

Solids I.

1. Draw the following solids. Write next to them the name that best fits the solid from the box below.

CUBOID TRIANGULAR PRISM CYLINDER
 SQUARE-BASED PYRAMID CUBE CONE
 SPHERE TRIANGULAR-BASED PYRAMID

2. From the box above, answer the following questions.

- Which solids have no corners?
- Which solids have corners?
- Which solids will roll easily?
- Which solids will not roll easily?
- Which solids have only flat faces?
- Which solids have faces that are all the same shape?
- Which solid has a circle at each end?
- Which solid has only faces that are curved?
- Which solid only has 4 faces?
- Which solid only has 2 faces?
- Which solid has all its edges the same length and all its faces the same shape?
- Which solid has 6 faces, but its edges are not the same length?

3. Copy the table below. Fill in the information about the number of faces, edges and vertices (corners) for each solid. The drawings above will help you.

Solid	Faces	Vertices	Edges
Cone	2	1	1
Cube	6	8	12
Cuboid	6	8	12
Square-based pyramid	5	5	8
Triangular-based pyramid	4	4	6
Triangular prism	5	6	9

Can you find a link between the faces, edges and vertices that works for each of these solids?

Magic Squares.

In a Magic Square the rows, columns and diagonals all add up to the same number. This is the Magic Number. Complete the following Magic Squares and find their Magic Numbers.

1.

8	2	11
10	7	4
3	12	6

 Magic Number = 21

2.

5	1	9
10	6	2
3	8	7

 Magic Number = 18

3.

5	12	7
10	8	6
9	4	11

 Magic Number = 22

4.

4	5	9
11	6	1
3	7	8

 Magic Number = 18

5.

6	1	8
7	5	3
2	9	4

 Magic Number = 15

6.

13	5	12
9	10	11
8	15	7

 Magic Number = 32

7.

9	2	10
10	5	4
2	12	7

 Magic Number = 22

8.

14	3	10
5	9	13
8	11	4

 Magic Number = 27

9.

6	2	15
18	9	1
2	13	11

 Magic Number = 26

10.

6	5	10
11	7	3
7	9	8

 Magic Number = 22

11.

6	13	8
11	9	7
10	6	12

 Magic Number = 27

12.

17	16	18
12	14	16
13	18	11

 Magic Number = 42

The 20 Minute Division Challenge.

How far can you get?

1. 4 + 2 = 6	21. 3 + 1 = 4	39. 8 + 2 = 10
4. 9 + 3 = 12	24. 3 + 3 = 6	42. 10 + 2 = 12
7. 8 + 4 = 12	81. 14 + 2 = 16	91. 5 + 1 = 6
10. 12 + 3 = 15	113. 6 + 6 = 12	123. 16 + 2 = 18
13. 15 + 3 = 18	141. 7 + 1 = 8	151. 20 + 10 = 30
16. 12 + 2 = 14	179. 15 + 3 = 18	189. 18 + 9 = 27
19. 12 + 6 = 18	201. 20 + 5 = 25	219. 12 + 4 = 16
22. 10 + 2 = 12	231. 24 + 4 = 28	249. 22 + 11 = 33
25. 20 + 2 = 22	261. 21 + 7 = 28	279. 16 + 8 = 24
28. 40 + 10 = 50	291. 8 + 2 = 10	309. 24 + 3 = 27
31. 6 + 3 = 9	321. 24 + 6 = 30	339. 30 + 4 = 34
34. 18 + 3 = 21	351. 50 + 5 = 55	369. 18 + 2 = 20
40. 14 + 7 = 21	381. 24 + 2 = 26	399. 27 + 9 = 36
43. 24 + 6 = 30	411. 11 + 11 = 22	429. 30 + 10 = 40
46. 33 + 3 = 36	441. 24 + 12 = 36	459. 80 + 8 = 88
49. 18 + 6 = 24	471. 35 + 5 = 40	489. 30 + 5 = 35
52. 11 + 1 = 12	501. 21 + 3 = 24	519. 30 + 5 = 35
55. 28 + 4 = 32	531. 30 + 3 = 33	549. 44 + 4 = 48
58. 27 + 3 = 30	561. 40 + 5 = 45	579. 33 + 11 = 44
61. 36 + 6 = 42	591. 60 + 6 = 66	609. 12 + 12 = 24
64. 36 + 3 = 39	621. 50 + 10 = 60	639. 40 + 4 = 44
67. 28 + 7 = 35	651. 8 + 1 = 9	669. 36 + 12 = 48
70. 80 + 10 = 90	681. 60 + 6 = 66	699. 35 + 7 = 42
73. 40 + 8 = 48	711. 16 + 4 = 20	729. 44 + 11 = 55
76. 45 + 5 = 50	741. 70 + 10 = 80	759. 32 + 8 = 40
79. 70 + 7 = 77	771. 36 + 4 = 40	789. 12 + 1 = 13
82. 45 + 9 = 54	801. 36 + 12 = 48	819. 32 + 4 = 36
85. 42 + 7 = 49	831. 48 + 4 = 52	849. 60 + 10 = 70
88. 48 + 12 = 60	861. 66 + 6 = 72	879. 100 + 10 = 110
91. 90 + 10 = 100	891. 9 + 9 = 18	909. 49 + 7 = 56
94. 60 + 12 = 72	921. 55 + 5 = 60	939. 64 + 8 = 72
97. 99 + 9 = 108	951. 90 + 5 = 95	969. 88 + 11 = 99
100. 77 + 7 = 84	981. 60 + 5 = 65	999. 55 + 11 = 66
103. 8 + 8 = 16	1011. 42 + 6 = 48	1029. 110 + 10 = 120
106. 48 + 8 = 56	1041. 48 + 6 = 54	1059. 66 + 11 = 77
109. 54 + 9 = 63	1071. 81 + 9 = 90	1089. 88 + 8 = 96
112. 72 + 9 = 81	1101. 99 + 11 = 110	1119. 63 + 7 = 70
115. 72 + 6 = 78	1131. 56 + 7 = 63	1179. 56 + 8 = 64
118. 72 + 12 = 84	1161. 63 + 9 = 72	1199. 54 + 6 = 60
121. 77 + 11 = 88	1191. 77 + 11 = 88	1209. 10 + 10 = 20
124. 110 + 11 = 121	1221. 84 + 12 = 96	1239. 84 + 7 = 91
127. 96 + 12 = 108	1251. 84 + 12 = 96	1269. 121 + 11 = 132
130. 108 + 12 = 120	1281. 108 + 9 = 117	1299. 144 + 12 = 156
133. 120 + 10 = 130	1311. 96 + 8 = 104	1329. 132 + 12 = 144
	1341. 132 + 11 = 143	1359. 56 + 8 = 64

Spelling test

- beggar ✓
- mortar ✓
- cigar ✓
- cigarette ✓
- familiar ✓
- ~~nuclear~~ nuclear ✓
- Solar ✓
- particular ✓
- circular ✓
- dollar ✓
- lunar ✓
- canal ✓
- peculiar ✓
- regular ✓
- guitar ✓
- similar ✓
- hangar ✓
- burglar ✓
- scar ✓
- cylinder ✓

20/20

Spelling test

- radiator ✓
- actor ✓
- Survivor ✓
- conductor ✓
- junior ✓
- Governor ✓
- clerk ✓
- author ✓
- visitor ✓
- tailor ✓
- mayor ✓
- motor ✓
- razor ✓
- collar ✓
- doctor ✓
- Sailor ✓
- mirror ✓
- elder ✓
- Senior ✓
- tear ✓

Rounding to the Nearest 1, 10, 100, and 1000

4	10	100	1000
1	10	100	1000
2	20	200	2000
3	30	300	3000
4	40	400	4000
5	50	500	5000
6	60	600	6000
7	70	700	7000
8	80	800	8000
9	90	900	9000
10	100	1000	10000
11	110	1100	11000
12	120	1200	12000
13	130	1300	13000
14	140	1400	14000
15	150	1500	15000
16	160	1600	16000
17	170	1700	17000
18	180	1800	18000
19	190	1900	19000
20	200	2000	20000

44.	726000	14, 1166
45.	840000	15, 19790
46.	310000	16, 5550
47.	523000	17, 63560
48.	800000	18, 7530
49.	499000	19, 76160
50.	1000000	20, 85040
		21, 98030
		22, 21780
1.	(a) 2640 (b) 2500 (c) 3000	23, 24310
2.	60 + 40 (b) 2500 (c)	24, 10860
3.	160	25, 27690
4.	3300	
5.	6520	
6.	8180	
7.	7830	
8.	9650	
9.	8930	
10.	9100	
11.	12600	
12.	14940	
13.	24210	