

acadience®math

Concepts and Applications

Grade 6 | Benchmark 3

Teacher Key

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Scoring Direction

Right to Left
or

Left to Right

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Total: _____

1. There were 16 giraffes and 18 hippos. What is the ratio of giraffes to hippos? 16 : 18
or equivalent

exact answer,
points per line 1 | 2

2. Cara helps her neighbors with chores every week. The following are the number of neighbors she has helped each week:
9, 5, 1, 8, 7.

A. What is the mean number of neighbors that Cara helped? 6

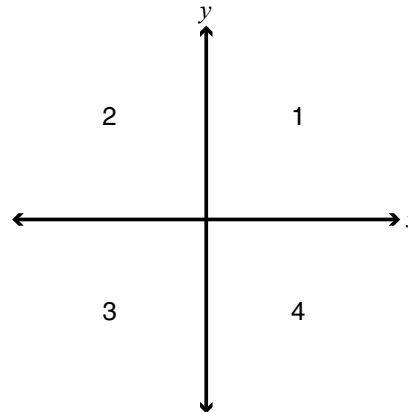
A: correct digits 1 | 11

B. What is the median number of neighbors that Cara helped? 7

B. exact answer,
points per line 1 | 5

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

Point	Quadrant
(-4, -5)	3
(-7, 9)	2
(8, -7)	4
(1, 1)	1



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

4. A. Write an expression for **3 subtracted from x**: $x - 3$

A. exact answer,
points per line 1 | 3

B. Write an expression for **9 added to x**: $9 + x$
or equivalent

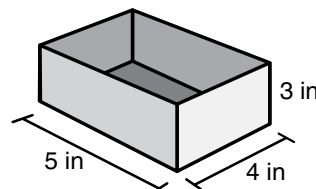
B. exact answer,
points per line 1 | 3

5. Ethan 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? 60 in³.

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

480 blocks.



A. correct digits 1 | 4
2 | 9

B. correct digits 1 | 7
2 | 14
3 | 21

6. Josh can write 4 short stories in 2 weeks. At this rate, how long will it take him to write 8 short stories? 4 week(s).

correct digits 1 | 6

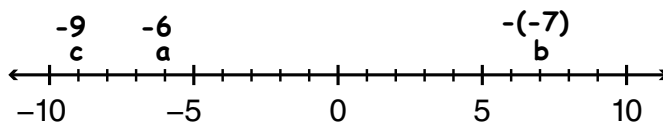
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7. Label the following numbers on the number line below:

a. -6

b. $-(-7)$

c. -9



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
$21x - 9 < 100$	6	False
$23x + 6 < 100$	2	True

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

9. Complete the ratio table:

4	9
8	18
12	27
16	36
20	45

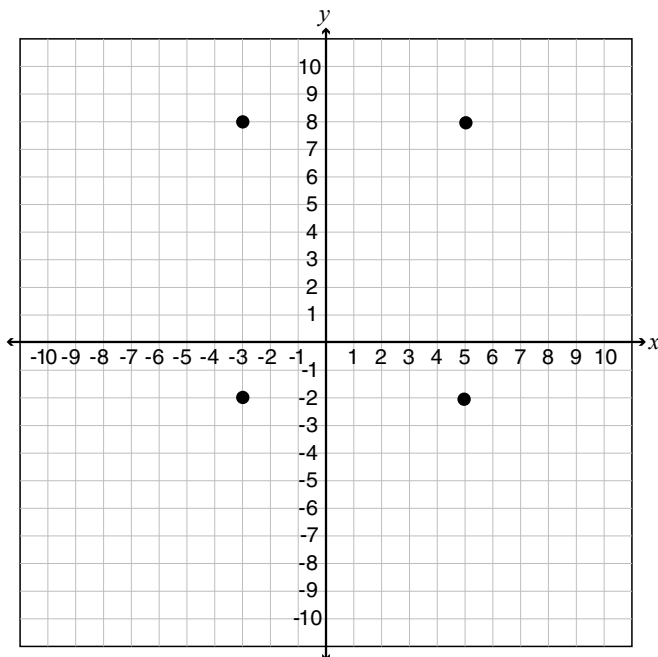
exact answer, 1 | 1
 points per segment 2 | 2
 points per box 3 | 3
 4 | 4

10. Tony is plotting the location of trees on a graph.

The trees are located at (5, 8), (5, -2), and (-3, -2).

A. If the vertices form a rectangle, find the location of the last vertex: (-3, 8)

B. Plot all the vertices on the graph:



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

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

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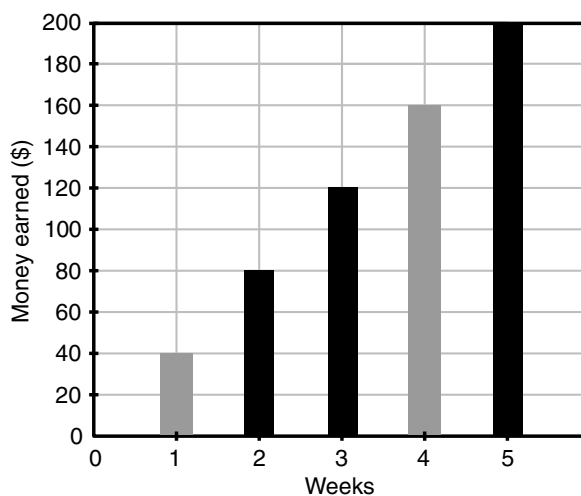
11. Nick earns \$40 per week at his part time job.

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

Week	Money Earned
1	\$40
2	\$80
3	\$120
4	\$160
5	\$200

B. Write an equation that illustrates the relationship between the number of weeks (w) and the money earned (m): $m = 40w$

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



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

B. exact answer, points per line 1 | **4**

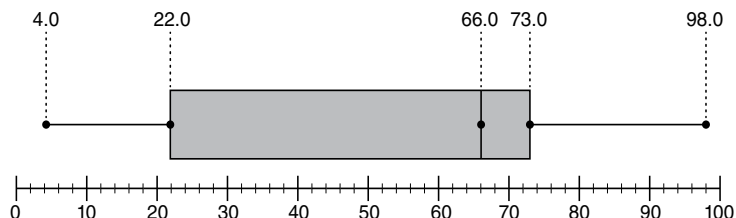
C. exact answer, points per segment $\frac{1}{2}$ | **1**
 (each bar graphed) 2 | **2**
 3 | **3**

12. You bought 6 shirts for \$48. If all the shirts cost the same, what is the cost of each shirt?

\$ **8** per shirt.

correct digits 1 | **4**

13. Below are the number of games students in a class played over the summer:



What is the range of games played over the summer? **94**

What is the median number of games played over the summer? **66**

What is the maximum number of games played over the summer? **98**

exact answer, $\frac{1}{2}$ | **2**
 points per line 3 | **4**
 3 | **6**

14. Diver A dove to a sea level depth of -24 feet. Diver B dove to -10 feet.

Which diver dove deeper? **Diver A**

Diver A was how many feet under water? **24** feet

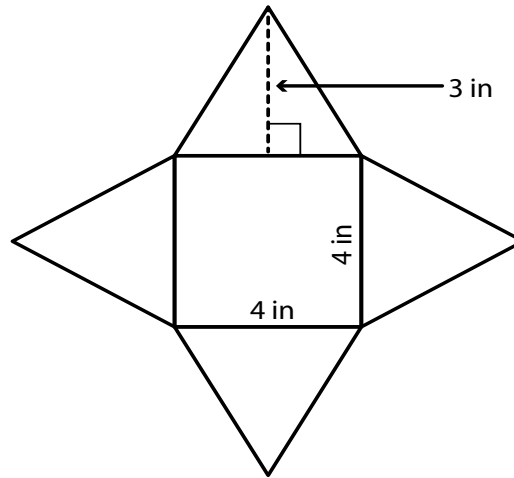
exact answer, $\frac{1}{2}$ | **1**
 points per line 2 | **2**

15. $4^2 =$ **16**

correct digits $\frac{1}{2}$ | **2**
 2 | **4**

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16. Steve wanted to figure out the surface area of a rock shaped like a pyramid. What is the surface area of the rock? 40 in².



correct digits $\frac{1}{2}$ | $\frac{10}{20}$

17. Joe runs 2 miles in 12 minutes. If he runs at a constant speed, how long will it take him to run 9 miles?
54 minutes.

correct digits $\frac{1}{2}$ | $\frac{4}{8}$

18. What is the greatest common factor of 44 and 18? 2

exact answer,
points per line 1 | 9

19. Mike read 8 more than 7 times the books that John read.

Let J = the number of books that John read.

Write an equation using x that describes how many books Mike read. $X = 7J + 8$
 or equivalent

exact answer,
points per line 1 | 5

20. Dan's house is 8 feet below sea level. Mary's house is 4 feet above sea level. Write an inequality to show the relationship between these houses:

$-8 < 4$

exact answer,
points per line 1 | 4