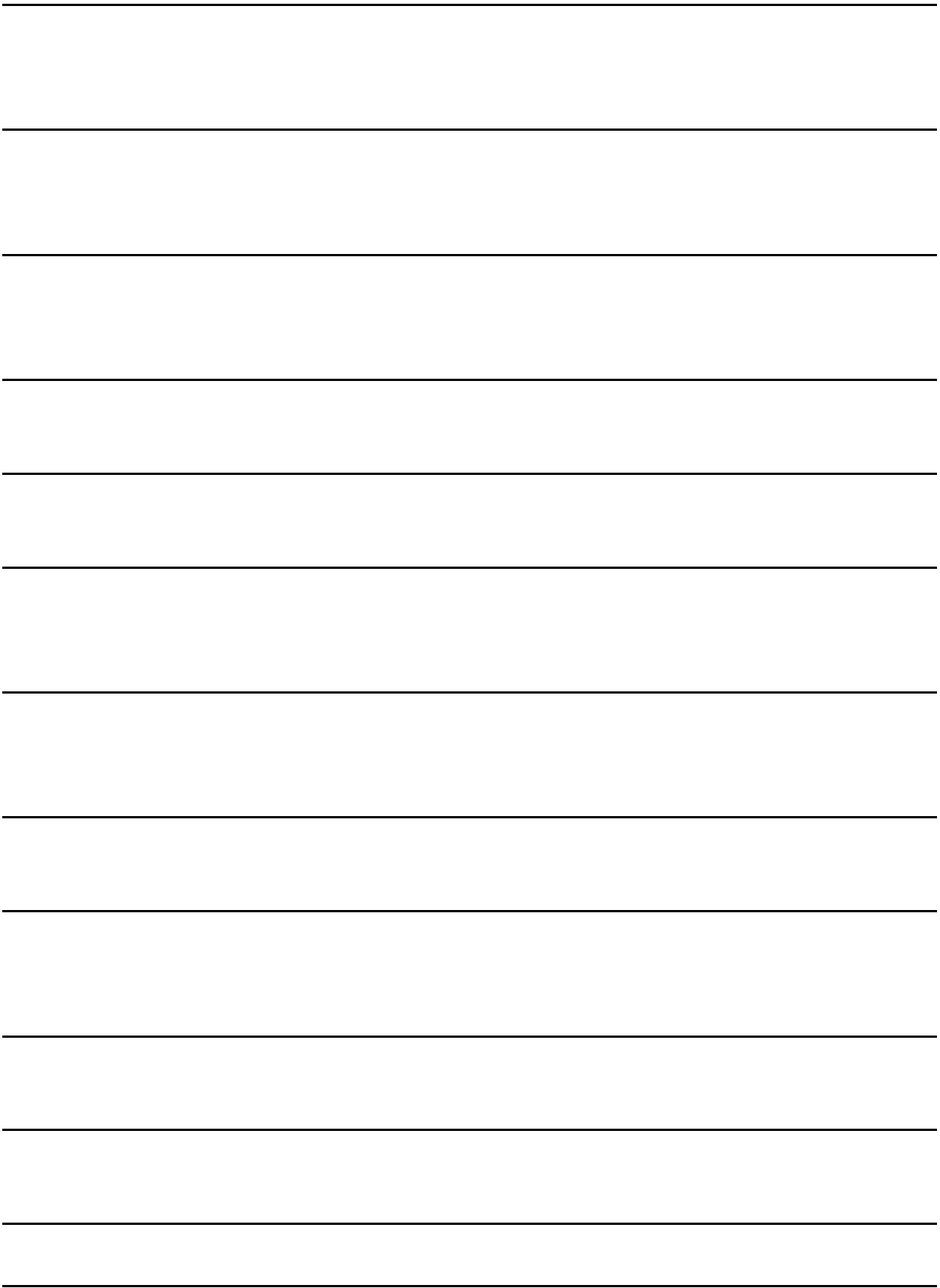
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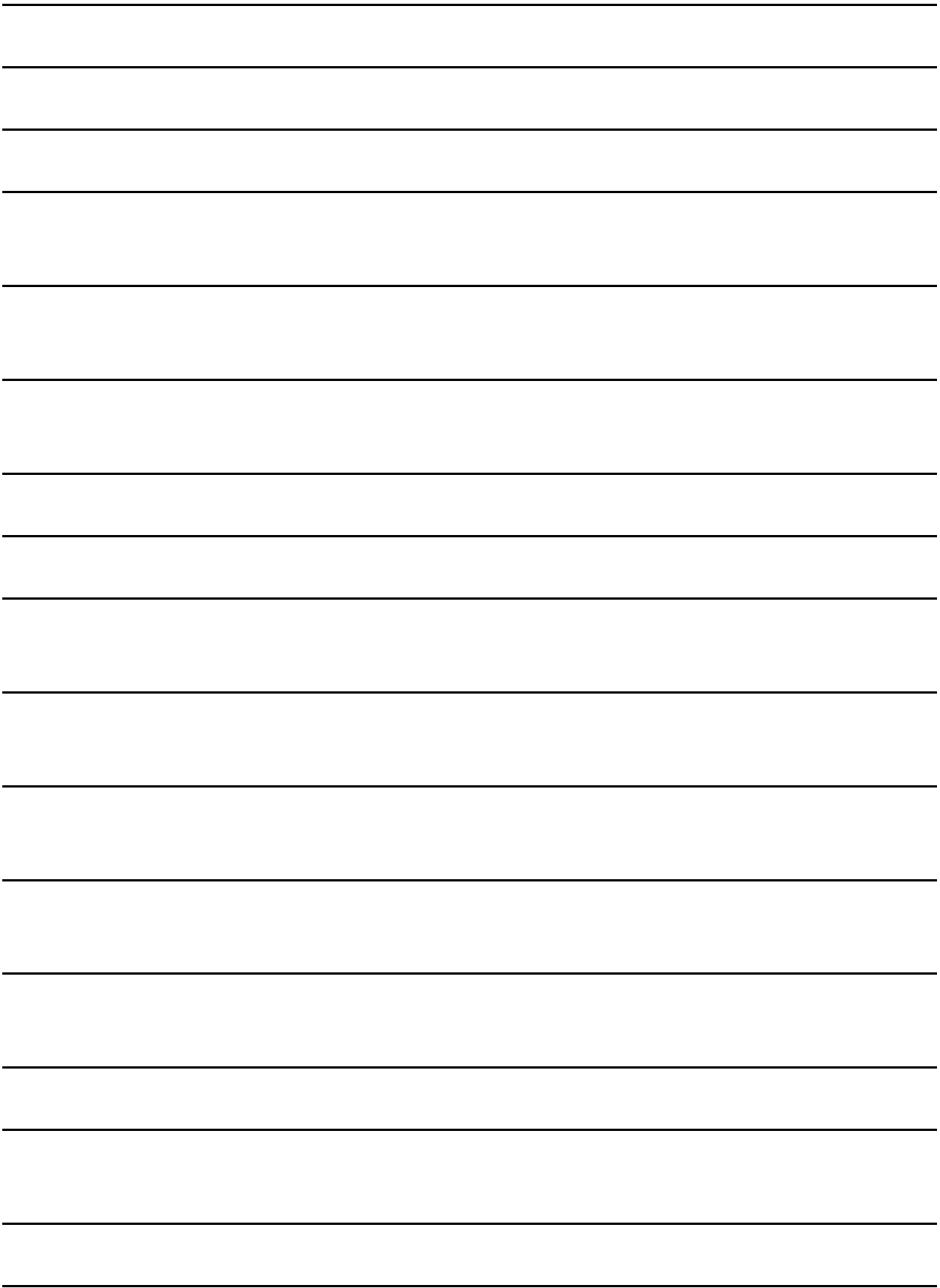
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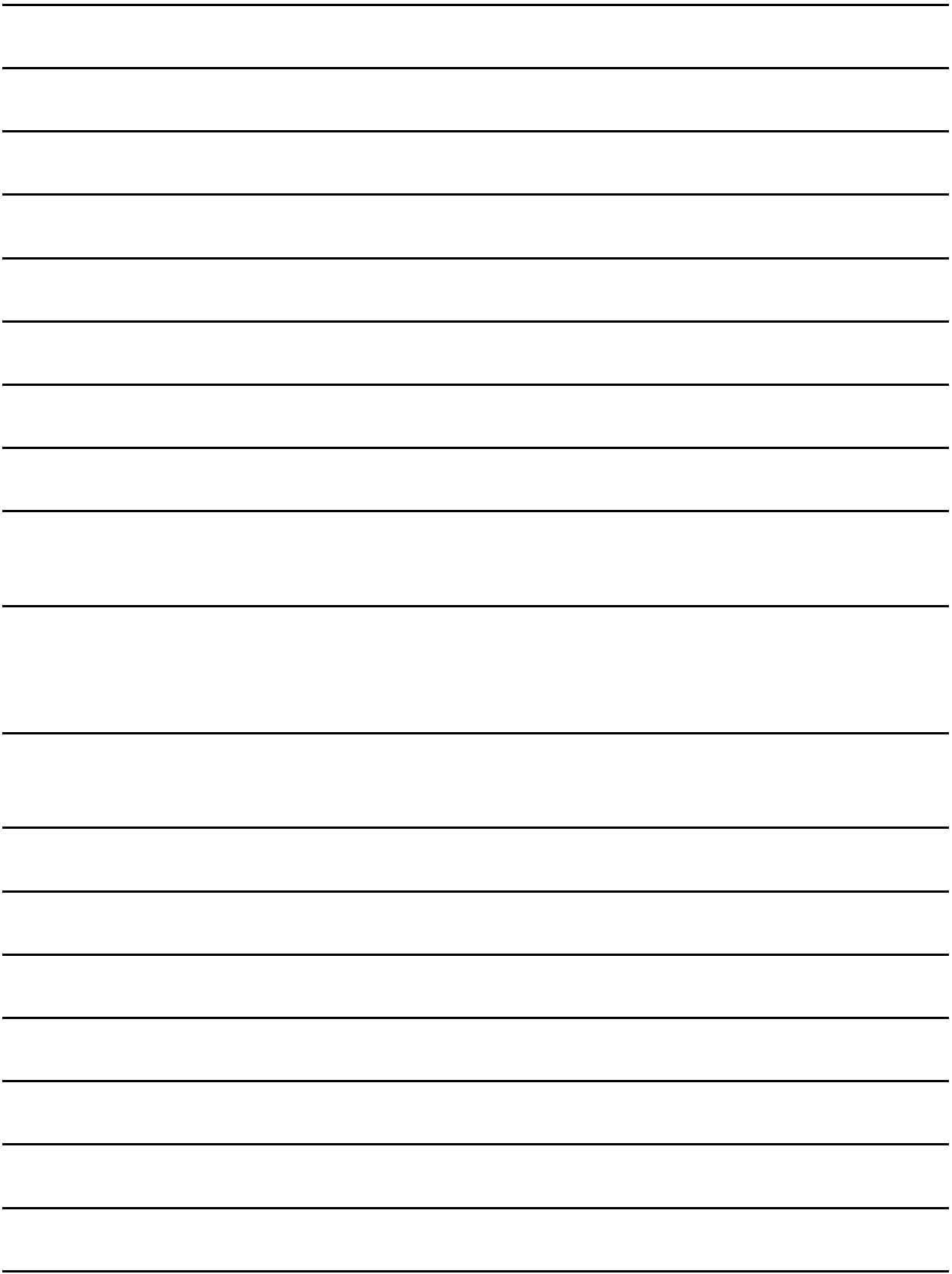
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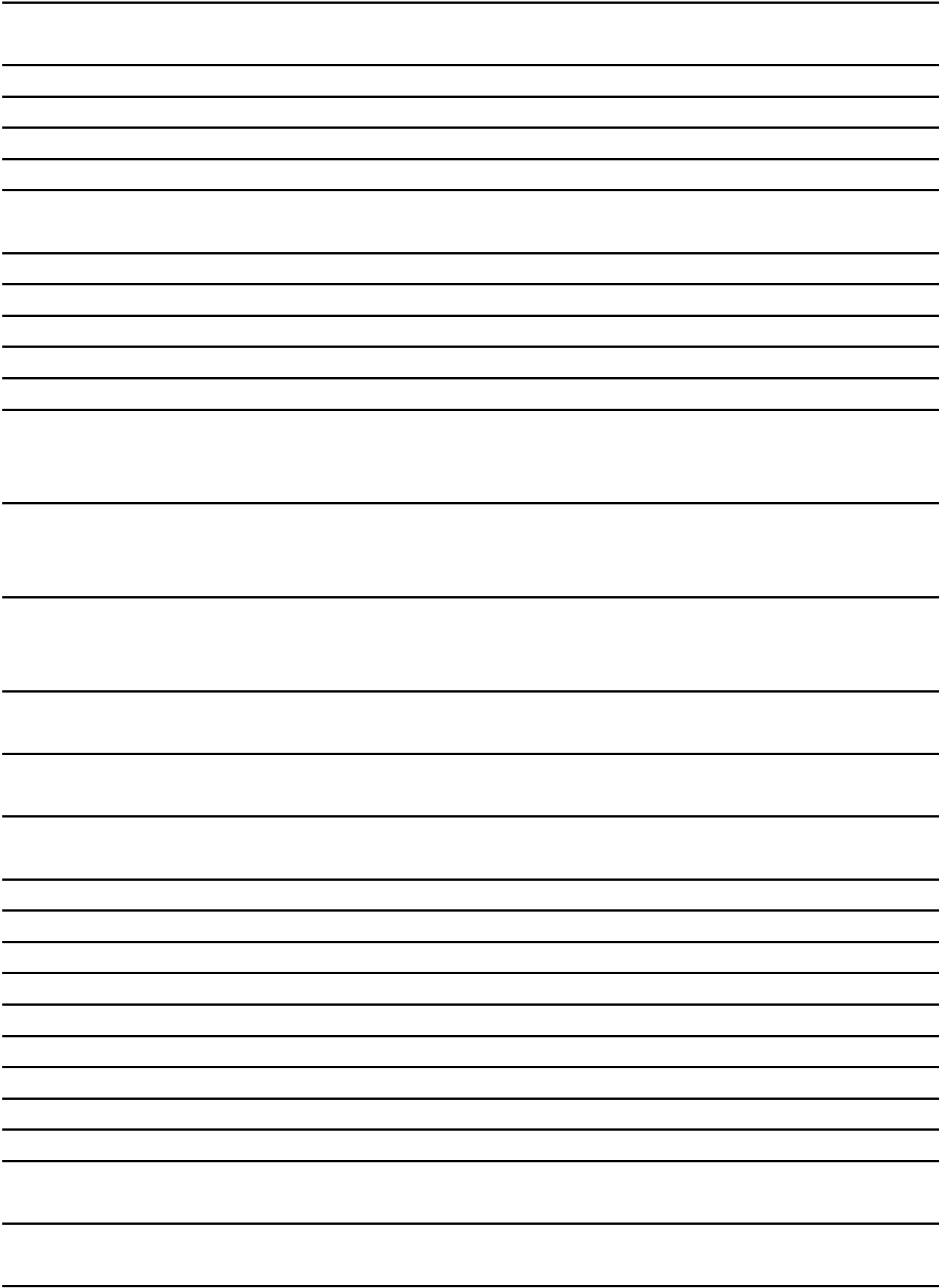
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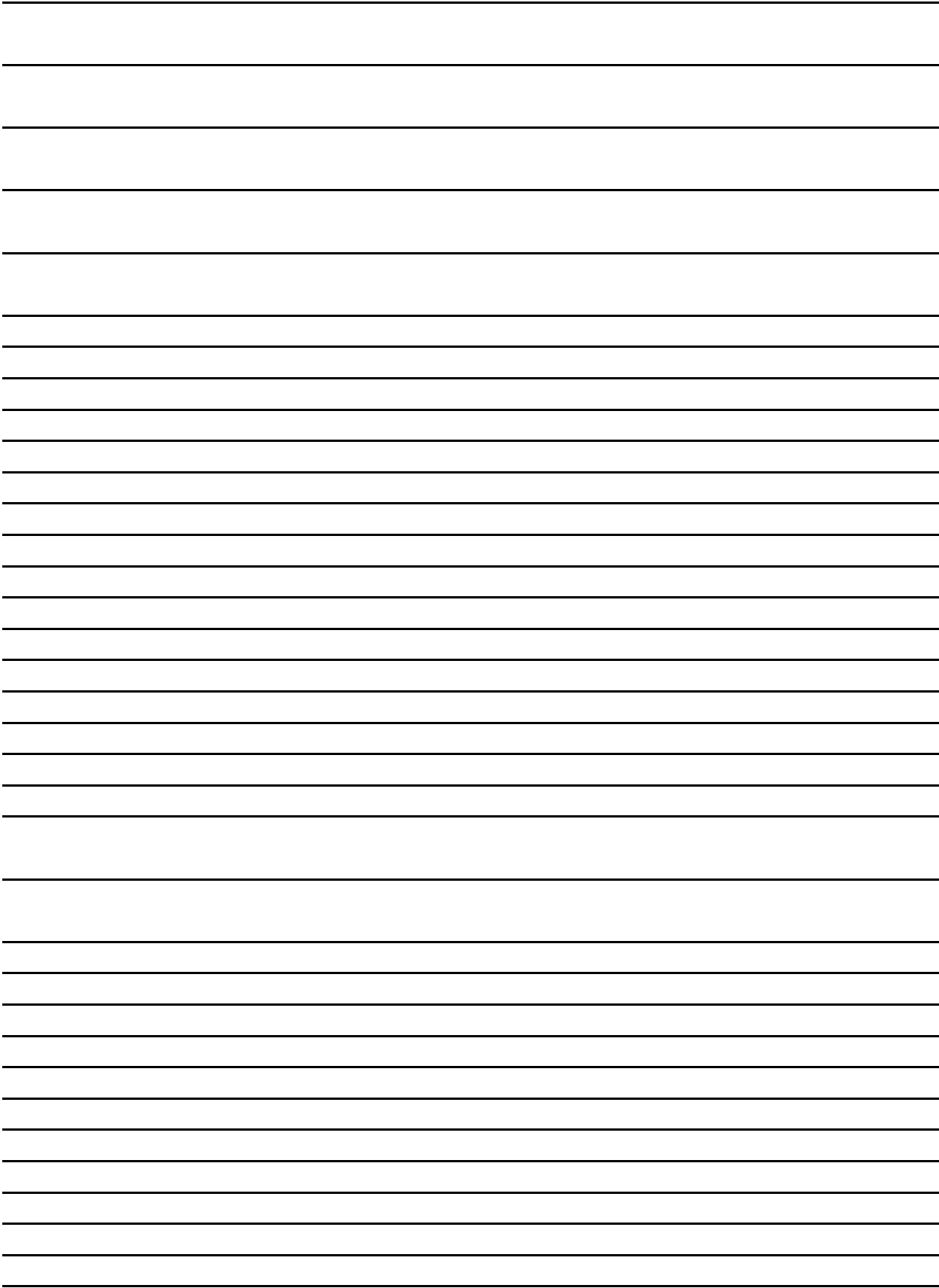


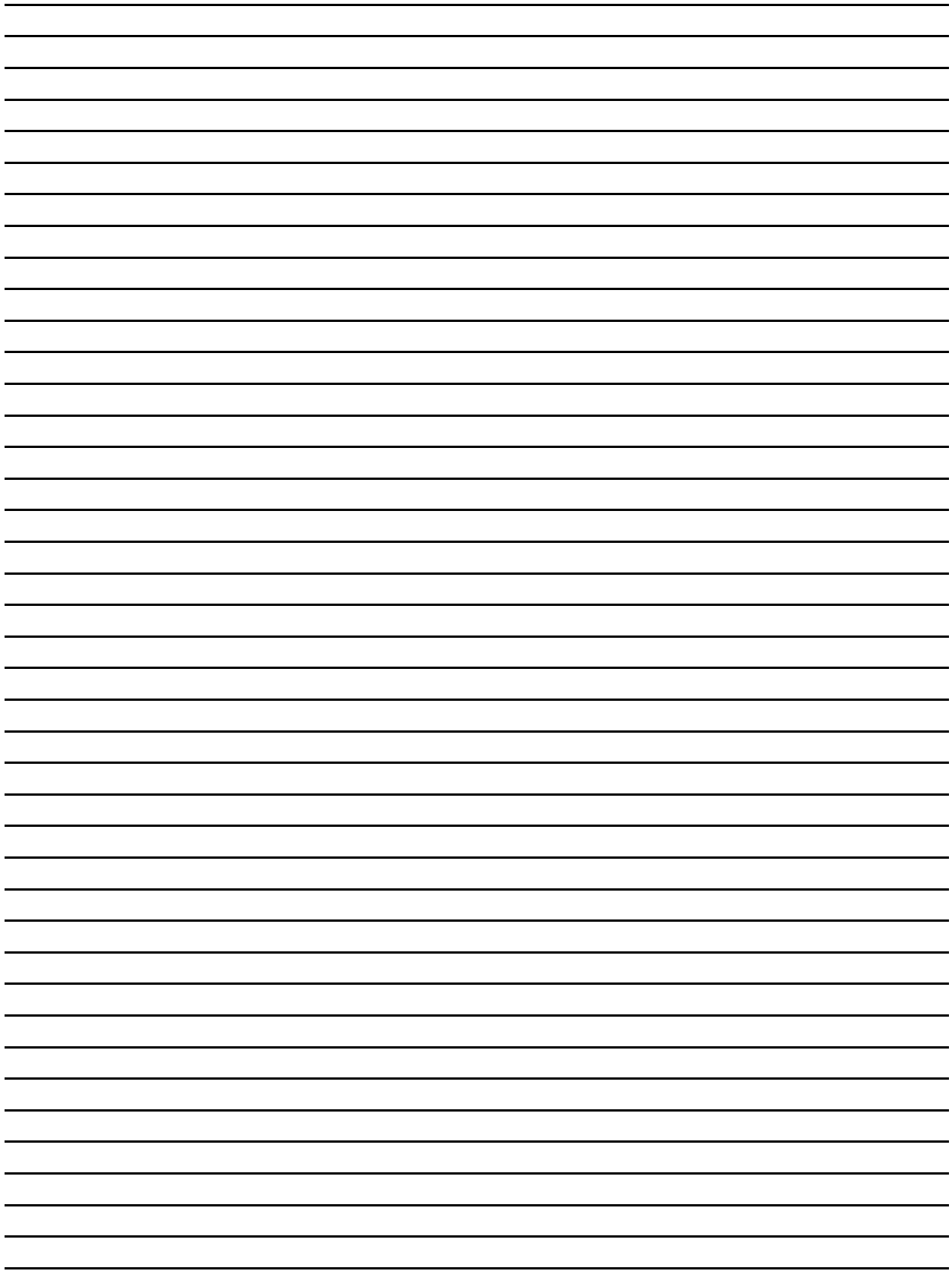












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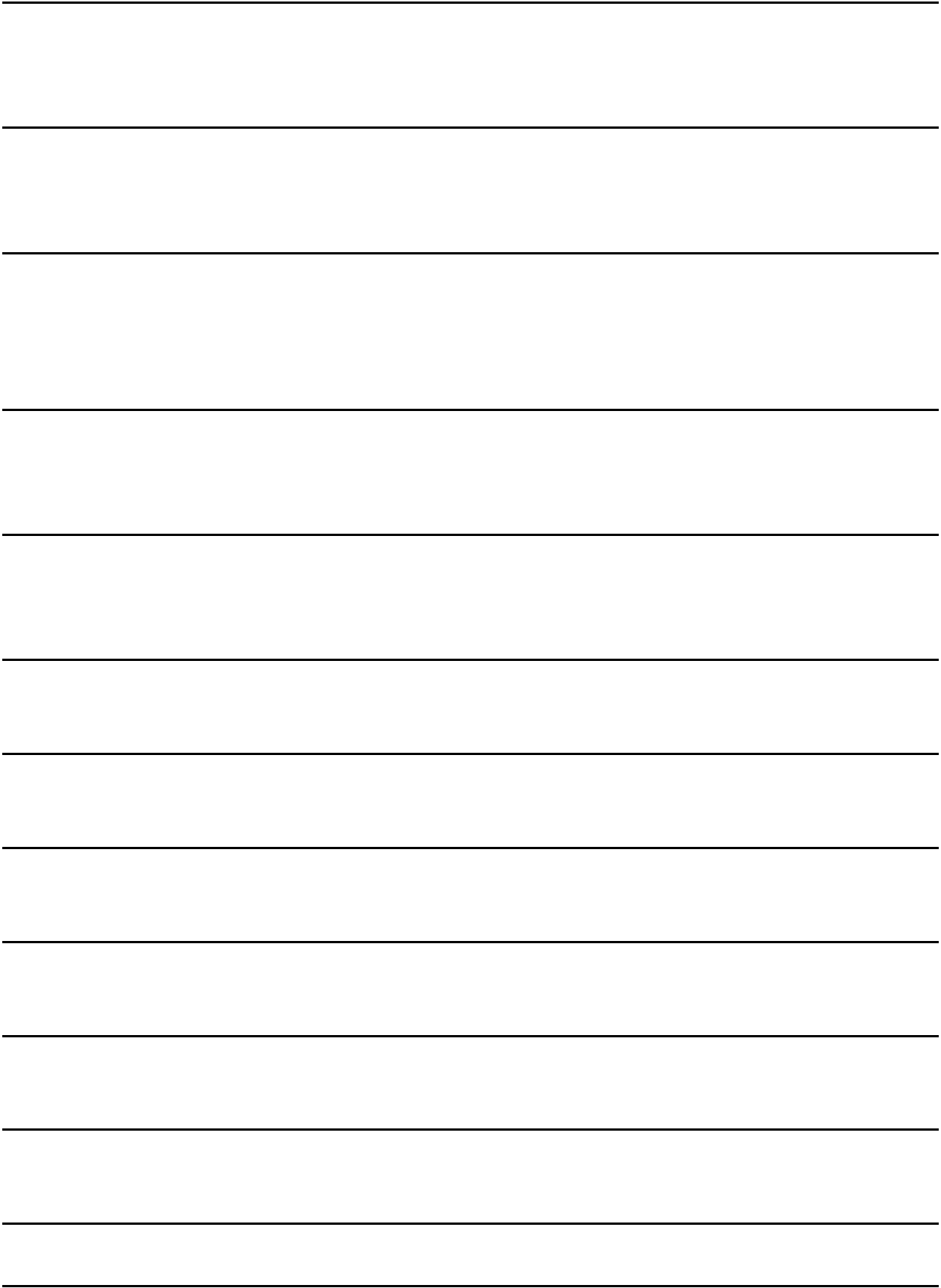
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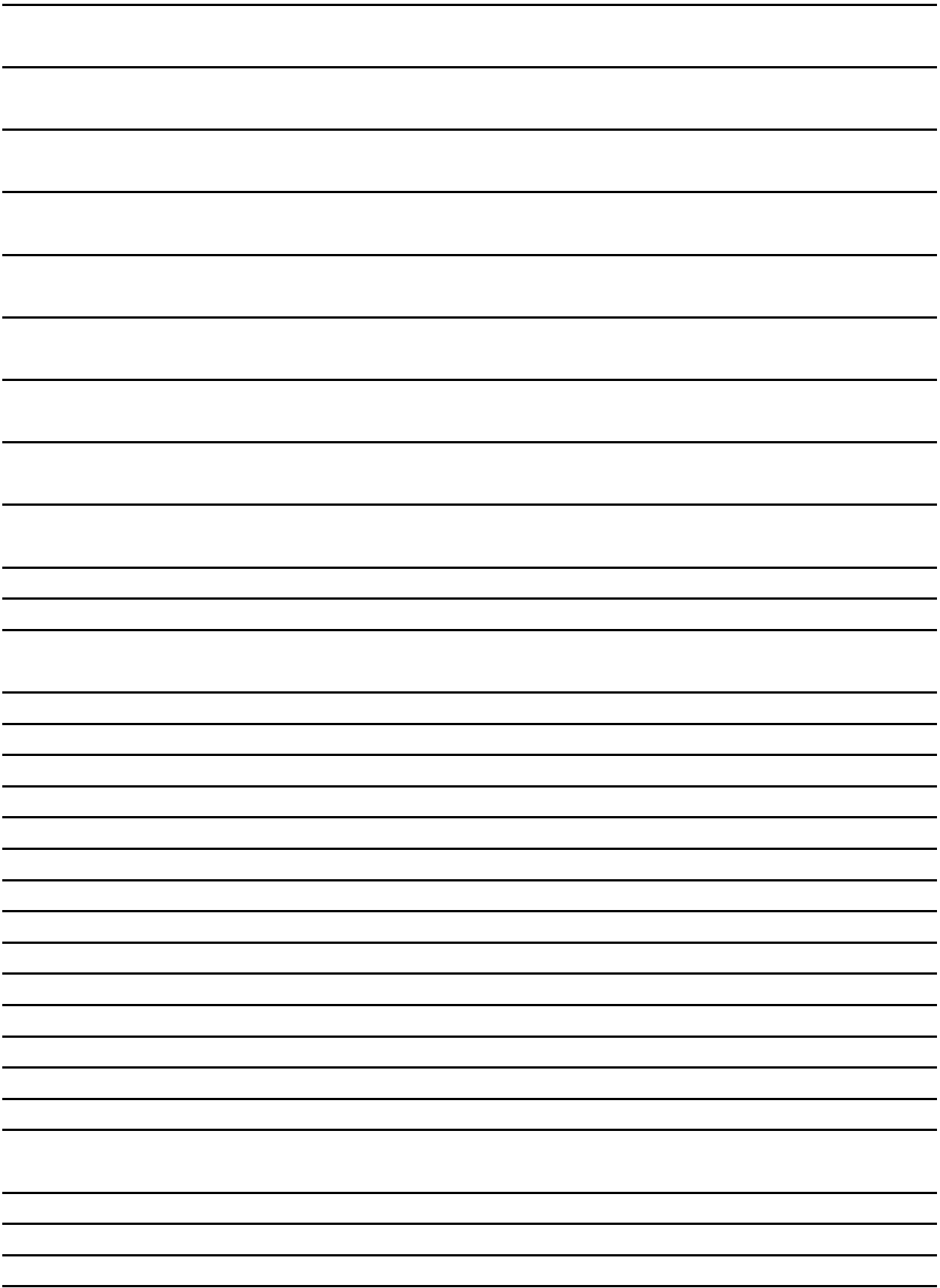
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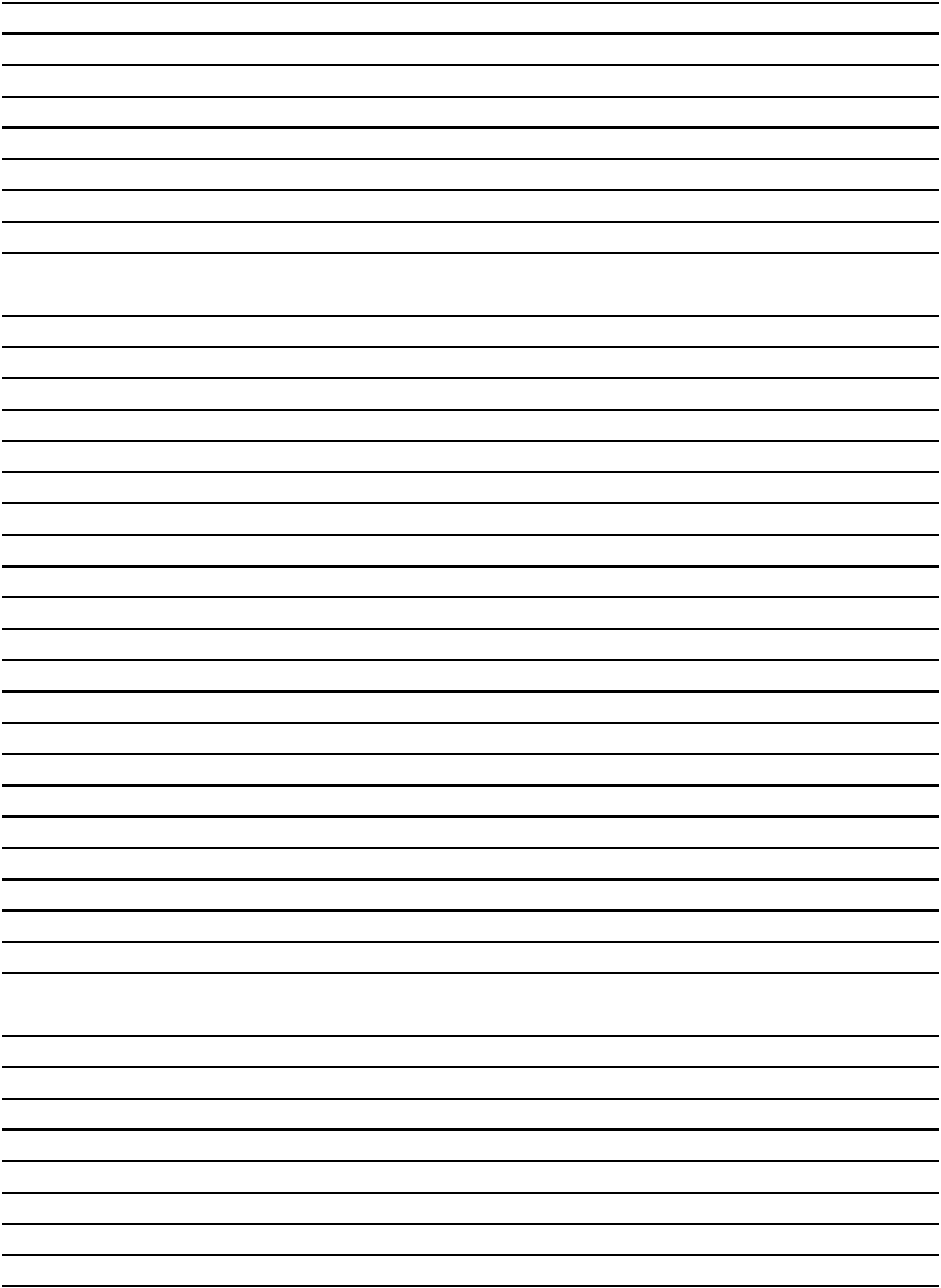
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