

# acadience®math

## Concepts and Applications

### Grade 6 | Benchmark 1

## Teacher Key

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Total: \_\_\_\_\_

1. At the aquarium there were 24 zebra fish and 61 clown fish. What is the ratio of zebra fish to clown fish? 24 : 61  
or equivalent

exact answer,  
points per line 1 | 2

2. Doug delivers papers to houses on the weekends. The following are the number of papers that Doug delivered: 5, 2, 9, 9, 5.

A. What is the mean number of papers that Doug delivered? 6

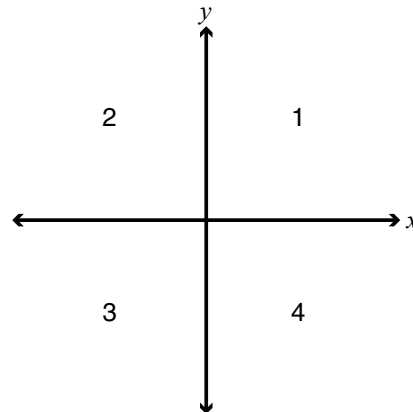
A: correct digits 1 | 11

B. What is the median number of papers that Doug delivered? 5

B. exact answer,  
points per line 1 | 5

3. Fill in the missing quadrants to complete the table:

Point	Quadrant
(-5, 7)	<u>2</u>
(-5, -5)	<u>3</u>
(4, -7)	4
(1, 7)	<u>1</u>



exact answer,  $\frac{1}{2}$  |  $\frac{1}{2}$   
points per box 3 | 3

4. A. Write an expression for 8 subtracted from  $x$ :  $x - 8$

A. exact answer,  
points per line 1 | 3

B. Write an expression for 5 added to  $x$ :  $5 + x$   
or equivalent

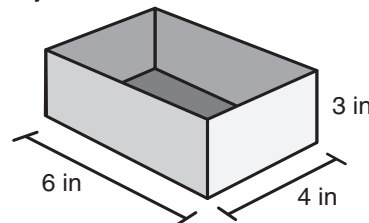
B. exact answer,  
points per line 1 | 3

5. Roy has a box and a bag of blocks. The blocks are  $\frac{1}{2}$  inch by  $\frac{1}{2}$  inch by  $\frac{1}{2}$  inch.

A. What is the volume of the box? 72 in<sup>3</sup>.

B. How many blocks will fit inside Roy's box?

576 blocks.



A. correct digits  $\frac{1}{2}$  |  $\frac{4}{9}$

B. correct digits  $\frac{1}{2}$  |  $\frac{7}{14}$   
 $\frac{2}{3}$  |  $\frac{21}{21}$

6. It takes Aunt Jen 2 weeks to make 6 hats. At this rate, how long will it take Aunt Jen to make 9 hats? 3 week(s).

correct digits 1 | 6

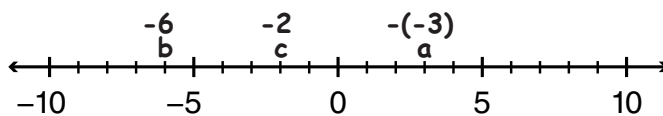
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**Grade 6 / Benchmark 1 / Teacher Key**

7. Label the following numbers on the number line below:

a.  $-(-3)$

b.  $-6$

c.  $-2$



exact answer, 1 | 1  
 points per segment 2 | 2  
 (each labeled number) 3 | 3

8. Write "True" if the substitution makes the inequality true or write "False" if the substitution makes the inequality false:

Inequality	$x =$	Write True or False
$14x - 9 < 100$	5	True
$27x + 8 < 100$	9	False

exact answer, 1 | 3  
 points per box 2 | 6

9. Complete the ratio table:

3	15
6	30
9	45
12	60
15	75

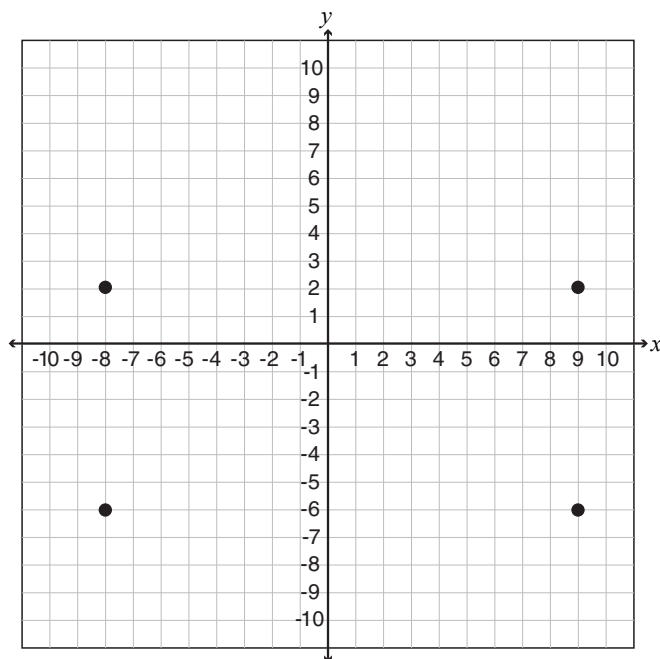
exact answer, 1 | 1  
 points per box 2 | 2  
 3 | 3  
 4 | 4

10. You are drawing an aerial view of a building.

The corners of the building are located at  
 $(9, 2)$ ,  $(9, -6)$ ,  $(-8, -6)$ .

A. If the vertices form a rectangle, find the location  
 of the last vertex: ( -8, 2 )

B. Plot all the vertices on the graph:



A. exact answer, 1 | 1  
 points per line 2 | 2

B. points per segment 1 | 1  
 2 | 2  
 3 | 3  
 (correct points plotted) 4 | 4

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**Grade 6 / Benchmark 1 / Teacher Key**

11. Tony earns \$5 per child that he babysits.

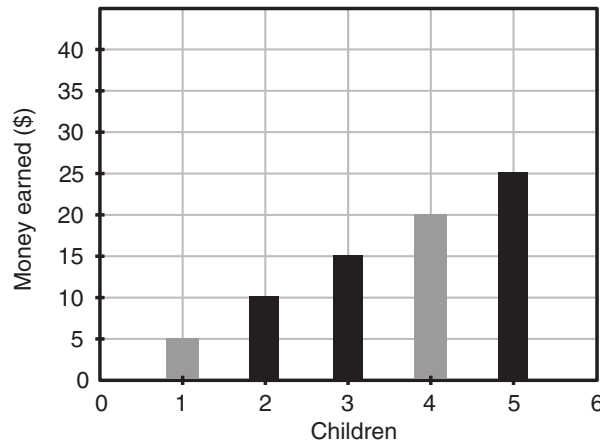
A. Fill in the table below to determine how much money Tony earned.

Children	Money Earned
1	\$5
2	<b>\$10</b>
3	<b>\$15</b>
4	\$20
5	<b>\$25</b>

B. Write an equation that illustrates the relationship between the number of children ( $c$ ) and the money earned ( $m$ ):

$m = 5c$

C. Make a bar graph for the amount of money earned:



A. exact answer, 1 | 1  
 2 | 2  
 3 | 3

B. exact answer, 1 | 4  
 points per line

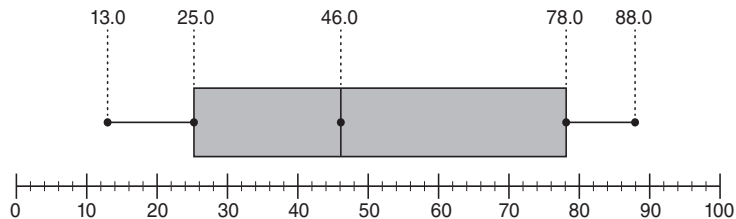
C. exact answer, 1 | 1  
 2 | 2  
 3 | 3  
 points per segment (each bar graphed)

12. You went shopping at the mall and bought 7 shirts for \$49. If all of the shirts cost the same, what is the cost of each shirt?

\$ 7 per shirt.

correct digits 1 | 4

13. Below is the number of books a group of students read over the summer:



What is the range of books read over the summer? 75

What is the median number of books read over the summer? 46

What is the maximum number of books read over the summer? 88

exact answer, 1 | 2  
 2 | 4  
 3 | 6  
 points per line

14. Diver A dove to a sea level depth of -28 feet. Diver B dove to -35 feet.

Which diver dove deeper? Diver B

Diver A was how many feet under water? 28 feet

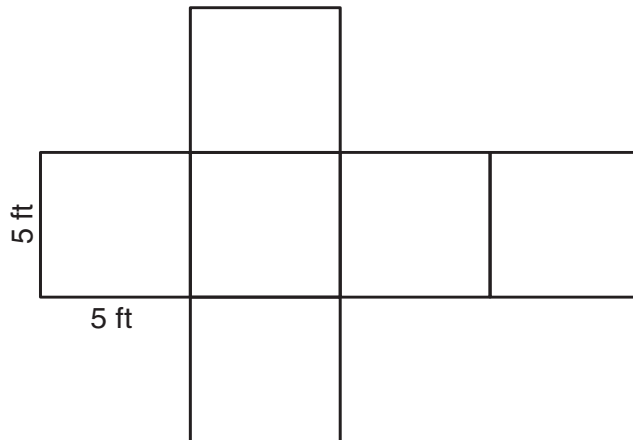
exact answer, 1 | 1  
 2 | 2  
 points per line

15.  $4^3 =$  64

correct digits 1 | 4  
 2 | 9

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**Grade 6 / Benchmark 1 / Teacher Key**

16. David wanted to figure out the surface area of the tool shed behind his house. What is the surface area of the tool shed? 150 ft<sup>2</sup>.



correct digits  $\begin{array}{r} 1 \\ 2 \\ 3 \end{array} \bigg| \begin{array}{r} 3 \\ 7 \\ 10 \end{array}$

17. Mateo can run 5 miles in 70 minutes. If he runs at a constant speed, how long would it take him to run 4 miles?  
56 minutes.

correct digits  $\begin{array}{r} 1 \\ 2 \end{array} \bigg| \begin{array}{r} 5 \\ 10 \end{array}$

18. What is the greatest common factor of 54 and 30? 6

exact answer,  
points per line 1 | 8

19. Our class is playing basketball. Santiago made 6 fewer than 4 times the baskets that Ross made.

Let  $R$  = the number of baskets that Ross made.

Write an equation using  $x$  that describes how many baskets Santiago made.  $X = 4R - 6$   
 or equivalent

exact answer,  
points per line 1 | 5

20. In the mountains it was  $-3^{\circ}\text{C}$ . At the coast it was  $13^{\circ}\text{C}$ . Write an inequality to show the relationship between these temperatures:  
 $-3^{\circ} < 13^{\circ}$

exact answer,  
points per line 1 | 4