

# MATH 6 ANSWERS

## ACTIVITIES 11 - 15



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## SOL 6.4 - PreAlgebra 6 Formative Assessment

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### Question #1

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The table shows the relationship between the length of the sides of a square and its area.

Length (cm)	Area (cm <sup>2</sup> )
5	25
7	49
11	121
9	

Which computation could be used to complete the table for the area of a square with one side that is 9 cm in length?

A  $9 + 9$

B  $9 - 9$

C  $9 \times 9$

D  $9 \div 9$



## Question #2

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The side lengths of four squares are represented in two different ways in the table below.

**Four Squares**

<b>Square A</b>	2 units	$\sqrt{4}$ units
<b>Square B</b>	4 units	$\sqrt{16}$ units
<b>Square C</b>	5 units	$\sqrt{25}$ units
<b>Square D</b>	7 units	$\sqrt{49}$ units

What is another way to represent the side length of a square with a side length of 11 units?

- A  $\sqrt{11}$ 
 B  $\sqrt{55}$
- C  $\sqrt{121}$ 
 D  $\sqrt{144}$

## Question #3

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Which number is equivalent to 1,000,000?

- A  $10^5$ 
 B  $10^6$
- C  $10^7$ 
 D  $10^8$

## Question #4

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A town has a population of 10,000. Which means the same as 10,000?

- A  $10^3$ 
 B  $10^4$
- C  $10^5$ 
 D  $10^6$

## Question #5

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The table below shows a relationship between  $x$  and  $y$  values.

$x$	$y$
1	1
2	4
3	9
4	16
5	25
6	?

Based on the relationship, what is the value of  $y$ , when  $x = 6$ ?

(A) 34

(B) 36

(C) 42

(D) 49

## Question #6

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Which value is equivalent to the fourth number in the pattern below?

$10^1, 10^3, 10^5, \text{---}$

(A) 100,000

(B) 1,000,000

(C) 10,000,000

(D) 100,000,000

## Question #7

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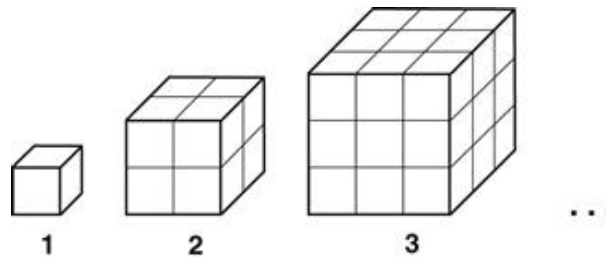
Jasmine and her friends are making a quilt using one-foot squares of fabric. If they decide that they want their quilt to be a perfect square, how many fabric squares should they use?

- A 76
- B 84
- C 100
- D 124

## Question #8

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The cubes below form a pattern of blocks.



How many cubes will be needed for the block in Figure 4?

- A 16
- B 48
- C 64
- D 96

## Question #9

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An input-output table is shown.

Input	Output
1	1
2	4
3	9
4	16
5	25

What is the relationship between each input number and each output number in the table?

- A Each input number is multiplied by 2 to get the output number.
- B Each input number is multiplied by itself to get the output number.
- C Each input number is added to 3 to get the output number.
- D Each input number is added to 9 to get the output number.

## Question #10

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What would be the eighth number in the following perfect square number pattern?

9, 16, 25, 36, . . .

- A 49
- B 64
- C 100
- D 121

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## SOL 6.12cd - PreAlgebra 6 Formative Assessment

### Question #1

The sets of ordered pairs represent the cost to fix a plumbing issue based on the number of hours. The first coordinate represents the hours and the second coordinate the cost.

Select the sets of ordered pairs that are proportional relationships.

- |   |  |
|---|--|
| <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <span style="border: 1px solid black; border-radius: 50%; padding: 2px 6px;">A</span> <math>\{(2, 160), (4, 320), (5, 400), (8, 640)\}</math> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <span style="border: 1px solid black; border-radius: 50%; padding: 2px 6px;">C</span> <math>\{(1, 135), (4, 210), (6, 255), (8, 290)\}</math> </div> <div style="border: 1px solid black; padding: 5px;"> <span style="border: 1px solid black; border-radius: 50%; padding: 2px 6px;">E</span> <math>\{(4, 220), (5, 275), (6, 330), (7, 385)\}</math> </div> | <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <span style="border: 1px solid black; border-radius: 50%; padding: 2px 6px;">B</span> <math>\{(1, 90), (3, 170), (4, 210), (6, 290)\}</math> </div> <div style="border: 1px solid black; padding: 5px;"> <span style="border: 1px solid black; border-radius: 50%; padding: 2px 6px;">D</span> <math>\{(2, 150), (3, 225), (7, 525), (8, 600)\}</math> </div> |
|---|--|

1

-1

-1

1

1

### Question #2

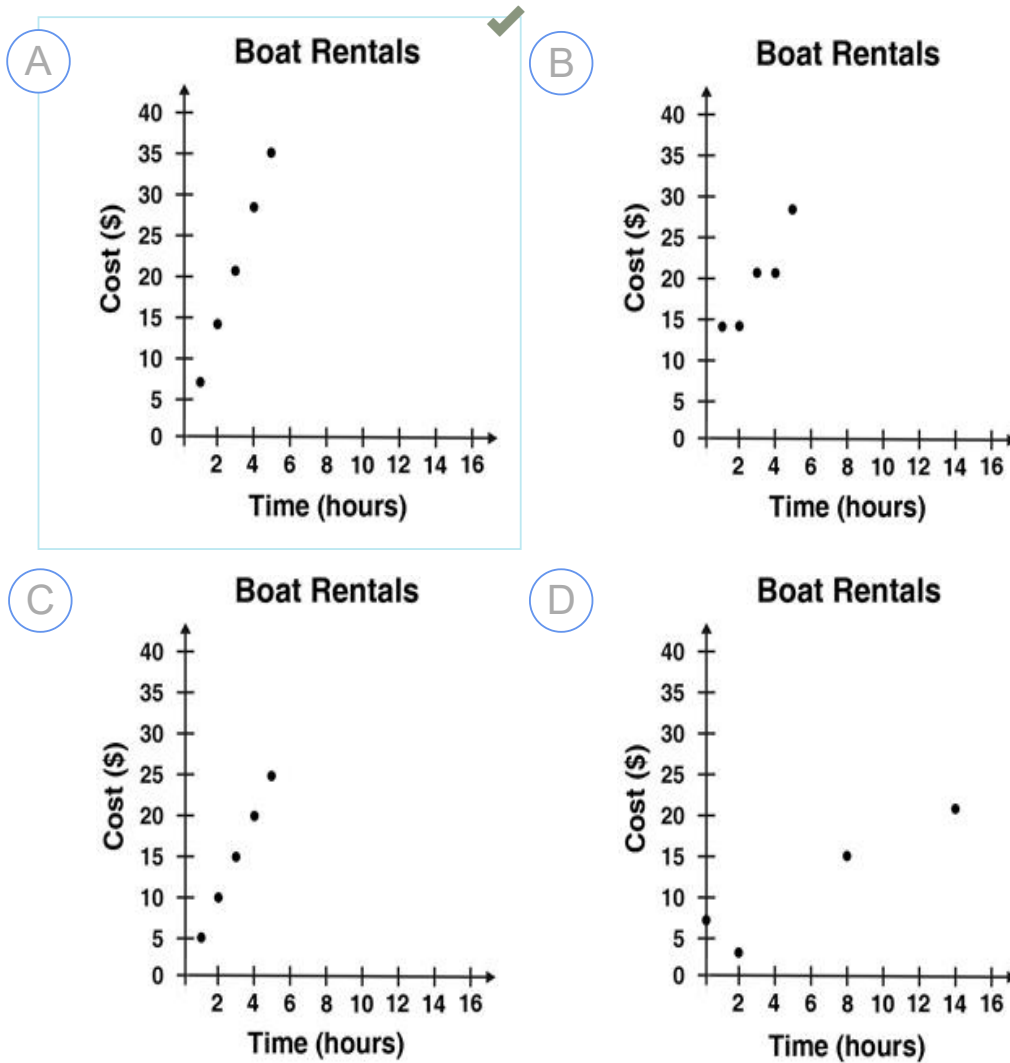
With his fins on, Sam can swim at a rate of 4.5 miles per hour. Which table shows this relationship?

- |  |                  |    |     |   |                |    |    |    |                  |     |   |   |                |    |    |    |   |                  |   |   |   |                |    |    |    |                  |     |   |   |                |    |    |     |
|--|------------------|----|-----|---|----------------|----|----|----|------------------|-----|---|---|----------------|----|----|----|---|------------------|---|---|---|----------------|----|----|----|------------------|-----|---|---|----------------|----|----|-----|
| <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <span style="border: 1px solid black; border-radius: 50%; padding: 2px 6px;">A</span> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20%;">Distance (miles)</td> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>Time (minutes)</td> <td>10</td> <td>20</td> <td>30</td> </tr> </table> </div> <div style="border: 1px solid black; padding: 5px;"> <span style="border: 1px solid black; border-radius: 50%; padding: 2px 6px;">C</span> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20%;">Distance (miles)</td> <td>1.5</td> <td>3</td> <td>6</td> </tr> <tr> <td>Time (minutes)</td> <td>20</td> <td>40</td> <td>80</td> </tr> </table> </div> | Distance (miles) | 1  | 2   | 3 | Time (minutes) | 10 | 20 | 30 | Distance (miles) | 1.5 | 3 | 6 | Time (minutes) | 20 | 40 | 80 | <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <span style="border: 1px solid black; border-radius: 50%; padding: 2px 6px;">B</span> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20%;">Distance (miles)</td> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>Time (minutes)</td> <td>15</td> <td>30</td> <td>45</td> </tr> </table> </div> <div style="border: 1px solid black; padding: 5px;"> <span style="border: 1px solid black; border-radius: 50%; padding: 2px 6px;">D</span> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20%;">Distance (miles)</td> <td>1.5</td> <td>3</td> <td>6</td> </tr> <tr> <td>Time (minutes)</td> <td>30</td> <td>60</td> <td>120</td> </tr> </table> </div> | Distance (miles) | 1 | 2 | 3 | Time (minutes) | 15 | 30 | 45 | Distance (miles) | 1.5 | 3 | 6 | Time (minutes) | 30 | 60 | 120 |
| Distance (miles)   | 1                | 2  | 3   |   |                |    |    |    |                  |     |   |   |                |    |    |    |   |                  |   |   |   |                |    |    |    |                  |     |   |   |                |    |    |     |
| Time (minutes)   | 10               | 20 | 30  |   |                |    |    |    |                  |     |   |   |                |    |    |    |   |                  |   |   |   |                |    |    |    |                  |     |   |   |                |    |    |     |
| Distance (miles)   | 1.5              | 3  | 6   |   |                |    |    |    |                  |     |   |   |                |    |    |    |   |                  |   |   |   |                |    |    |    |                  |     |   |   |                |    |    |     |
| Time (minutes)   | 20               | 40 | 80  |   |                |    |    |    |                  |     |   |   |                |    |    |    |   |                  |   |   |   |                |    |    |    |                  |     |   |   |                |    |    |     |
| Distance (miles)   | 1                | 2  | 3   |   |                |    |    |    |                  |     |   |   |                |    |    |    |   |                  |   |   |   |                |    |    |    |                  |     |   |   |                |    |    |     |
| Time (minutes)   | 15               | 30 | 45  |   |                |    |    |    |                  |     |   |   |                |    |    |    |   |                  |   |   |   |                |    |    |    |                  |     |   |   |                |    |    |     |
| Distance (miles)   | 1.5              | 3  | 6   |   |                |    |    |    |                  |     |   |   |                |    |    |    |   |                  |   |   |   |                |    |    |    |                  |     |   |   |                |    |    |     |
| Time (minutes)   | 30               | 60 | 120 |   |                |    |    |    |                  |     |   |   |                |    |    |    |   |                  |   |   |   |                |    |    |    |                  |     |   |   |                |    |    |     |

✓

## Question #3

Renting a boat for 2 hours costs \$14, while 3 hours costs \$21. Which coordinate plane correctly graphs the ordered pairs that correspond to this relationship?

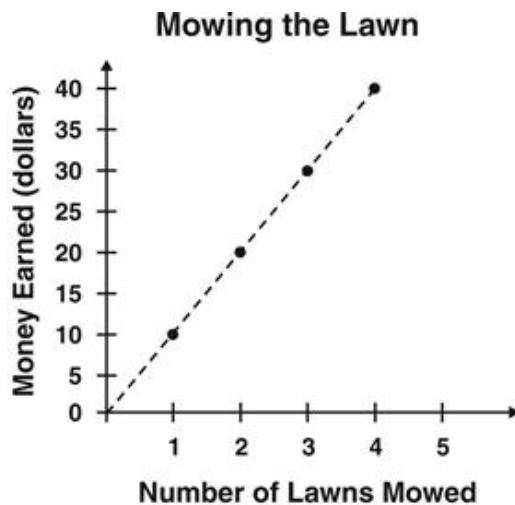




## Question #4

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The graph shows the amount of money Vernon earns mowing lawns.

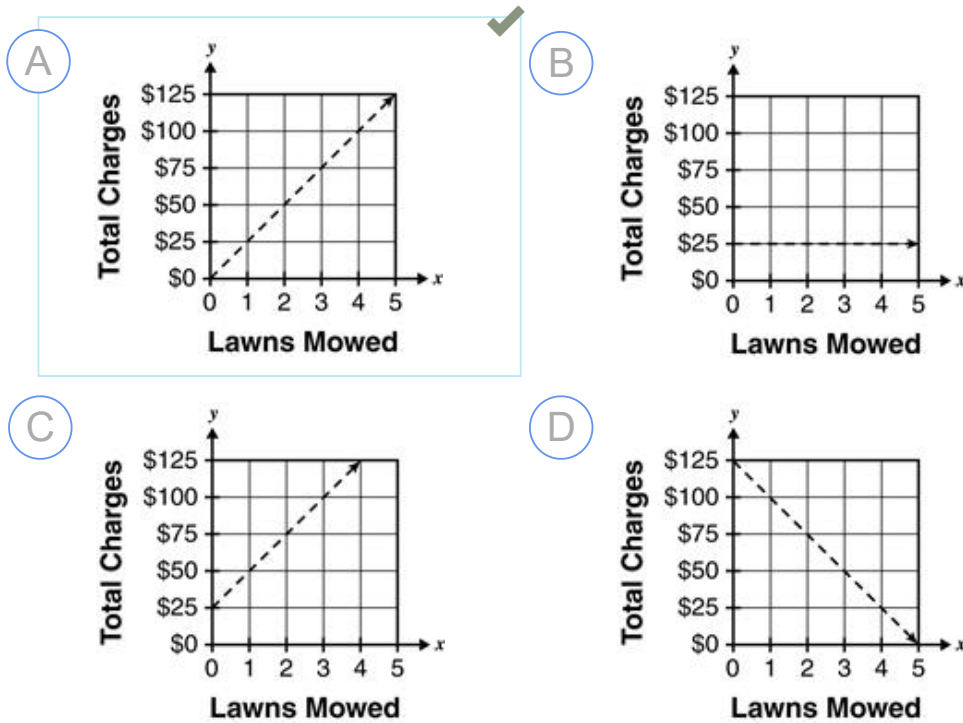


What does Point (3, 30) on the graph mean?

- A Vernon mowed 3 lawns and earned \$5.
- B Vernon mowed 30 lawns and earned \$3.
- C Vernon mowed 3 lawns and earned \$10.
- D Vernon mowed 3 lawns and earned \$30.

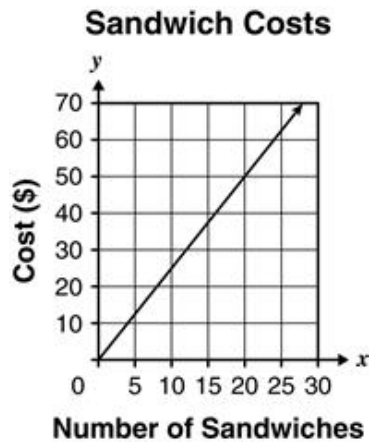
## Question #5

Tom charges 25 dollars for each lawn he mows. Which graph represents his total charges as the number of lawns he mows increases?



## Question #6

A cafeteria sells sandwiches. The graph represents the proportional relationship between the number of sandwiches purchased and the total cost.



Which table represents the relationship shown in the graph?

**A**

Number of Sandwiches	0	1	2	3	4	5
Cost (\$)	0	2.00	4.00	6.00	8.00	10.00

**B**

Number of Sandwiches	0	1	2	3	4	5
Cost (\$)	0	2.50	5.00	7.50	10.00	12.50

**C**

Number of Sandwiches	5	10	15	20	25	30
Cost (\$)	10.00	20.00	30.00	40.00	50.00	60.00

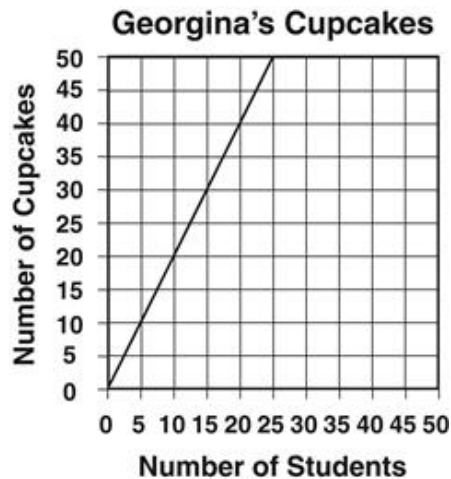
**D**

Number of Sandwiches	5	10	15	20	25	30
Cost (\$)	11.00	25.00	38.00	50.00	65.00	72.00

## Question #7

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Georgina plans to bake cupcakes for her classmates. The graph shows the number of cupcakes she should bake depending on the number of students in her class.

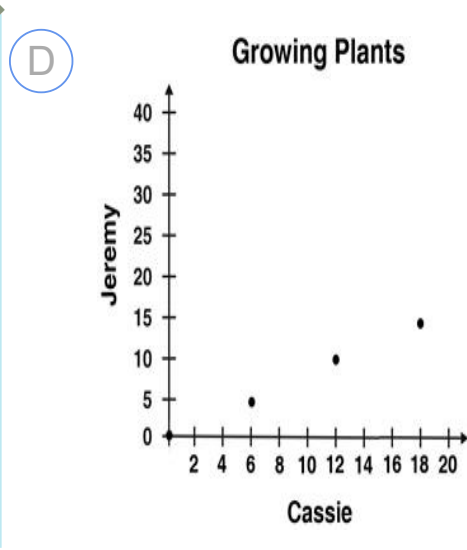
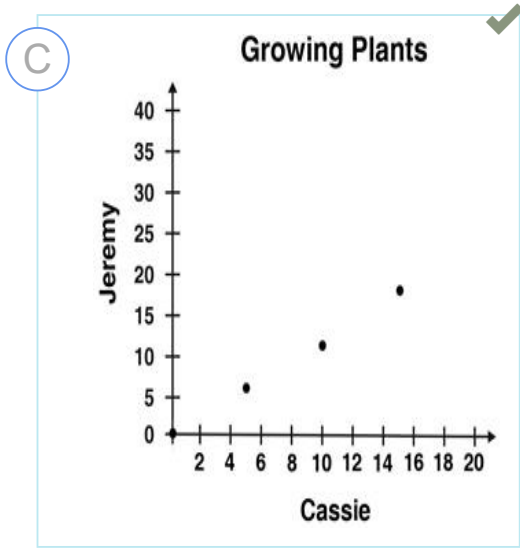
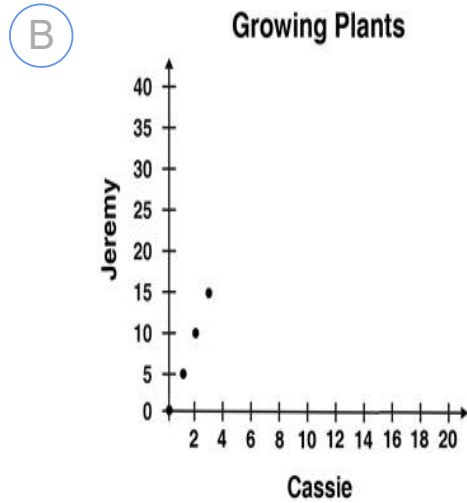
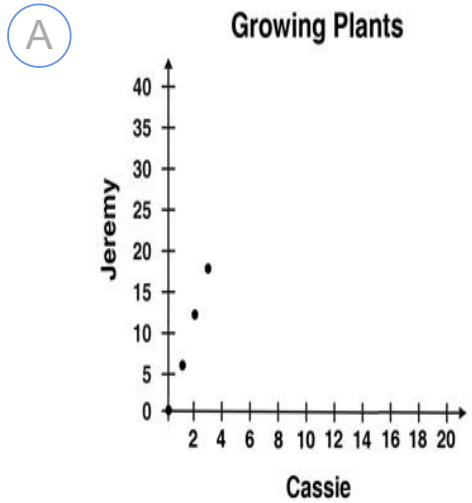


Which statement is true about the data in the graph?

- A Georgina has 50 classmates.
- B Georgina will bake 2 cupcakes for each student.
- C Georgina will bake 3 cupcakes for each student.
- D Georgina has 10 baking molds that hold 5 cupcakes each.

# Question #8

Cassie’s plant is growing 5 inches per day, while Jeremy’s plant is growing 6 inches per day. If this pattern were to continue, which coordinate plane shows the relationship between the growth of Cassie’s plant and Jeremy’s plant?



## Question #9

A store is having a sale on DVDs. The sale price of 3 DVDs is \$12.00. Which table shows this relationship?

(A) 

Number of DVDs	1	4	8
Cost	\$2	\$8	\$16

(B) 

Number of DVDs	1	5	12
Cost	\$3	\$15	\$36

(C) 

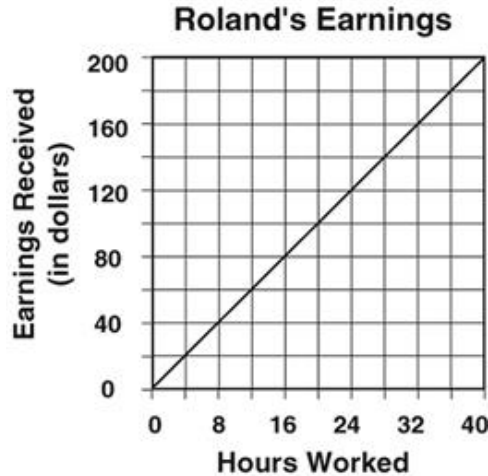
Number of DVDs	1	4	8
Cost	\$5	\$20	\$40

(D) 

Number of DVDs	1	5	12
Cost	\$4	\$20	\$48

## Question #10

The graph below shows the earnings Roland receives for the hours that he works.



Which statement is true based on the information in the graph?

- (A) Roland earns \$5 per hour.
- (B) Roland earns \$8 per hour.
- (C) Roland earns \$20 per hour.
- (D) Roland earns \$40 per hour.

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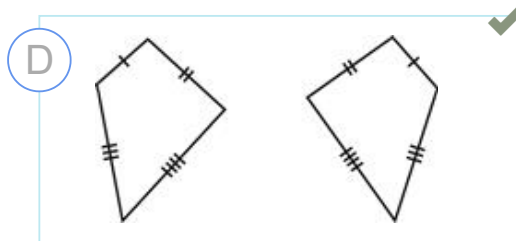
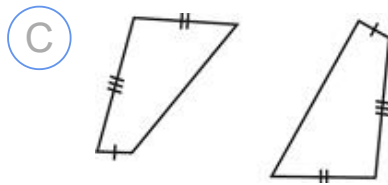
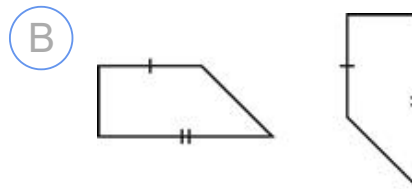
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## SOL 6.9 - PreAlgebra 6 Formative Assessment

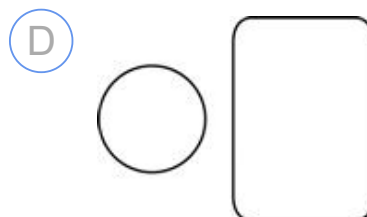
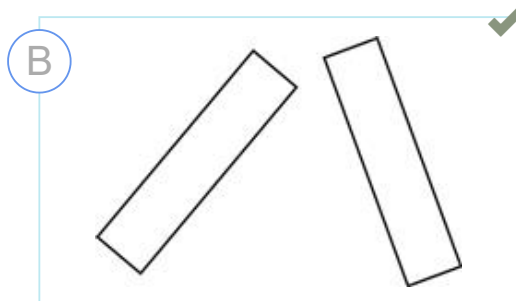
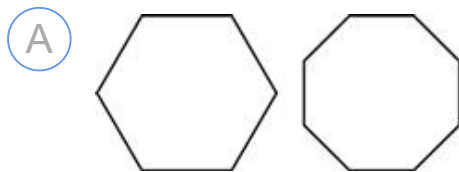
### Question #1

Which pair of quadrilaterals must be congruent?



### Question #2

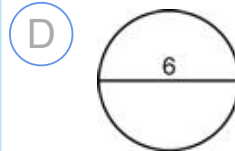
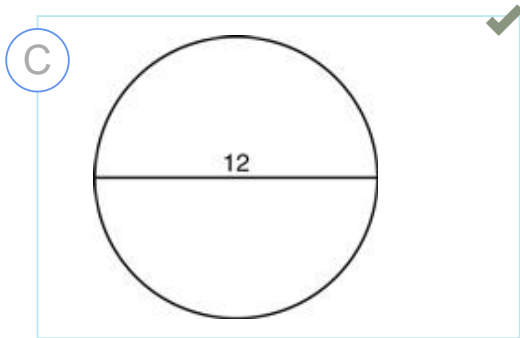
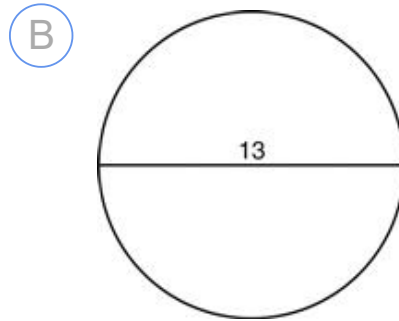
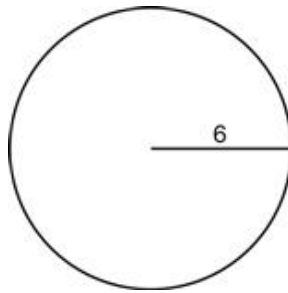
Which pair of figures appears to be congruent?



# Question #3

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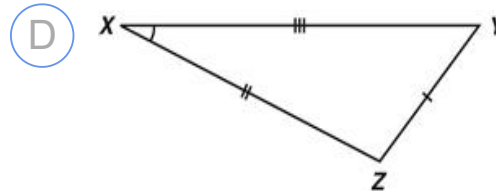
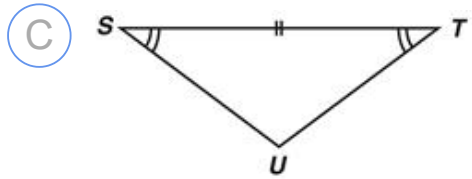
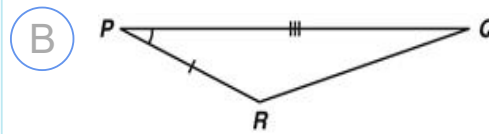
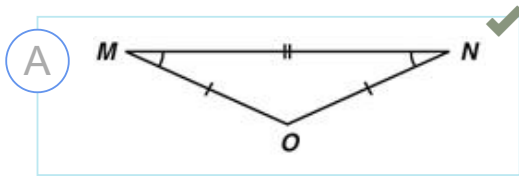
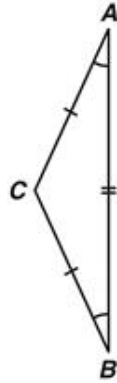
Which circle is congruent to the one shown?





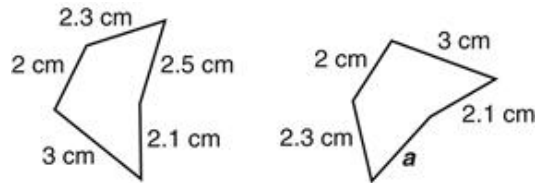
### Question #4

Which triangle is congruent to Triangle  $ABC$ ?



### Question #5

Which measure of  $a$  would make the two figures congruent?



Note: Figures are not drawn to scale.

**A** 2.1 cm

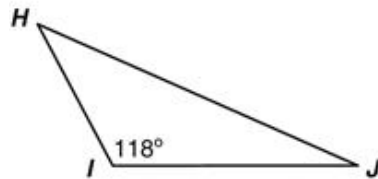
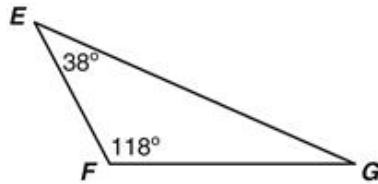
**B** 2.3 cm

**C** 2.5 cm

**D** 3.0 cm

## Question #6

Triangle  $EFG$  is congruent to Triangle  $HIJ$ .

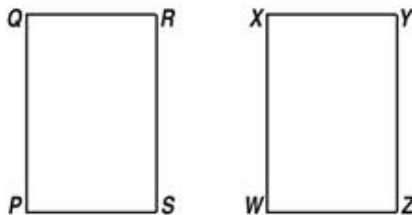


What is the measure of Angle  $IJH$ ?

- A  $24^\circ$ 
 B  $80^\circ$   
 C  $156^\circ$ 
 D  $204^\circ$

## Question #7

Rectangles  $PQRS$  and  $WXYZ$  are shown below.

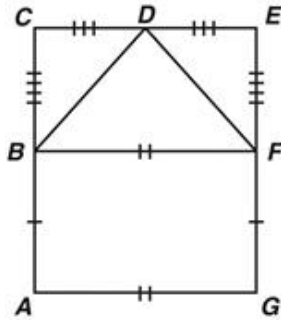


Which information proves the rectangles are congruent?

- A They have the same area.  
 B They have the same perimeter.  
 C Segment  $PS$  is congruent to segment  $WZ$  and segment  $QR$  is congruent to segment  $XY$ .  
 D Segment  $PQ$  is congruent to segment  $WX$  and segment  $QR$  is congruent to  $XY$ .

## Question #8

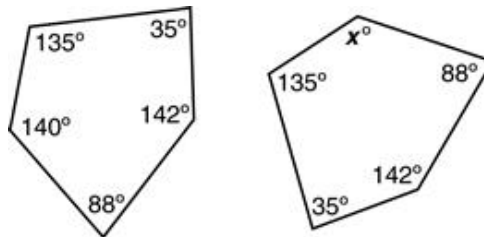
Which statement identifies congruent segments?



- A  $\overline{AB} \cong \overline{CB}$ 
 B  $\overline{CD} \cong \overline{EF}$
- C  $\overline{BF} \cong \overline{AG}$ 
 D  $\overline{EF} \cong \overline{DE}$

## Question #9

Which angle measure for  $x$  would make the figures congruent?



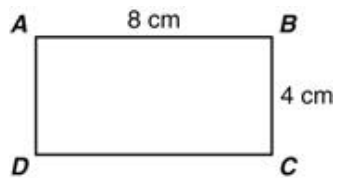
Note: Figures are not drawn to scale.

- A  $35^\circ$ 
 B  $88^\circ$
- C  $135^\circ$ 
 D  $140^\circ$

## Question #10

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Which line segment is congruent to  $\overline{AD}$  in the rectangle shown below?



- A  $12\text{ cm}$
- B  $8\text{ cm}$
- C  $4\text{ cm}$
- D  $3\text{ cm}$

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## SOL 6.3c - PreAlgebra 6 Formative Assessment

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### Question #1

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Which statement is true?

A  $|-59| < 36$

B  $|-24| > |16|$

C  $25 > |-25|$

D  $|-78| < |-19|$

### Question #2

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Jane's class recorded temperature changes over time. Which record shows the LEAST change in temperature?

A temperature increased from  $-2^{\circ}\text{C}$  to  $4^{\circ}\text{C}$

B temperature increased from  $10^{\circ}\text{C}$  to  $20^{\circ}\text{C}$

C temperature decreased from  $4^{\circ}\text{C}$  to  $-3^{\circ}\text{C}$

D temperature decreased from  $-10^{\circ}\text{C}$  to  $-18^{\circ}\text{C}$

### Question #3

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Which number, when placed in the blank, makes the inequality FALSE?

$$|5| \geq \underline{\quad}$$

A 5

B 1

C -6

D  $|-7|$

## Question #4

---

What is the value of  $|6 - 11|$ ?

- A - 17
- B - 5
- C 5
- D 17

## Question #5

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$|-9 + 7| =$

- A -16
- B -2
- C 2
- D 16

## Question #6

---

Which value is equivalent to the expression  $|-7| + |-7|$ ?

- A - 14
- B 0
- C 7
- D 14

## Question #7

---

What is the value of  $|-2 \cdot 18|$ ?

- A - 36
- B - 20
- C 16
- D 36

## Question #8

---

What is the value of  $3 + |-75| + |-3|$  ?

(A)  $-81$

(B)  $-75$

(C)  $75$

(D)  $81$  ✓

## Question #9

---

Which expression represents the absolute value of  $-10$ ?

(A)  $-10$

(B)  $-(10)$

(C)  $-|10|$

(D)  $|-10|$  ✓

## Question #10

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The balance in each person's checking account is given.

Chelsea $-\$10$	Barry $-\$44$	Celia $-\$4$
-----------------	---------------	--------------

Barry will have to deposit more money than Chelsea in order to reach a  $\$0$  balance.

Which inequality could be used to support the above statement?

(A)  $|-4| > 0$

(B)  $|-44| > |-10|$  ✓

(C)  $|-44| > -4$

(D)  $-10 > -44$

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## SOL 6.6b - PreAlgebra 6 Formative Assessment

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### Question #1

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Patty played a board game. She moved her game piece forward 3 spaces and backward 4 spaces. She repeated this movement 5 times. Which expression can be used to find the total number of spaces she moved her game piece?

- A  $5(3 + (-4))$   B  $5(3 + 4)$
- C  $(3 + (+4))$   D  $(3 + 4)$

### Question #2

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The height of water in a river was 2 feet below the normal level on April 30th. By July 30th, the river had risen 5 feet. How much above normal is the height of the river on July 30th?

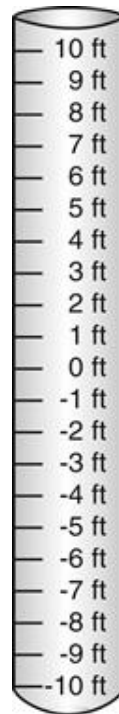
- A - 7 feet  B - 3 feet
- C 3 feet  D 7 feet



## Question #3

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The DuBois River has a gauge that measures its water level.



The water level started at zero (normal). It increased by 3 feet in the spring, and then dropped 7 feet by the end of the summer. What water level did the gauge indicate at the end of the summer?

A - 10 feet

B - 4 feet

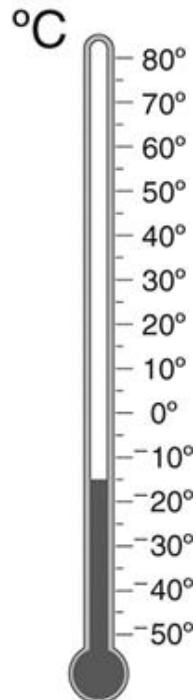
C 4 feet

D 10 feet

## Question #4

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Look at the temperature on the thermometer.



If the temperature decreases by 5 degrees, what will be the new temperature?

- A -20°C
- B -10°C
- C 10°C
- D 20°C

## Question #5

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The table shows scores of four players for 2 rounds of a game.

Player	Score 2nd Round	Score 3rd Round
Brad	-8	-10
Cassie	1	-10
Jeremy	0	6
Sarah	8	-1

Which player had the **GREATEST** change in points from the 2nd round to the 3rd round?

A Brad

B Cassie

C Jeremy

D Sarah

## Question #6

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What numbers will correctly complete the list below if the numbers continue to increase by the same value?

-18, -15, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, -3, 0, 3

A - 6, - 5, - 4

B - 11, - 8, - 5

C - 12, - 9, - 6

D - 14, - 13, - 12

## Question #7

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The temperature in San Diego was  $71^{\circ}\text{F}$ , while the temperature in Chicago was  $-12^{\circ}\text{F}$ . How many degrees warmer was it in San Diego than in Chicago?

A  $59^{\circ}\text{F}$

B  $61^{\circ}\text{F}$

C  $69^{\circ}\text{F}$

D  $83^{\circ}\text{F}$

## Question #8

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A submarine was at a depth of 350 feet below sea level. It descended 125 more feet below sea level. What was the new depth of the submarine?

A -475 feet

B -225 feet

C 225 feet

D 475 feet

## Question #9

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Joey entered an elevator on the 11th floor of a building. He rode the elevator up 3 floors and then down 6 floors. Joey then exited the elevator. On what floor did Joey exit the elevator?

A 20th floor

B 14th floor

C 8th floor

D 2nd floor

## Question #10

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A solution had a temperature of  $-7^{\circ}$  Celsius ( $^{\circ}\text{C}$ ) at the beginning of a science lab. If the temperature of the solution rises  $12^{\circ}\text{C}$ , what is the new temperature of the solution?

- A  $-19^{\circ}\text{C}$        B  $-5^{\circ}\text{C}$
- C  $5^{\circ}\text{C}$        D  $19^{\circ}\text{C}$
-