

Problem 1 – Magic Sum Part 1

Have you ever seen anyone do mental math tricks quickly and wonder how they did it? In this activity, you will learn a trick that will involve adding a list of ten numbers in a split second.

1. Fill in the following table with the numbers generated by your class.

1	2	3	4	5	6	7	8	9	10

2. Enter the two lists in L1 and L2. Find the sum of the numbers in the table above. On the Home screen, press **2nd** **LIST** **►** **►** **7** to select **sum**. Press **2nd** **LIST** **2** **)** **ENTER** to select **L2** and carry out the command.

L1	L2	L3	2
1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24
25	26	27	28
29	30	31	32
33	34	35	36
37	38	39	40
41	42	43	44
45	46	47	48
49	50	51	52
53	54	55	56
57	58	59	60
61	62	63	64
65	66	67	68
69	70	71	72
73	74	75	76
77	78	79	80
81	82	83	84
85	86	87	88
89	90	91	92
93	94	95	96
97	98	99	100
101	102	103	104
105	106	107	108
109	110	111	112
113	114	115	116
117	118	119	120
121	122	123	124
125	126	127	128
129	130	131	132
133	134	135	136
137	138	139	140
141	142	143	144
145	146	147	148
149	150	151	152
153	154	155	156
157	158	159	160
161	162	163	164
165	166	167	168
169	170	171	172
173	174	175	176
177	178	179	180
181	182	183	184
185	186	187	188
189	190	191	192
193	194	195	196
197	198	199	200
201	202	203	204
205	206	207	208
209	210	211	212
213	214	215	216
217	218	219	220
221	222	223	224
225	226	227	228
229	230	231	232
233	234	235	236
237	238	239	240
241	242	243	244
245	246	247	248
249	250	251	252
253	254	255	256
257	258	259	260
261	262	263	264
265	266	267	268
269	270	271	272
273	274	275	276
277	278	279	280
281	282	283	284
285	286	287	288
289	290	291	292
293	294	295	296
297	298	299	300
301	302	303	304
305	306	307	308
309	310	311	312
313	314	315	316
317	318	319	320
321	322	323	324
325	326	327	328
329	330	331	332
333	334	335	336
337	338	339	340
341	342	343	344
345	346	347	348
349	350	351	352
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357	358	359	360
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365	366	367	368
369	370	371	372
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377	378	379	380
381	382	383	384
385	386	387	388
389	390	391	392
393	394	395	396
397	398	399	400
401	402	403	404
405	406	407	408
409	410	411	412
413	414	415	416
417	418	419	420
421	422	423	424
425	426	427	428
429	430	431	432
433	434	435	436
437	438	439	440
441	442	443	444
445	446	447	448
449	450	451	452
453	454	455	456
457	458	459	460
461	462	463	464
465	466	467	468
469	470	471	472
473	474	475	476
477	478	479	480
481	482	483	484
485	486	487	488
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493	494	495	496
497	498	499	500
501	502	503	504
505	506	507	508
509	510	511	512
513	514	515	516
517	518	519	520
521	522	523	524
525	526	527	528
529	530	531	532
533	534	535	536
537	538	539	540
541	542	543	544
545	546	547	548
549	550	551	552
553	554	555	556
557	558	559	560
561	562	563	564
565	566	567	568
569	570	571	572
573	574	575	576
577	578	579	580
581	582	583	584
585	586	587	588
589	590	591	592
593	594	595	596
597	598	599	600
601	602	603	604
605	606	607	608
609	610	611	612
613	614	615	616
617	618	619	620
621	622	623	624
625	626	627	628
629	630	631	632
633	634	635	636
637	638	639	640
641	642	643	644
645	646	647	648
649	650	651	652
653	654	655	656
657	658	659	660
661	662	663	664
665	666	667	668
669	670	671	672
673	674	675	676
677	678	679	680
681	682	683	684
685	686	687	688
689	690	691	692
693	694	695	696
697	698	699	700
701	702	703	704
705	706	707	708
709	710	711	712
713	714	715	716
717	718	719	720
721	722	723	724
725	726	727	728
729	730	731	732
733	734	735	736
737	738	739	740
741	742	743	744
745	746	747	748
749	750	751	752
753	754	755	756
757	758	759	760
761	762	763	764
765	766	767	768
769	770	771	772
773	774	775	776
777	778	779	780
781	782	783	784
785	786	787	788
789	790	791	792
793	794	795	796
797	798	799	800
801	802	803	804
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809	810	811	812
813	814	815	816
817	818	819	820
821	822	823	824
825	826	827	828
829	830	831	832
833	834	835	836
837	838	839	840
841	842	843	844
845	846	847	848
849	850	851	852
853	854	855	856
857	858	859	860
861	862	863	864
865	866	867	868
869	870	871	872
873	874	875	876
877	878	879	880
881	882	883	884
885	886	887	888
889	890	891	892
893	894	895	896
897	898	899	900
901	902	903	904
905	906	907	908
909	910	911	912
913	914	915	916
917	918	919	920
921	922	923	924
925	926	927	928
929	930	931	932
933	934	935	936
937	938	939	940
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945	946	947	948
949	950	951	952
953	954	955	956
957	958	959	960
961	962	963	964
965	966	967	968
969	970	971	972
973	974	975	976
977	978	979	980
981	982	983	984
985	986	987	988
989	990	991	992
993	994	995	996
997	998	999	1000
1001	1002	1003	1004
1005	1006	1007	1008
1009	1010	1011	1012
1013	1014	1015	1016
1017	1018	1019	1020
1021	1022	1023	1024
1025	1026	1027	1028
1029	1030	1031	1032
1033	1034	1035	1036
1037	1038	1039	1040
1041	1042	1043	1044
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1053	1054	1055	1056
1057	1058	1059	1060
1061	1062	1063	1064
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1069	1070	1071	1072
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1077	1078	1079	1080
1081	1082	1083	1084
1085	1086	1087	1088
1089	1090	1091	1092
1093	1094	1095	1096
1097	1098	1099	1100
1101	1102	1103	1104
1105	1106	1107	1108
1109	1110	1111	1112
1113	1114	1115	1116
1117	1118	1119	1120
1121	1122	1123	1124
1125	1126	1127	1128
1129	1130	1131	1132
1133	1134	1135	1136
1137	1138	1139	1140
1141	1142	1143	1144
1145	1146	1147	1148
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1153	1154	1155	1156
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1161	1162	1163	1164
1165	1166	1167	1168
1169	1170	1171	1172
1173	1174	1175	1176
1177	1178	1179	1180
1181	1182	1183	1184
1185	1186	1187	1188
1189	1190	1191	1192
1193	1194	1195	1196
1197	1198	1199	1200
1201	1202	1203	1204
1205	1206	1207	1208
1209	1210	1211	1212
1213	1214	1215	1216
1217	1218	1219	

Let's Do Summagic

5. In the table, how many 7s are there? _____
6. How many 5s are there? _____
7. Write the mathematical expression as: _____ $\times 7$ + _____ $\times 5$
8. What factor do 55 and 88 have in common? _____
9. Rewrite the expression as: $(11)(5)(7) + (11)(8)(5) = 11(5 \times 7 + 8 \times 5)$. Verify that the expression is the same the one in Question 7. (Use your calculator to find the value of all three mathematical expressions.)
Are the expressions the same? _____
10. Is the number $5(7) + 8(5)$ in the numerically generated list in the table for Question 4? If so, what number in the list? _____
11. Use **sum(L2)** to find the sum of the numbers generated in your table. Press **2nd** **LIST** **▸** **▸** **7** to select **sum**. Press **2nd** **LIST** **2** **)** **ENTER** to select **L2** and execute the command.
- Sum = _____
- What is the *summagic* rule? _____
- _____
12. Work with a partner to choose your own numbers and find the sum using the *summagic* rule. Check your sum using **sum(L2)**.



sum(L2)