



## Global Mental Math Olympiad 2023

### Practice Sheet 4-Answer Key

#### Zen Master Category

##### Section 1

Sr.no	Question Content	Option 1	Option 2	Option 3	Option 4
1	$20 + 6 - 4 = \underline{\quad}$	28	22	26	30
2	$22 + 4 - 3 = \underline{\quad}$	29	23	17	22
3	$21 + 4 - 2 = \underline{\quad}$	15	24	23	29
4	$29 + 7 - 1 = \underline{\quad}$	45	35	27	40
5	$87 + 3 - 2 = \underline{\quad}$	80	88	78	92
6	$11 - 9 - 2 = \underline{\quad}$	0	2	11	5
7	$36 - 9 - 7 = \underline{\quad}$	21	20	16	29
8	$39 - 8 - 7 = \underline{\quad}$	26	27	24	30
9	$69 - 4 - 3 = \underline{\quad}$	66	60	72	62
10	$95 - 9 - 6 = \underline{\quad}$	80	73	89	79

##### Section 2

Sr.No	Question Content	Option 1	Option 2	Option 3	Option 4
1	$24 + 49 = \underline{\quad}$	72	66	68	73
2	$15 + 66 = \underline{\quad}$	90	87	76	81
3	$65 + 53 = \underline{\quad}$	110	118	127	113
4	$86 + 34 = \underline{\quad}$	129	120	113	126
5	$69 + 69 = \underline{\quad}$	148	138	139	146

##### Section 3

Sr.No	Question Content	Option 1	Option 2	Option 3	Option 4
1	$27 + 25 - 11 = \underline{\quad}$	32	36	40	41
2	$82 + 70 - 52 = \underline{\quad}$	93	100	90	101
3	$64 + 51 - 11 = \underline{\quad}$	104	103	107	111
4	$82 + 61 - 23 = \underline{\quad}$	117	116	126	120
5	$86 + 79 - 18 = \underline{\quad}$	142	147	144	140



6	$89 - 78 - 11 = \underline{\quad}$	6	8	11	0
7	$58 - 53 - 2 = \underline{\quad}$	5	7	12	3
8	$88 - 72 - 12 = \underline{\quad}$	16	4	9	12
9	$90 - 66 - 13 = \underline{\quad}$	16	2	7	11
10	$66 - 31 - 15 = \underline{\quad}$	17	20	30	21

#### Section 4

Sr.No	Question Content	Option 1	Option 2	Option 3	Option 4
1	Double of 19 + Half of 34 = $\underline{\quad}$	63	55	52	45
2	Double of 18 + Half of 74 = $\underline{\quad}$	67	73	79	76
3	Double of 38 + Half of 38 = $\underline{\quad}$	96	97	95	105
4	Double of 44 + Half of 98 = $\underline{\quad}$	127	142	130	137
5	Double of 91 + Half of 74 = $\underline{\quad}$	225	219	212	222
6	Double of 10 = $\underline{\quad}$	26	21	20	27
7	Double of 12 = $\underline{\quad}$	24	22	28	20
8	Double of 24 = $\underline{\quad}$	42	38	50	48
9	Double of 40 = $\underline{\quad}$	80	86	73	83
10	Double of 51 = $\underline{\quad}$	106	98	102	110

#### Section 5

Sr.No	Question Content	Option 1	Option 2	Option 3	Option 4
1	Half of 602 = $\underline{\quad}$	311	305	301	306
2	Half of 644 = $\underline{\quad}$	316	321	329	322
3	Half of 822 = $\underline{\quad}$	417	408	411	415
4	Half of 884 = $\underline{\quad}$	442	432	440	433
5	Half of 900 = $\underline{\quad}$	442	456	450	451
6	Double of 539 = $\underline{\quad}$	1078	1073	1080	1083
7	Double of 656 = $\underline{\quad}$	1312	1307	1305	1303
8	Double of 815 = $\underline{\quad}$	1630	1622	1620	1636
9	Double of 840 = $\underline{\quad}$	1689	1672	1682	1680
10	Double of 953 = $\underline{\quad}$	1916	1899	1909	1906



### Section 6

Sr.No	Question Content	Option 1	Option 2	Option 3	Option 4
1	Double of 40 + Half of 118 = _	139	147	144	145
2	Double of 25 + Half of 192 = _	143	146	136	156
3	Double of 50 + Half of 144 = _	176	166	167	172
4	Double of 58 + Half of 118 = _	178	177	173	175
5	Double of 64 + Half of 186 = _	226	223	221	229
6	Double of 17 + Double of 37 = _	108	104	113	114
7	Double of 21 + Double of 38 = _	113	122	111	118
8	Double of 26 + Double of 68 = _	180	179	188	194
9	Double of 78 + Double of 72 = _	294	300	302	305
10	Double of 86 + Double of 65 = _	302	294	310	301

### Section 7

Sr.No	Question Content	Option 1	Option 2	Option 3	Option 4
1	Triple of 11 = _	33	29	43	41
2	Triple of 37 = _	111	102	121	119
3	Triple of 57 = _	161	177	174	171
4	Triple of 58 = _	172	164	174	170
5	Triple of 76 = _	228	233	235	220

### Section 8

Sr.No	Question Content	Option 1	Option 2	Option 3	Option 4
1	Triple of 265 = _	785	803	795	801
2	Triple of 385 = _	1153	1159	1155	1148
3	Triple of 402 = _	1210	1205	1202	1206
4	Triple of 566 = _	1702	1698	1701	1703
5	Triple of 599 = _	1797	1799	1790	1802



### Section 9

Sr.No	Question Content	Option 1	Option 2	Option 3	Option 4
1	39, 20, 52 Mean = _	31	45	37	33
2	66, 20, 49 Mean = _	37	43	39	45
3	33, 68, 40 Mean = _	42	47	37	53
4	86, 66, 10 Mean = _	45	54	47	57
5	40, 37, 91 Mean = _	63	47	56	46
6	19, 69, 95 Mean = _	61	60	58	66
7	97, 66, 92 Mean = _	91	84	85	87
8	76, 24, 46, 48, 26 Mean = _	44	53	42	47
9	12, 31, 74, 44, 69 Mean = _	50	46	56	55
10	23, 59, 39, 95, 24 Mean = _	44	48	47	53
11	13, 81, 23, 76, 52 Mean = _	49	45	55	41
12	75, 69, 50, 16, 40 Mean = _	47	53	56	50
13	74, 51, 31, 95, 49 Mean = _	54	64	55	60
14	92, 79, 39, 93, 82 Mean = _	67	85	83	77
15	Half of 2268 = _	1144	1131	1132	1134
16	Half of 5246 = _	2613	2625	2624	2623
17	Half of 6162 = _	3085	3080	3081	3078
18	Half of 1628 = _	820	818	814	809
19	Half of 8244 = _	4131	4130	4120	4122

### Section 10

Sr.No	Question Content	Option 1	Option 2	Option 3	Option 4
1	Cost price = 139, Selling Price = 195 Profit = _	51	47	56	49
2	Cost price = 490, Selling Price = 672 Profit = _	179	182	190	176
3	Cost price = 614, Selling Price = 392 Loss = _	222	220	223	217
4	Cost price = 728, Selling Price = 983 Profit = _	247	255	259	262
5	Cost price = 493, Selling Price = 848 Profit = _	350	355	362	353
6	Cost price = 762, Selling Price = 1265 Profit = _	512	495	503	506
7	Cost price = 919, Selling Price = 1489 Profit = _	563	569	572	570



8	Cost price = 321, Selling Price = 488 Profit = __	167	160	175	161
9	Cost price = 437, Selling Price = 669 Profit = __	241	230	232	228
10	Cost price = 546, Selling Price = 781 Profit = __	233	234	235	241
11	Cost price = 562, Selling Price = 815 Profit = __	263	253	251	256
12	Cost price = 845, Selling Price = 1183 Profit = __	329	332	333	338
13	Cost price = 837, Selling Price = 1206 Profit = __	378	375	362	369
14	Cost price = 940, Selling Price = 1345 Profit = __	414	415	405	410

### Section 11

Sr.No	Question Content	Option 1	Option 2	Option 3	Option 4
1	$1^2 = \_$	10	2	3	1
2	$3^2 = \_$	0	1	9	3
3	$4^2 = \_$	16	22	10	9
4	$7^2 = \_$	59	58	49	51
5	$8^2 = \_$	64	71	60	65
6	$20^2 = \_$	402	396	400	401
7	$29^2 = \_$	833	841	842	845
8	$32^2 = \_$	1019	1031	1024	1033
9	$35^2 = \_$	1225	1224	1229	1226
10	$39^2 = \_$	1525	1521	1518	1515
11	$53^2 = \_$	2817	2807	2801	2809
12	$58^2 = \_$	3370	3373	3361	3364
13	$69^2 = \_$	4754	4769	4766	4761
14	$76^2 = \_$	5776	5779	5781	5774
15	$85^2 = \_$	7222	7225	7231	7219



### Section 12

Sr.No	Question Content	Option 1	Option 2	Option 3	Option 4
1	$251 + 81 - 3 = \_$	333	330	328	329
2	$375 + 54 - 4 = \_$	415	425	421	419
3	$576 + 76 - 1 = \_$	651	641	642	659
4	$735 + 86 - 8 = \_$	813	810	805	807
5	$920 + 82 - 1 = \_$	1001	993	1011	994
6	$290 - 94 + 7 = \_$	206	197	199	203
7	$467 - 26 + 4 = \_$	450	452	445	448
8	$607 - 89 + 7 = \_$	515	532	525	530
9	$852 - 78 + 5 = \_$	782	779	770	769
10	$933 - 20 + 2 = \_$	915	908	918	925

### Section 13

Sr.No	Question Content	Option 1	Option 2	Option 3	Option 4
1	$30 \times \_ = 90$	270	2700	3	11
2	$19 \times \_ = 76$	6	1	4	10
3	$17 \times \_ = 85$	4	5	1	0
4	$78 \times \_ = 468$	9	6	0	1
5	$81 \times \_ = 648$	16	7	12	8

### Section 14

Sr.No	Question Content	Option 1	Option 2	Option 3	Option 4
1	$7 \times 2 \times 6 = \_$	81	84	78	82
2	$3 \times 7 \times 6 = \_$	128	126	120	129
3	$7 \times 3 \times 6 = \_$	126	136	132	131
4	$5 \times 3 \times 9 = \_$	135	138	141	143
5	$4 \times 7 \times 8 = \_$	231	221	224	230



### Section 15

Sr.No	Question Content	Option 1	Option 2	Option 3	Option 4
1	$22 \times 10 = \_$	227	225	220	210
2	$19 \times 16 = \_$	306	294	312	304
3	$16 \times 80 = \_$	1280	1282	1283	1284
4	$29 \times 61 = \_$	1775	1769	1771	1763
5	$33 \times 54 = \_$	1777	1790	1782	1774
6	$28 \times 89 = \_$	2492	2482	2500	2483
7	$95 \times 44 = \_$	4188	4174	4172	4180
8	$64 \times 84 = \_$	5383	5376	5372	5375
9	$74 \times 76 = \_$	5614	5624	5628	5634
10	$87 \times 71 = \_$	6176	6177	6180	6169
11	$\sqrt{169} = \_$	20	9	15	13
12	$\sqrt{256} = \_$	20	17	16	21
13	$\sqrt{529} = \_$	15	28	16	23
14	$\sqrt{625} = \_$	34	16	25	26
15	$\sqrt{900} = \_$	30	38	22	21
16	$\sqrt{1369} = \_$	43	37	41	39
17	$\sqrt{1600} = \_$	40	39	48	32
18	$\sqrt{1681} = \_$	44	41	45	50
19	$\sqrt{2500} = \_$	47	50	49	48
20	$\sqrt{3844} = \_$	55	71	70	62
21	$\sqrt{5329} = \_$	63	67	73	71
22	$\sqrt{7744} = \_$	87	80	88	86
23	$\sqrt{8649} = \_$	97	83	93	101
24	$\sqrt{9216} = \_$	93	96	94	86

### Section 16

Sr.No	Question Content	Option 1	Option 2	Option 3	Option 4
1	Cube Root of 12167 = $\_$	23	22	33	20
2	Cube Root of 21952 = $\_$	34	31	28	26
3	Cube Root of 29791 = $\_$	33	31	30	39
4	Cube Root of 32768 = $\_$	29	33	42	32
5	Cube Root of 35937 = $\_$	33	43	31	37
6	Cube Root of 42875 = $\_$	35	36	39	31



7	Cube Root of 64000 = _	45	46	40	30
8	Cube Root of 74088 = _	34	36	52	42
9	Cube Root of 91125 = _	55	41	45	37

### Section 17

Sr.No	Question Content	Option 1	Option 2	Option 3	Option 4
1	$304 + 55 = \_$	359	363	351	349
2	$462 + 17 = \_$	484	469	470	479
3	$452 + 81 = \_$	525	531	533	541
4	$888 + 48 = \_$	934	936	943	929
5	$958 + 76 = \_$	1039	1034	1029	1024
6	$290 - 83 = \_$	207	197	198	203
7	$291 - 47 = \_$	237	244	248	254
8	$369 - 83 = \_$	286	294	276	284
9	$851 - 80 = \_$	771	772	774	781
10	$893 - 75 = \_$	816	808	818	824

### Section 18

Sr.No	Question Content	Option 1	Option 2	Option 3	Option 4
1	$554 + 392 = \_$	947	942	939	946
2	$331 + 755 = \_$	1080	1086	1093	1092
3	$604 + 727 = \_$	1325	1331	1337	1338
4	$487 + 879 = \_$	1367	1369	1371	1366
5	$868 + 553 = \_$	1430	1421	1416	1422
6	$350 - 95 + 82 = \_$	330	329	337	346
7	$593 - 66 + 20 = \_$	547	555	552	538
8	$580 - 70 + 57 = \_$	569	575	576	567
9	$897 - 99 + 10 = \_$	816	808	812	817
10	$978 - 38 + 32 = \_$	970	964	971	972
11	$138 + 57 - 18 = \_$	171	172	177	173
12	$476 + 79 - 68 = \_$	481	487	480	482
13	$694 + 81 - 14 = \_$	763	756	765	761
14	$875 + 67 - 60 = \_$	886	881	875	882
15	$886 + 73 - 54 = \_$	907	905	901	900





### Section 19

Sr.No	Question Content	Option 1	Option 2	Option 3	Option 4
1	$1673 - 703 = \underline{\quad}$	965	969	970	963
2	$1718 - 425 = \underline{\quad}$	1293	1288	1290	1296
3	$2437 - 263 = \underline{\quad}$	2172	2174	2169	2182
4	$3519 - 793 = \underline{\quad}$	2726	2721	2725	2730
5	$3314 - 210 = \underline{\quad}$	3101	3108	3098	3104

### Section 20

Sr.No	Question Content	Option 1	Option 2	Option 3	Option 4
1	$416 + 382 + 338 = \underline{\quad}$	1129	1131	1127	1136
2	$301 + 933 + 164 = \underline{\quad}$	1402	1390	1398	1391
3	$505 + 794 + 237 = \underline{\quad}$	1529	1540	1533	1536
4	$335 + 697 + 796 = \underline{\quad}$	1828	1821	1823	1837
5	$523 + 944 + 455 = \underline{\quad}$	1922	1924	1928	1931

### Section 21

Sr.No	Question Content	Option 1	Option 2	Option 3	Option 4
1	$(76 + 81) \times (31 + 20) = \underline{\quad}$	8007	8014	8010	7999
2	$(34 + 20) \times (92 + 81) = \underline{\quad}$	9342	9351	9347	9345
3	$(41 + 83) \times (69 + 18) = \underline{\quad}$	10788	10785	10794	10779
4	$(23 + 50) \times (68 + 97) = \underline{\quad}$	12041	12053	12045	12035
5	$(80 + 91) \times (37 + 90) = \underline{\quad}$	21717	21712	21723	21719

### Section 22

Sr.No	Question Content	Option 1	Option 2	Option 3	Option 4
1	Multiple of 92 = $\underline{\quad}$	184, 368, 460	187, 369, 461	189, 372, 466	193, 376, 468
2	Multiple of 55 = $\underline{\quad}$	275, 330, 440	276, 333, 443	281, 336, 444	282, 337, 449
3	Multiple of 16 = $\underline{\quad}$	33, 83, 115	38, 84, 116	32, 80, 112	40, 89, 120
4	Multiple of 60 = $\underline{\quad}$	361, 363, 423	365, 424, 546	367, 368, 427	360, 420, 540
5	Multiple of 26 = $\underline{\quad}$	54, 158, 236	58, 162, 240	60, 163, 242	52, 156, 234



### Section 23

Sr.No	Question Content	Option 1	Option 2	Option 3	Option 4
1	Find the LCM of 10 and 46 ?	232	230	239	235
2	Find the LCM of 25 and 11 ?	284	270	275	272
3	Find the LCM of 35 and 91 ?	450	453	461	455
4	Find the LCM of 38 and 30 ?	570	572	561	560
5	Find the LCM of 14 and 83 ?	1164	1162	1165	1159
6	Find the LCM of 68 and 96 ?	1624	1626	1632	1622
7	Find the LCM of 64 and 27 ?	1728	1718	1724	1731
8	Find the LCM of 55 and 43 ?	2372	2356	2364	2365
9	Find the LCM of 52 and 94 ?	2444	2441	2434	2438
10	Find the LCM of 45 and 71 ?	3189	3194	3188	3195

### Section 24

Sr.No	Question Content	Option 1	Option 2	Option 3	Option 4
1	Find the HCF of 45, 56 = _	3	4	1	10
2	Find the HCF of 88, 95 = _	9	6	1	11
3	Find the HCF of 34, 20 = _	1	10	4	2
4	Find the HCF of 74, 96 = _	11	3	4	2
5	Find the HCF of 30, 32 = _	6	4	2	11
6	Find the HCF of 62, 60 = _	10	5	2	3
7	Find the HCF of 28, 30 = _	6	2	5	2
8	Find the HCF of 12, 69 = _	5	3	4	6
9	Find the HCF of 24, 44 = _	6	12	5	4
10	Find the HCF of 95, 65 = _	15	2	5	13

### Section 25

Sr.No	Question Content	Option 1	Option 2	Option 3	Option 4
1	$256 / 4 = \_$	65	73	64	68
2	$468 / 6 = \_$	76	78	69	88
3	$875 / 7 = \_$	116	125	117	123
4	$800 / 5 = \_$	150	160	170	169
5	$596 / 2 = \_$	305	291	296	298



### Section 26

Sr.No	Question Content	Option 1	Option 2	Option 3	Option 4
1	Remainder of $12 / 1 = \_$	8	0	1	2
2	Remainder of $67 / 2 = \_$	7	1	8	0
3	Remainder of $79 / 2 = \_$	1	0	6	3
4	Remainder of $56 / 5 = \_$	1	4	3	2
5	Remainder of $62 / 6 = \_$	2	12	5	3
6	Remainder of $709 / 47 = \_$	12	4	10	3
7	Remainder of $686 / 97 = \_$	14	15	10	7
8	Remainder of $273 / 11 = \_$	8	3	9	6
9	Remainder of $662 / 93 = \_$	5	11	17	21
10	Remainder of $687 / 28 = \_$	15	16	24	23
11	Remainder of $237 / 31 = \_$	29	30	20	23
12	Remainder of $678 / 64 = \_$	36	46	38	28
13	Remainder of $338 / 60 = \_$	31	41	38	28
14	Remainder of $171 / 44 = \_$	33	32	39	46
15	Remainder of $915 / 54 = \_$	42	45	54	51

### Section 27

Sr.No	Question Content	Option 1	Option 2	Option 3	Option 4
1	10% of 10 = $\_$	10	2	0	1
2	10% of 30 = $\_$	3	30	6	6
3	5% of 80 = $\_$	13	5	4	3
4	20% of 35 = $\_$	6	5	0	7
5	20% of 95 = $\_$	17	21	19	10
6	25% of 84 = $\_$	26	11	14	21
7	50% of 54 = $\_$	29	27	26	19
8	50% of 94 = $\_$	46	43	52	47
9	20% of 265 = $\_$	44	58	53	60
10	25% of 244 = $\_$	62	61	54	59
11	20% of 305 = $\_$	69	67	70	61
12	20% of 435 = $\_$	79	77	87	83
13	50% of 194 = $\_$	97	90	107	105
14	50% of 574 = $\_$	288	290	291	287
15	50% of 606 = $\_$	303	309	302	300
16	50% of 886 = $\_$	449	443	438	453



### Section 28

Sr.No	Question Content	Option 1	Option 2	Option 3	Option 4
1	Prime Factors of 20 = _	3, 5, 8	7, 11	2, 2, 5	10, 11, 13
2	Prime Factors of 70 = _	4, 6, 10	7, 10, 12	2, 5, 7	9, 14
3	Prime Factors of 45 = _	4, 8	3, 3, 5	7, 9, 11	10, 12, 13
4	Prime Factors of 25 = _	7, 8	5, 5	10	12, 13
5	Prime Factors of 35 = _	6, 9	10, 13	5, 7	14, 16
6	Prime Factors of 136 = _	2, 2, 2, 17	4, 5, 19	6, 8, 22	9, 10, 24
7	Prime Factors of 916 = _	4, 5, 230	2, 2, 229	6, 234	9, 11, 237
8	Prime Factors of 492 = _	4, 5, 43	2, 2, 3, 41	6, 7, 46	10, 11, 12, 50
9	Prime Factors of 482 = _	3, 244	6, 245	11, 250	2, 241
10	Prime Factors of 958 = _	5, 480	7, 484	2, 479	11, 488
11	Prime Factors of 350 = _	5, 6, 7, 8	8, 9, 10, 13	10, 13, 14, 15	2, 5, 5, 7
12	Prime Factors of 681 = _	4, 228	3, 227	7, 233	11, 234
13	Prime Factors of 819 = _	4, 8, 15	3, 3, 7, 13	7, 9, 12, 18	12, 14, 22
14	Prime Factors of 195 = _	6, 8, 14	3, 5, 13	8, 9, 17	11, 12, 22
15	Prime Factors of 889 = _	8, 129	7, 127	11, 133	16, 134

### Section 29

Sr.No	Question Content	Option 1	Option 2	Option 3	Option 4
1	18 : 531 = _	6:63	7:66	8:61	2:59
2	18 : 657 = _	2:73	3:74	9:75	5:82
3	21 : 119 = _	3:17	5:20	12:18	6:19
4	40 : 376 = _	13:48	12:49	14:49	5:47
5	56 : 824 = _	10:108	7:103	13:112	16:112
6	63 : 603 = _	14:73	11:73	9:72	7:67
7	49 : 581 = _	11:88	15:85	7:83	16:86
8	99 : 45 = _	15:9	13:10	15:10	11:5
9	88 : 56 = _	20:8	13:9	18:15	11:7
10	18 : 63 = _	7:11	4:9	2:7	8:16
11	14 : 49 = _	10:9	3:9	2:7	5:10
12	15 : 10 = _	3:2	9:10	4:9	9:11
13	30 : 66 = _	5:11	12:12	8:15	7:13
14	30 : 18 = _	14:4	7:5	11:10	5:3



**Section 30**

Sr.No	Question Content	Option 1	Option 2	Option 3	Option 4
1	$79 / 79 = \_$	11	9	1	5
2	$140 / 70 = \_$	2	3	5	4
3	$637 / 91 = \_$	8	7	1	15
4	$304 / 38 = \_$	8	14	13	6
5	$322 / 23 = \_$	19	13	15	14