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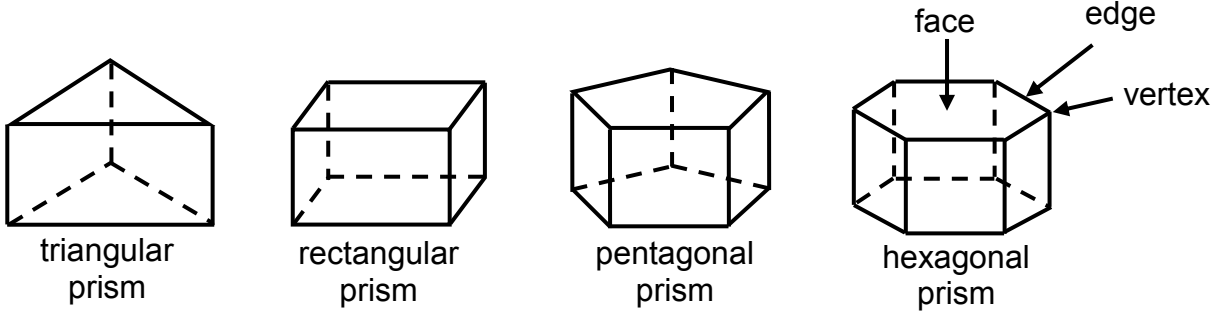
Solutions 56

Samples: *Math Analogies* Level 3, *Math Analogies* Level 4, and
Mathematical Reasoning Middle School Supplement 88

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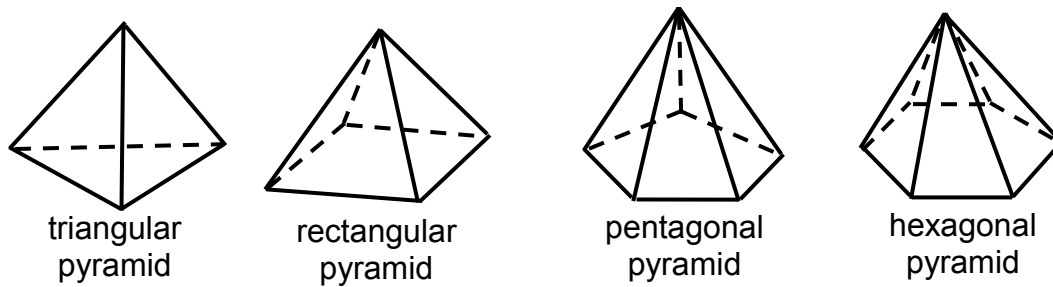
16. Pattern Predictor 4

1. Complete the table to find the patterns for prism faces, edges, and vertices.



type of base	# of faces	# of vertices	# of edges
triangular	5		
rectangular			
pentagonal			15
hexagonal		12	
<i>n</i> -sided polygon			

2. Complete the table to find the patterns for pyramid faces, edges, and vertices.



type of base	# of faces	# of vertices	# of edges
triangular			
rectangular			
pentagonal			
hexagonal			
<i>n</i> -sided polygon			

24. Number Ninja 5

Each question gives 5 examples of a square filled with 5 numbers related by a secret pattern. Discover the pattern and then fill in the missing numbers.

1. Examples:

5	3
91	
3	20

8	4
612	
7	80

11	7
78	
3	9

90	2
760	
25	9

12	3
57	
1	5

a.

4	12
6	25

 b.

30	5
150	
	7

 c.

2	4
74	
4	

 d.

7	
0	
4	8

 e.

a	b
d	c

2. Examples:

10	10
26	
4	10

25	30
83	
7	35

16	9
48	
2	25

40	40
89	
11	20

50	50
125	
25	50

a.

8	6
11	19

 b.

35	19
49	
	62

 c.

8	15
0	
54	

 d.

9	
10	
13	6

 e.

a	b
d	c

3. Examples:

1	2
24	
4	3

6	10
6,000	
10	10

5	2
360	
4	9

3	3
81	
3	3

4	5
840	
6	7

a.

3	6
5	1

 b.

8	5
4	2

 c.

7	3
252	
	6

 d.































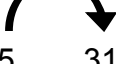


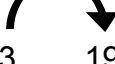



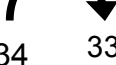
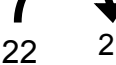



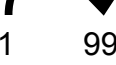
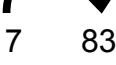

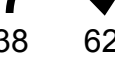


6	
480	
8	2

 e.

a	b
d	c

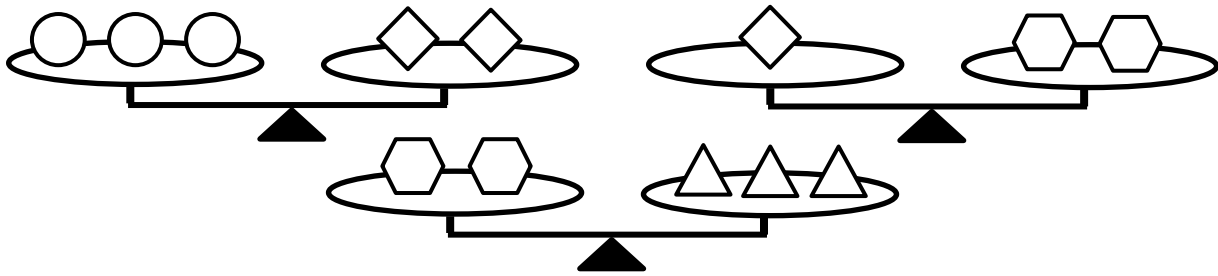
25. Function Finder 5

Find the patterns to fill in the blanks.

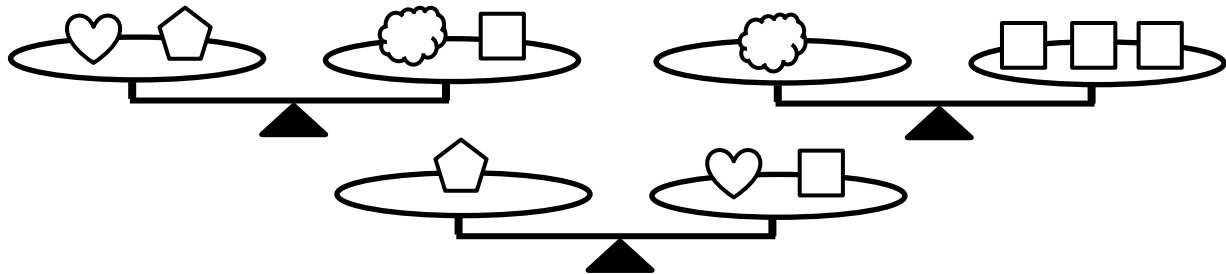
1.						
	9 16	21 28	4 11	93 100	52 _____	<i>n</i> _____
2.						
	12 4	21 7	3 1	39 13	42 _____	<i>n</i> _____
3.						
	144 12	49 7	81 9	25 5	64 _____	<i>n</i> _____
4.						
	20 39	33 65	100 199	72 143	15 _____	<i>n</i> _____
5.						
	40 30	8 6	120 90	24 18	60 _____	<i>n</i> _____
6.						
	5 31	8 49	11 67	3 19	20 _____	<i>n</i> _____
7.						
	10 $\frac{9}{11}$	34 $\frac{33}{35}$	22 $\frac{21}{23}$	6 $\frac{5}{7}$	50 _____	<i>n</i> _____
8.						
	1 99	17 83	25 75	38 62	12 _____	<i>n</i> _____

27. Equality Explorer 6

1. How many triangles will balance a circle?



2. How many squares will balance 2 hearts?



3. How many stars will balance an octagon?

