STATE DEPARTMENT OF EDUCATION

P.O. BOX 83720
BOISE, IDAHO 83720-0027

TOM LUNA
STATE SUPERINTENDENT
PUBLIC INSTRUCTION

ISAT Sample Questions: Grade 8 Mathematics

1. The diameter of a human red blood cell is about 7×10^{-6} meters. What is 7×10^{-6} written in standard notation?

   A. 0.0000007

   B. 0.000007

   C. 0.00007

   D. 0.0007

2. Kirsten is covering a wheelchair ramp with non-skid material. She used the expression below to calculate the amount of material she needed.

   $$3(2 + 1) \times 12 - 4$$

   Which shows the result of the first step for evaluating the expression?

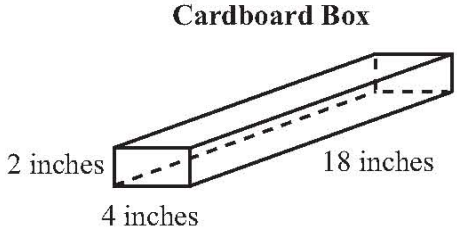
   A. $6 + 1 \times 12 - 4$

   B. $3(3) \times 12 - 4$

   C. $3(2) + 12 - 4$

   D. $3(2 + 1) \times 8$

3. Use the figure below to answer the question.



   The figure shows the dimensions of a cardboard box (rectangular prism) made by a packaging company. What is the volume of the box, in cubic inches?

A. 72

B. 108

C. 144

D. 232

4. Sarah biked around a lake 2 times in $\frac{1}{2}$ hour. What was her rate in number of times around the lake per hour?

A. 1 time per hour

B. $1\frac{1}{2}$ times per hour

C. $2\frac{1}{2}$ times per hour

D. 4 times per hour

5. Nathan is making 18 cups of a snack mix for a party. He will use 4 bags containing p cups of pretzels and 3 bags containing n cups of nuts. The equation below represents this situation.

$$4p + 3n = 18$$

Which are possible values for p and n so that Nathan has a total of 18 cups of snack mix?

A. $p = 2$ and $n = 3$

B. $p = 3$ and $n = 2$

C. $p = 3$ and $n = 4$

D. $p = 4$ and $n = 3$

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6. Use the expression below to answer the question.

$$3(5x - 9)$$

Which is another way to write this expression?

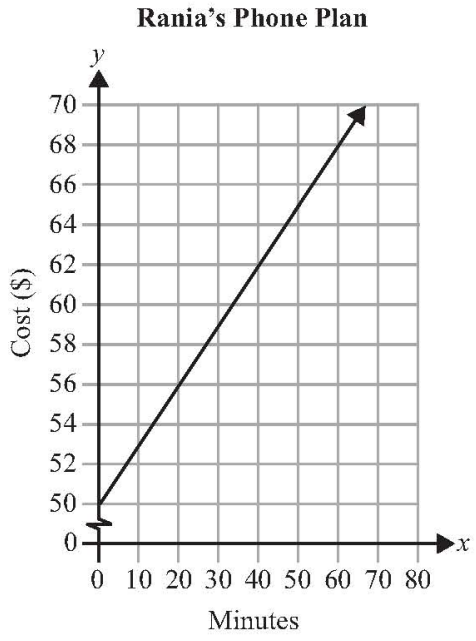
A. $8x - 9$

B. $8x - 12$

C. $15x - 9$

D. $15x - 27$

7. Use the graph below to answer the question.



Rania's cell phone costs, based on the number of minutes she uses each month, are shown on the graph. Which table matches the graph?

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A.

Rania's Phone Plan

Minutes	Cost ($)
50	0
54	20
56	40
58	60

B.

Rania's Phone Plan

Minutes	Cost ($)
0	50
20	54
40	56
60	58

C.

Rania's Phone Plan

Minutes	Cost ($)
50	0
56	20
62	40
68	60

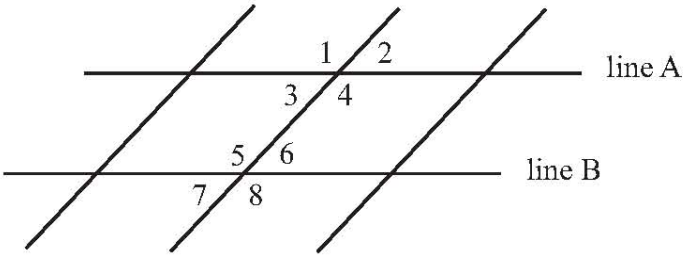
D.

Rania's Phone Plan

Minutes	Cost ($)
0	50
20	56
40	62
60	68

8. Use the figure below to answer the question.

Becky's Floor



The figure shows the pattern on Becky's floor. Line A and line B are parallel. What is the relationship between $\angle$ 1 and $\angle$ 4?

A. congruent angles

B. corresponding angles

C. right angles

D. supplementary angles

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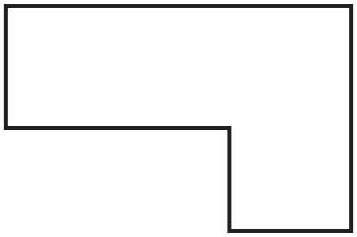
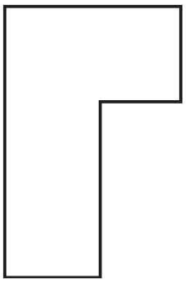
9. Use the figure below to answer the question.

Darla's Desk

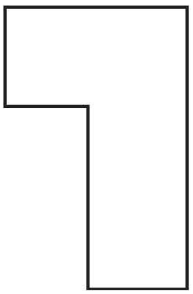


Darla rotated her desk 90° counterclockwise from its position shown in the figure. What was the position of Darla's desk after the rotation?

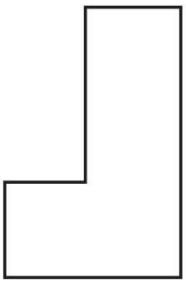
A.



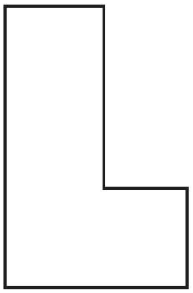
B.



C.



D.



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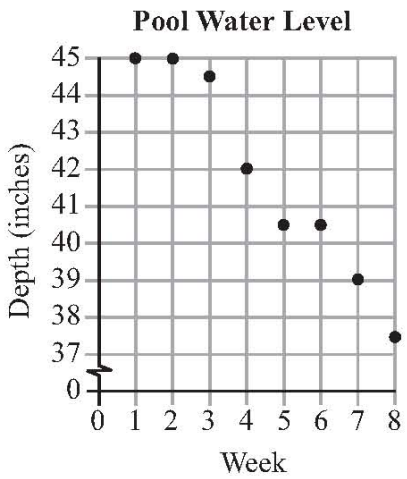
10. Use the table below to answer the question.

Pool Water Level

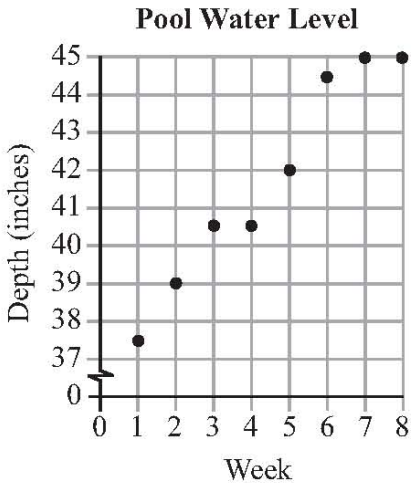
Week	1	2	3	4	5	6	7	8
Depth (inches)	45.0	39.0	40.5	37.5	45.0	40.5	42.0	44.5

Ben's job at the pool is to measure the water level each week. The table shows his data for 8 weeks. Which scatterplot shows the water level data?

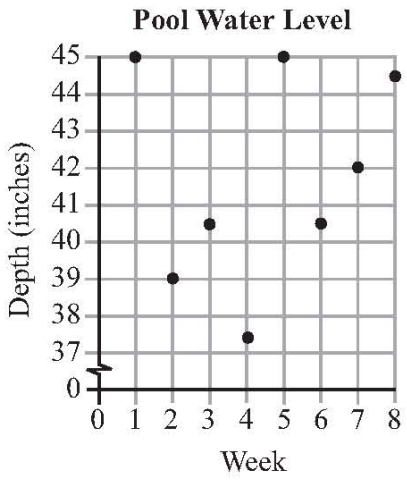
A.



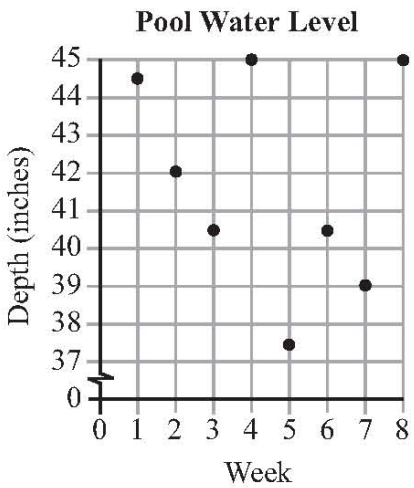
B.



C.



D.



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11. Use the table below to answer the question.

100 Spins

Color	Results
blue	10
red	19
yellow	32
green	39

A spinner has 10 equal-sized sections. Each section is labeled with one of four colors. The spinner is spun 100 times. Based on the results, which **most likely** describes the spinner sections?

A. 1 blue, 1 red, 3 yellow, 3 green

B. 1 blue, 2 red, 3 yellow, 4 green

C. 1 blue, 3 red, 3 yellow, 3 green

D. 2 blue, 2 red, 2 yellow, 2 green

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ISAT Sample Questions: Grade 8 Mathematics

Question #	Correct Answer	Standard/Goal/Objective
1	B	1.1.4
2	B	1.2.4
3	C	2.1.4
4	D	2.2.2
5	B	3.1.1
6	D	3.2.3
7	D	3.5.1
8	A	4.1.3
9	A	4.1.4
10	C	5.2.1
11	B	5.5.1