

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

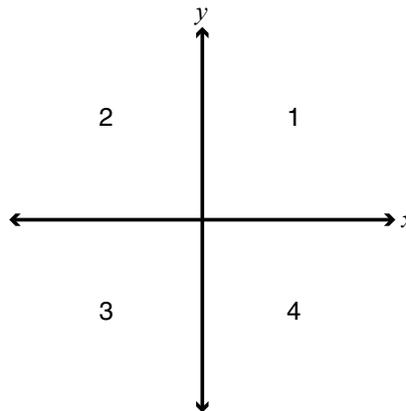
A: correct digits 1 | 11

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
2 | 2
points per box 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

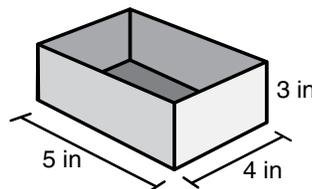
B. exact answer,
points per line 1 | 3

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

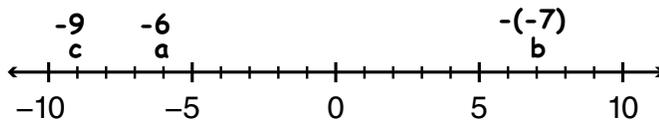
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7. Label the following numbers on the number line below:

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

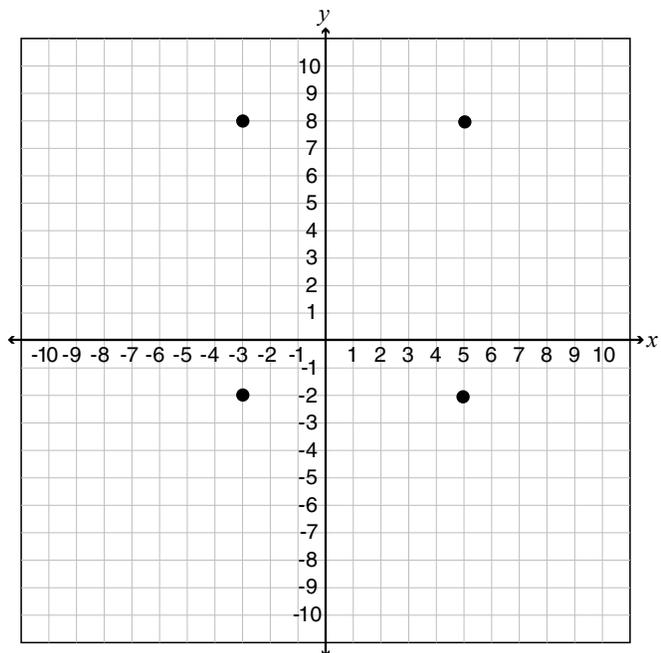
exact answer, 1 | 1
points per box 2 | 2
3 | 3
4 | 4

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
(correct points plotted) 2 | 2
3 | 3
4 | 4

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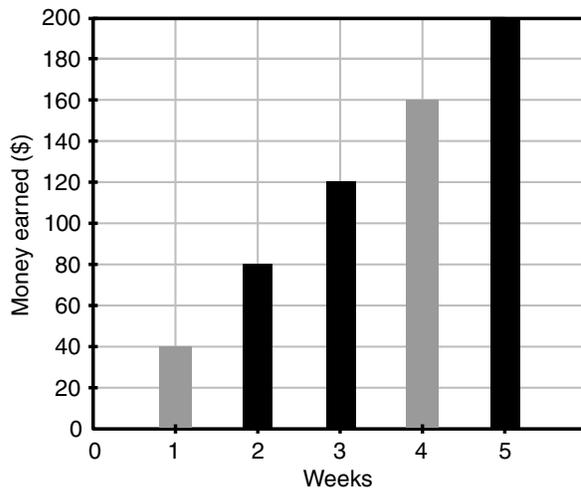
11. Nick earns \$40 per week at his part time job.

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

B. exact answer, points per line 1 | 4

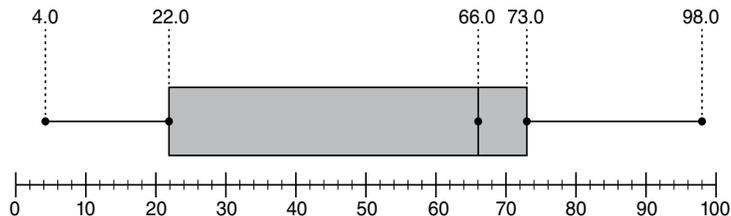
C. exact answer, points per segment $\frac{1}{2}$ | $\frac{1}{2}$
(each bar graphed) 3 | 3

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, $\frac{1}{2}$ | $\frac{2}{4}$
points per line 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

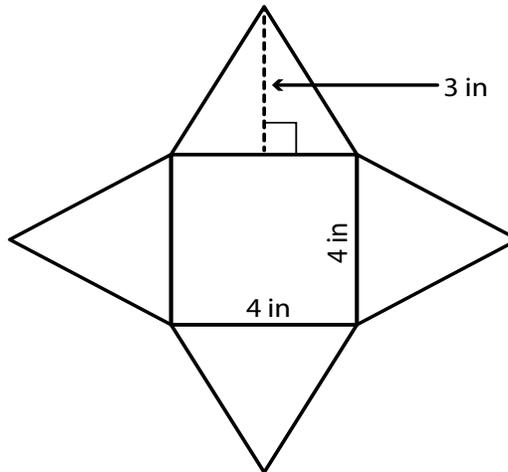
exact answer, $\frac{1}{2}$ | $\frac{1}{2}$
points per line 2 | 2

15. $4^2 =$ 16

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

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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 $\begin{array}{l} 1 \\ 2 \end{array} \mid \begin{array}{l} 10 \\ 20 \end{array}$

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 $\begin{array}{l} 1 \\ 2 \end{array} \mid \begin{array}{l} 4 \\ 8 \end{array}$

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

exact answer,
points per line $1 \mid 9$

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 $1 \mid 5$

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 $1 \mid 4$