



**THIRD SPACE
LEARNING**

6th Grade FL BEST State Test

State Test Grade 6

Grade 6

Questions

Name:

Class:

Date:

Score:

- 1 A library has 17 science books and 23 history books. What is the ratio of history books to total books?

- A. 17:23
- B. 23:40
- C. 23:17
- D. 23:30

- 2 What is the value of a ?

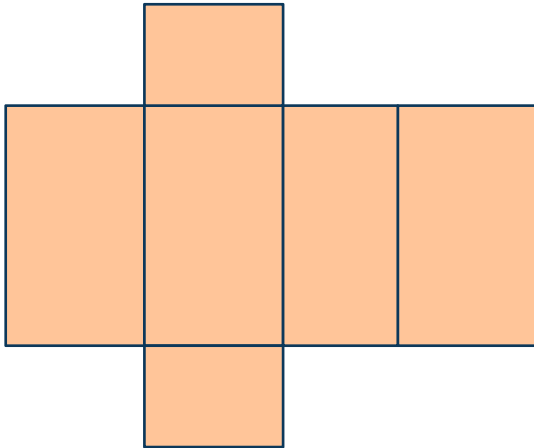


- A. -0.5
- B. 0
- C. -0.3
- D. -0.2

3 Which expression is equivalent to $6x + 18$?

- A. $6(x + 18)$
 - B. $2(x + 3) + 6x$
 - C. $6(x + 3)$
 - D. $6(x + 2) + x$
-

4



Which shape is formed by the net above?

- A. rectangular prism
- B. triangular prism
- C. square pyramid
- D. cube

- 5 Daniel uses 5 cups of flour to bake 10 cakes. How many cups of flour does he need to bake 15 cakes?

- A. 10 cups
- B. $5\frac{1}{2}$ cups
- C. $8\frac{1}{2}$ cups
- D. $7\frac{1}{2}$ cups
-

- 6 What is the value of x ?

$$\frac{12}{7} = x - \frac{3}{7}$$

- A. $x = \frac{4}{7}$
- B. $x = \frac{9}{7}$
- C. $x = \frac{15}{7}$
- D. $x = 4$

- 7 Carlos needs to collect at least 20 more cans of food for the charity drive. If c represents the number of cans, which inequality shows how many more cans Carlos needs to collect?

A. $c \geq 20$
B. $c \leq 20$
C. $c < 20$
D. $c > 20$

- 8 Here are the weights (in pounds) of the first 5 watermelons a farmer harvested:

Weights: 4, 7, 7, 5, 6

What is the mean of the weights of the watermelons?

A. 5.2
B. 6
C. 5.8
D. 7

- 9 Elise bought a jacket that was on sale for 25% off the original price. After the discount, she paid \$60 for the jacket. What was the original price of the jacket?

A. \$75
B. \$85
C. \$90
D. \$80

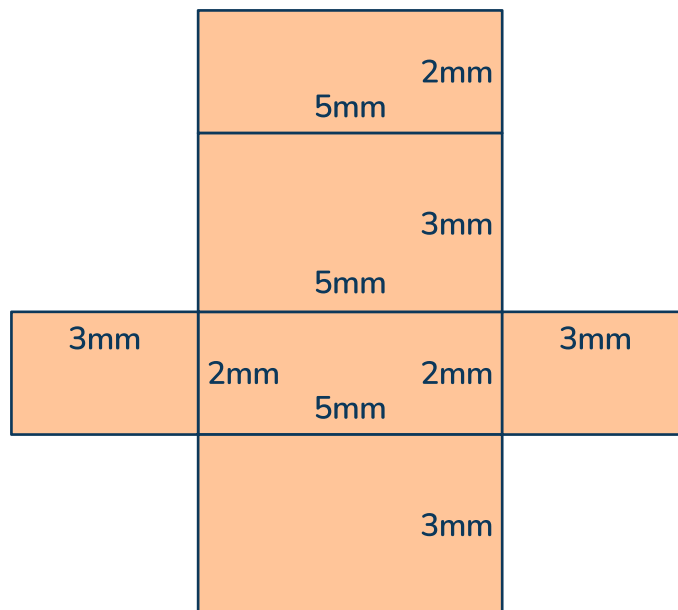
- 10 Solve $648.28 \div 7.6$.

A. 86.4
B. 85.3
C. 85.325
D. 95.3

- 11 What is the prime factorization of 90?

A. $2 \times 3 \times 5$
B. $2^2 \times 3 \times 5$
C. $2 \times 3^2 \times 5$
D. $2 \times 3 \times 5^2$

- 12 The net of a rectangular prism is shown below.

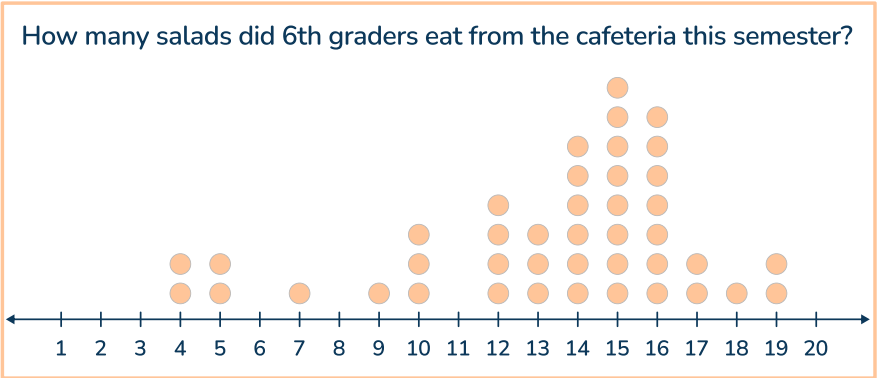


What is the surface area of the rectangular prism?

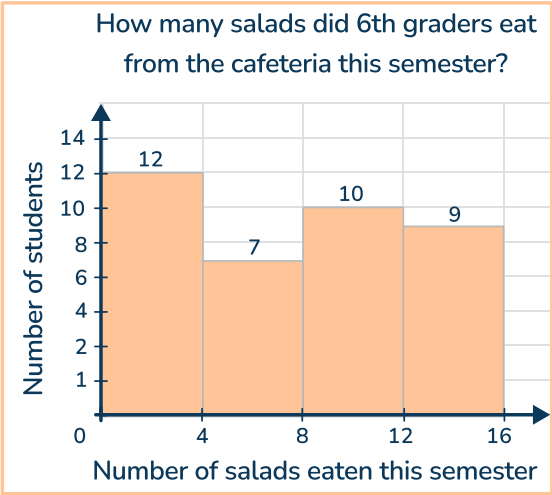
- A. 33 mm^2
- B. 44 mm^2
- C. 62 mm^2
- D. 63 mm^2

13 Which graph supports the conclusion that “most 6th graders ate 8 salads or less from the cafeteria this semester.

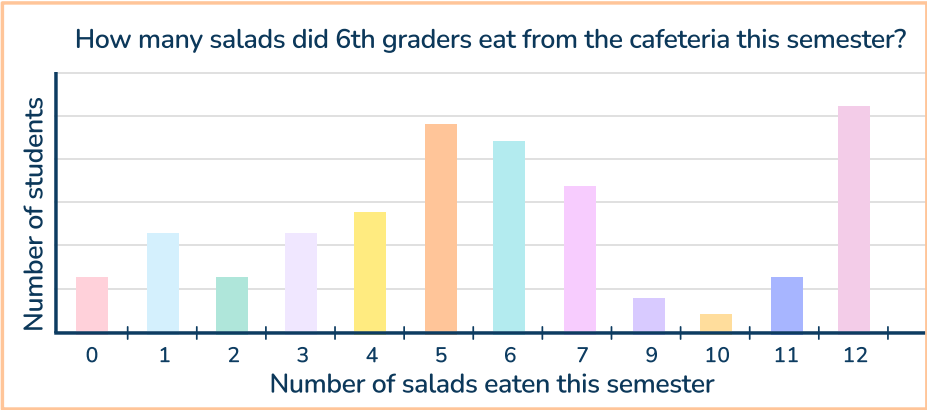
A.



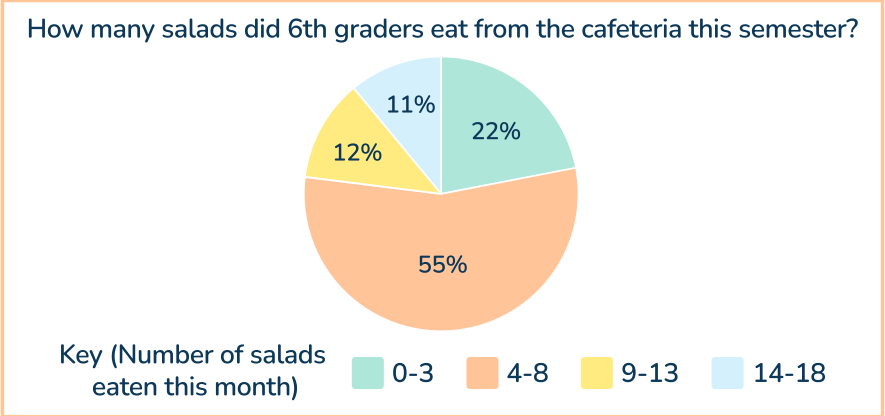
B.



C.



D.



14 The number line shows a point at -4 .



What is the absolute value of -4 ?

- A. -4
- B. 4
- C. 0
- D. 5

15 Logan is collecting data on two water filters.

Water Filter A	
Time (minutes)	Ounces filtered
3	54
4	72
7	126

Water Filter B	
Time (minutes)	Ounces filtered
2	38
5	95
6	114

Which filter is faster and by how many ounces per minute?

- A. Filter A is faster by 1 ounce per minute
- B. Filter B is faster by 1 ounce per minute
- C. Filter A is faster by 18 ounces per minute
- D. Filter B is faster by 1 minute.

16 Which expression shows a way to factor $48 + 60$? Select all correct answers.

- A. $12(4 + 5)$
 - B. $8(6 + 10)$
 - C. $4(12 + 15)$
 - D. $12(6 + 4)$
 - E. $6(8 + 10)$
-

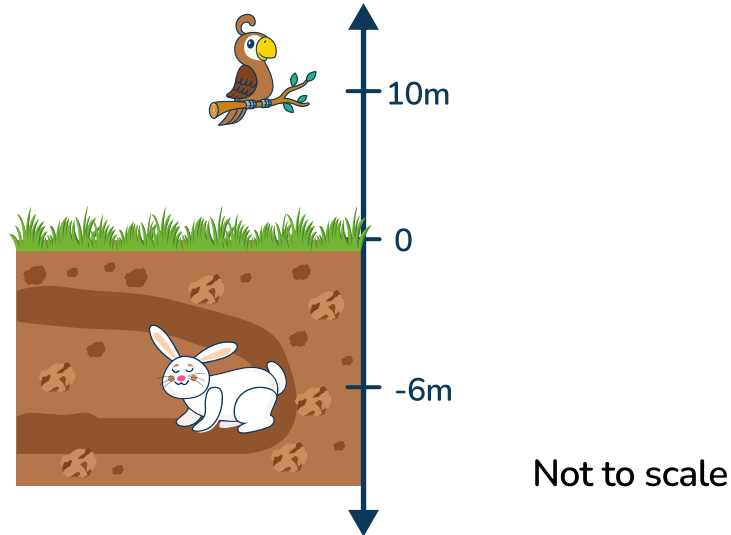
17 Olivia is three times as old as her sister Mia. Which equation(s) correctly represents the relationship between Olivia's age, o , and Mia's age, m ? Select all correct answers.

- A. $o = 3m$
 - B. $m = 3o$
 - C. $o - m = 3$
 - D. $o + m = 3$
 - E. $o \div 3 = m$
-

18 Which of the following is a statistical question? Select all correct answers.

- A. What is the temperature at Emerald Bay today?
- B. Does Leighton think the temperature at Emerald Bay this week was too hot?
- C. What is the average temperature at Emerald Bay this week?
- D. How many days has the temperature at Emerald Bay been above 75° ?

- 19 The diagram below shows a hawk perched on a tree branch 10 meters above the ground and a rabbit in a burrow 6 meters below ground level. Which statement is true?



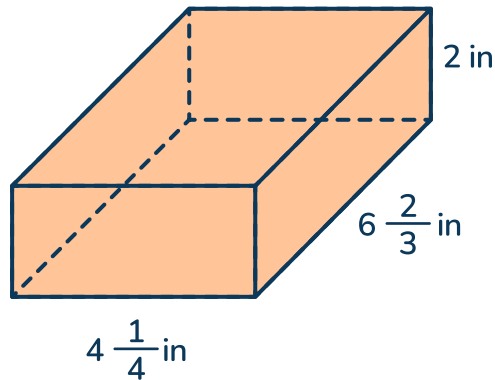
Which statement is true?

- A. The hawk is 10m higher than the rabbit.
- B. The temperature underground is -6 degrees.
- C. The rabbit is 16m below the hawk.
- D. The ground level is at 0, with the rabbit above and the hawk below.

-
- 20 Which equation is correct?

- A. $5 - (-9) = -4$
- B. $3 \times -8 = -24$
- C. $-18 \div -6 = -3$
- D. $7 + -7 = -14$

- 21 Calculate the volume of the rectangular prism.



- A. $28\frac{1}{3} \text{ in}^3$
 B. $12\frac{11}{12} \text{ in}^3$
 C. $51\frac{2}{3} \text{ in}^3$
 D. $56\frac{2}{3} \text{ in}^3$

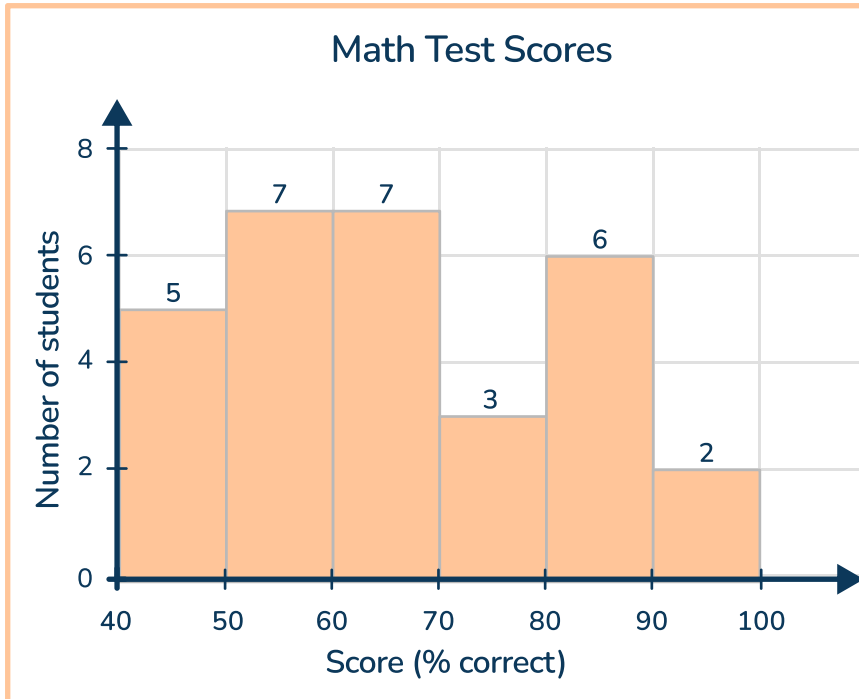
- 22 The local bookstore is selling notebooks for \$3 each. Emma wrote the following equation:

$$3n = t.$$

Which statements correctly describe Emma's equation within the context?
 Select all the correct answers.

- A. n is the price of one notebook.
 B. t is the total dollars for n notebooks sold.
 C. 3 is the total number of notebooks sold so far.
 D. $3n$ is the notebook price multiplied by the notebooks sold.
 E. t has only one correct solution.

23



In the histogram above, which bin has the median data point?

- A. 50% - 60%
- B. 60% - 70%
- C. 70% - 80%
- D. 80% - 90%

24 What is the value of 1.4^3 ?

- A. 4.2
- B. 1.96
- C. 4.4
- D. 2.744

25 In a bakery, for every 4 cups of flour used, there are 3 eggs needed to make a specific type of cake batter. Which statement about this ratio is true?

- A. For every 8 cups of flour used, there are 6 eggs needed.
 - B. There is $\frac{3}{4}$ of a cup of flour for every egg used.
 - C. For every 5 cups of flour used, there are 4 eggs needed.
 - D. There are 2 cups of flour for every 3 eggs used.
-

26 Lisa starts a small craft business, which costs her \$15 to buy initial supplies. On the first day, she sells crafts and makes \$8. She can determine whether she made a profit so far by comparing $|-15|$ and $|8|$.

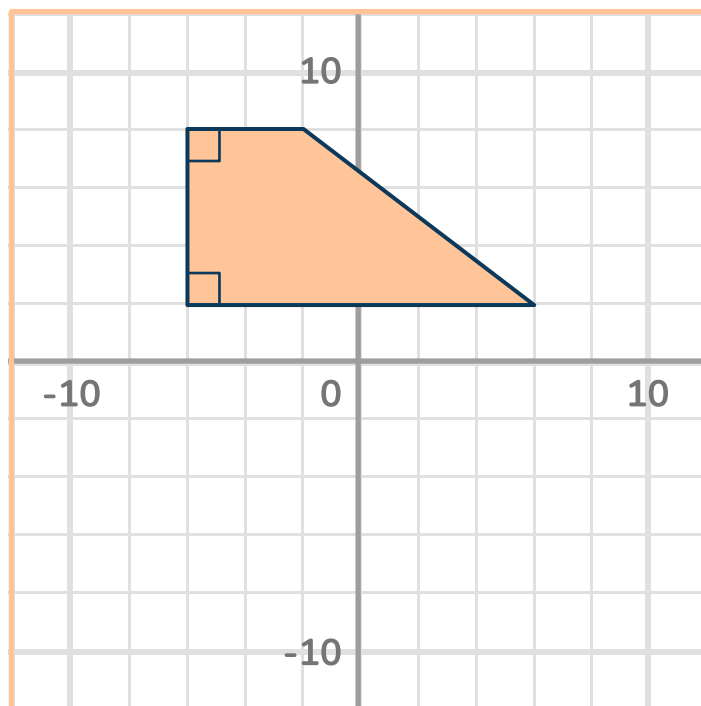
Which of the following comparisons correctly determines whether Lisa made a profit?

- A. $|-15| < |8|$ so Lisa did not make a profit.
- B. $|-15| > |8|$ so Lisa did not make a profit.
- C. $|-15| < |8|$ so Lisa made a profit.
- D. $|-15| > |8|$ so Lisa made a profit.

- 27 Julia buys groceries every 12 days, and Toby buys groceries every 20 days. If both Julia and Toby bought groceries today, how many days until they will both buy groceries on the same day again?

A. 20 days
B. 36 days
C. 50 days
D. 60 days

- 28 What is the area of the shape shown?

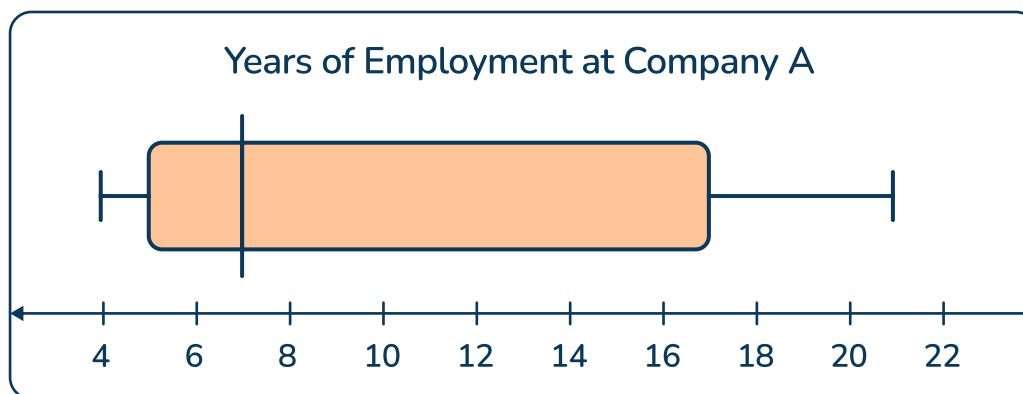


A. 12 units²
B. 48 units²
C. 24 units²
D. 18 units²

29 Which numbers are solutions for $t \leq -5$. Select all correct answers.

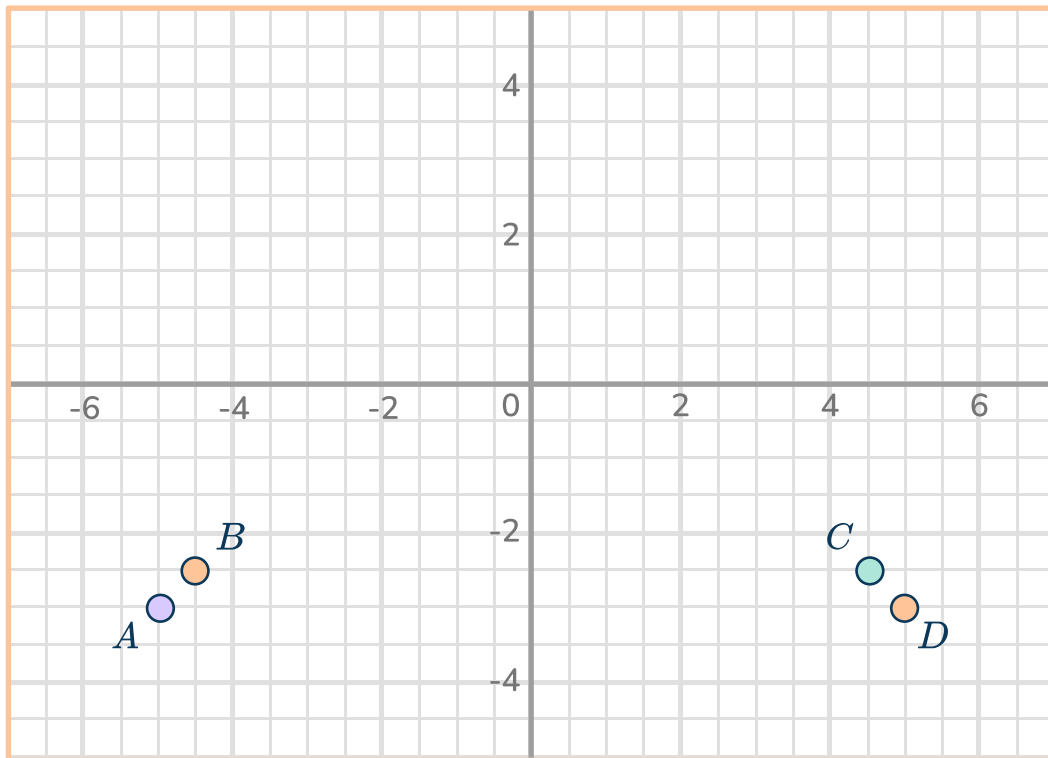
- A. -5
 - B. -6
 - C. 0
 - D. -12
 - E. $-\frac{1}{5}$
-

30 Which statement about the data shown in the box plot below is true? Select all correct answers.



- A. The range is 15 years.
- B. The second half of the data has more variability than the first half.
- C. The median length of employment is 11 years.
- D. The IQR is 12.
- E. At least half the employees have 6 years of employment or less.

31 Which point shows the coordinates $(-5, -3)$?

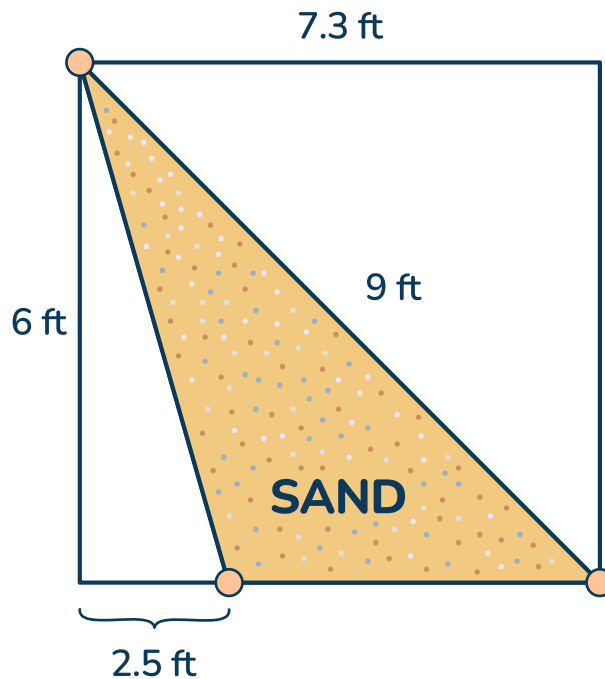


- A. Point A
- B. Point B
- C. Point C
- D. Point D

32 Which expression shows “6 less than the quotient of m and 5”?

- A. $6 - m \div 5$
- B. $5m - 6$
- C. $\frac{m}{5} - 6$
- D. $6 - 5m$

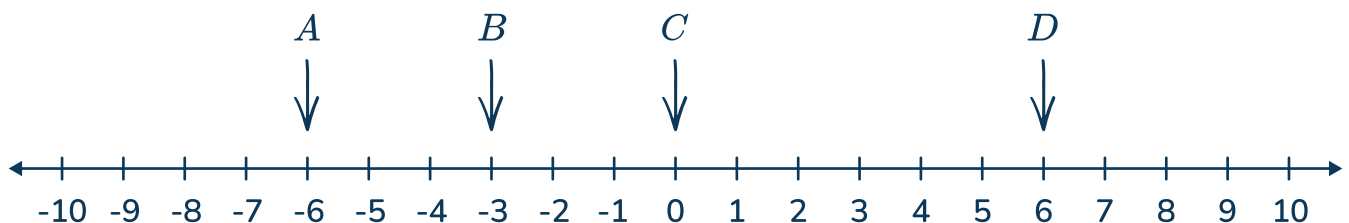
- 33 Tia is covering a triangular part of her garden with sand. The diagram below shows where Tia will place the sand.



How many square feet will Bianca cover with sand?

- A. 7.5 ft^2
- B. 14.4 ft^2
- C. 28.8 ft^2
- D. 21.6 ft^2

- 34 Where is $-(-6)$ on the number line?



- A. A
- B. B
- C. C
- D. D

- 35 Maria buys \$45 worth of ingredients to bake cookies. She sells each cookie for \$3. Which equation shows Maria's profit, p , after selling c cookies?

A. $p = 3c - 45$
B. $45 + 3c = p$
C. $c = 3p - 45$
D. $45 + 3p = c$

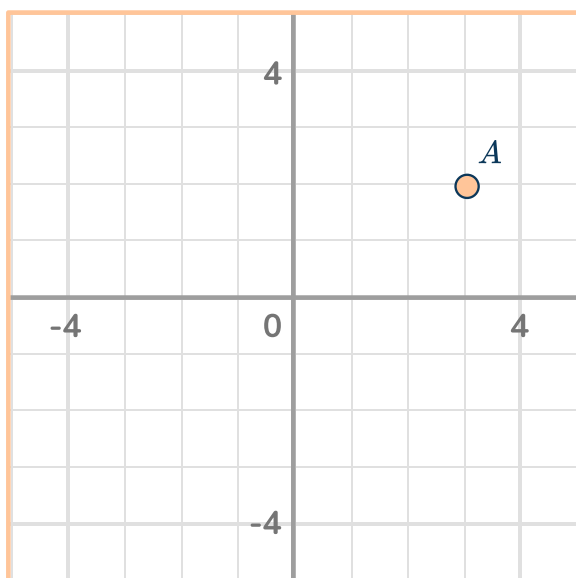
- 36 Which of the following is equivalent to $4\frac{1}{8}$? Select all correct answers.

A. 4.8
B. 4.125
C. 41.25%
D. $\frac{32}{8}$
E. 412.5%

- 37 There are $8\frac{1}{6}$ cups of butter in the kitchen. If Chef Julian needs $\frac{2}{3}$ of a cup of butter for each recipe, how many complete recipes can he make?

- A. $5\frac{4}{9}$ recipes
- B. 12 recipes
- C. 6 recipes
- D. $12\frac{1}{4}$ recipes

38



Point B:

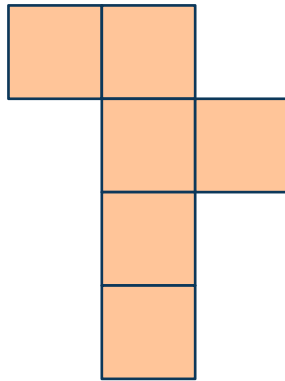
- is in Quadrant 4
- shares an x -coordinate with point A
- is 4.5 units away from Point A

Point C is Point B reflected across the y -axis.

What are the coordinates of Point C?

- A. (3, -2.5)
- B. (3, 2)
- C. (-3, -2.5)
- D. (-3, -4.5)

- 39 A cube has a side length of 6.2 cm. The net of the cube is shown below.



Piper folds the cube up and fills it with water. How many cubic centimeters of water are in the cube?

- A. 38.44 cm^3
 - B. 238.328 cm^3
 - C. 230.64 cm^2
 - D. 37.2 cm^3
-
- 40 For the color violet, the ratio of red paint to blue paint is 5:3. What is a possible mixture that will create violet?

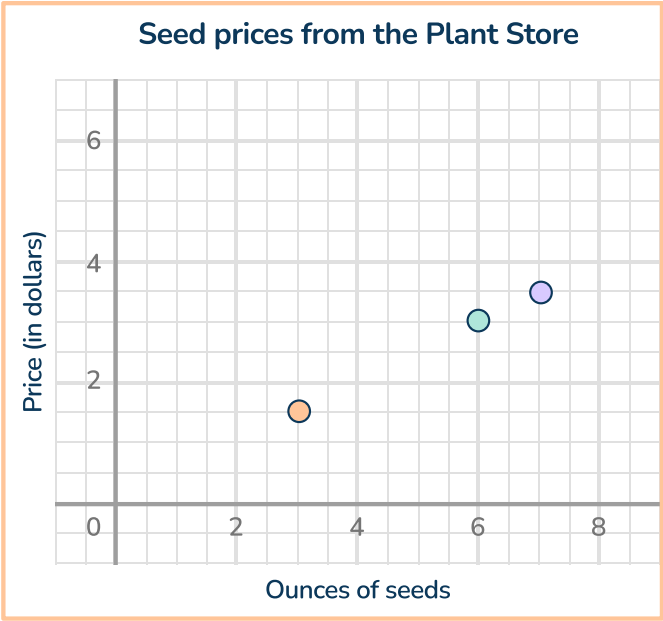
- A. 20 ounces of red and 15 ounces of blue
- B. 30 ounces of red and 40 ounces of blue
- C. 35 ounces of blue and 21 ounces of red
- D. 25 ounces of red and 15 ounces of blue

Standard: MA.6.AR.1.1, MA.6.AR.3.3, MA.6.AR.2.2, MA.6.AR.2.3

DOK 3

Short Answer Response - 6 points

- 41
- The graph and table below show information about seeds being sold by a grocery store and by a farmer.



Seed prices from the farmer	
Ounces of seeds	Price
4	\$1.80
5	\$2.25
8	\$3.60

Part A: Which seeds are cheaper per ounce? Explain how you solved.

A Hardware store sells seeds in packages of 3 ounces. They use the equation $1.20p = t$, where p is the number of packages and t is the total price.

Part B: Compare the price of seeds per ounce at the Hardware store to the seeds from Part A? Explain how you solved.

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Item	KEY	Rationale
41	6 points	<p>Student correctly calculates the unit seed prices:</p> <ul style="list-style-type: none"> • Plant store - \$0.50 per ounce • Farmer - \$0.45 per ounce • Hardware store - \$0.40 per ounce <p>Student clearly explains how they found the unit price from the graph, table and equation.</p>
	5 points	<p>The student correctly calculates the unit seed prices:</p> <ul style="list-style-type: none"> • Plant store - \$0.50 per ounce • Farmer - \$0.45 per ounce • Hardware store - \$0.40 per ounce <p>Student explains how they found the unit price from the graph, table and equation, but some parts of the explanation are incomplete or unclear.</p>
	4 points	<p>Student correctly calculates 2 out of 3 the unit seed prices:</p> <ul style="list-style-type: none"> • Plant store - \$0.50 per ounce • Farmer - \$0.45 per ounce • Hardware store - \$0.40 per ounce <p>Student explains how they found the unit price from the graph, table and equation.</p>
	3 points	<p>The student correctly calculates 2 out of 3 the unit seed prices:</p> <ul style="list-style-type: none"> • Plant store - \$0.75 per ounce • Farmer - \$0.70 per ounce • Hardware store - \$0.65 per ounce <p>Student explains how they found the unit price from the graph, table and equation, but some parts of the explanation are incomplete or unclear.</p>
	2 point	<p>The student correctly calculates 1 out of 3 the unit seed prices:</p> <ul style="list-style-type: none"> • Plant store - \$0.50 per ounce • Farmer - \$0.45 per ounce • Hardware store - \$0.40 per ounce <p>Student explains how they found the unit price from the graph, table and equation, but some parts of the explanation are incomplete or unclear.</p>

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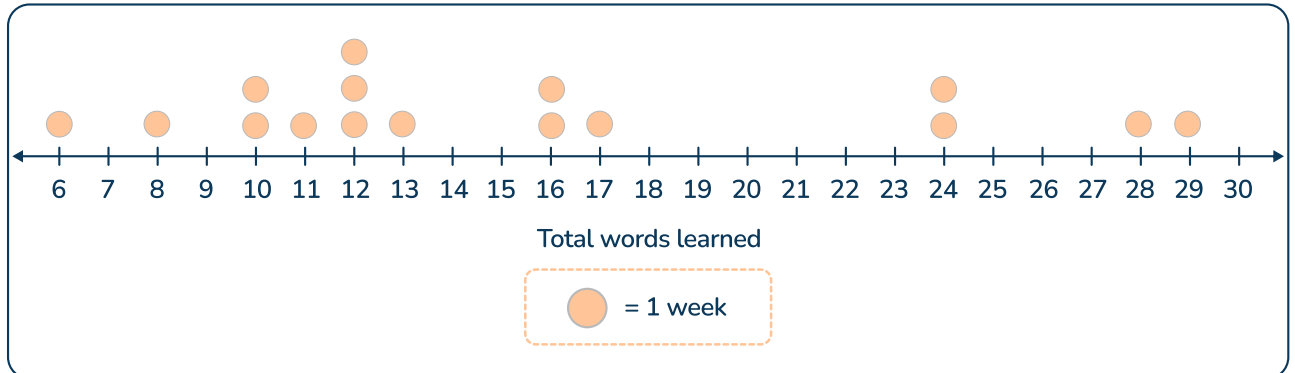
Item	KEY	Rationale
	1 point	<p>Student miscalculates all of the unit seed prices:</p> <ul style="list-style-type: none">• Plant store - \$0.50 per ounce• Farmer - \$0.45 per ounce• Hardware store - \$0.40 per ounce <p>The student explains how they attempted to find the unit price from the graph, table and equation, but some parts of the explanation are incomplete or unclear.</p>
	0 points	<p>The response is blank or does not include any correct calculations or explanations.</p>

Extended response - 6 points

Standard: MA.6.DP.1.2, MA.6.DP.1.3, MA.6.DP.1.4, MA.6.NSO.2.3

DOK 3

- 42 Olive is learning new words in Spanish. Each week she records how many words she has learned.



Part A:

Calculate the following measures of center and spread of the data set.

Mean: _____ Median: _____ Mode: _____ Range: _____

Part B: When Olive started, her goal was to learn 14 words a week on average. Is she meeting her goal? Why or why not?

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Item	KEY	Rationale
42	6 points	<p>The student correctly calculates:</p> <ul style="list-style-type: none"> • Mean - 15.5 • Median - 12.5 • Mode - 12 • Range - 23 <p>Student correctly describes the overall spread, connecting both the center and spread to Olive's goal.</p> <p>For example, "Olive's mean is meeting the goal, but the median is not. The value of the mean is larger because it was affected by the few weeks on the right with a large amount of words learned. The median is lower than Olive's goal, since most of her weeks are between 6 and 15." *Response may vary, but should clearly explain the connection between the measures of center and spread.</p>
	5 point	<p>The student correctly calculates:</p> <ul style="list-style-type: none"> • Mean - 15.5 • Median - 12.5 • Mode - 12 • Range - 23 <p>Student describes the overall spread, connecting both the center and spread to Olive's goal, but some parts may be incomplete or unclear.</p>
	4 points	<p>The student correctly calculates 3 out of 4:</p> <ul style="list-style-type: none"> • Mean - 15.5 • Median - 12.5 • Mode - 12 • Range - 23 <p>Student correctly describes the overall spread, connecting both the center and spread to Olive's goal.</p>

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Item	KEY	Rationale
	3 points	<p>The student correctly calculates 3 out of 4:</p> <ul style="list-style-type: none"> • Mean - 15.5 • Median - 12.5 • Mode - 12 • Range - 23 <p>Student describes the overall spread, connecting both the center and spread to Olive's goal, but some parts may be incomplete or unclear.</p>
	2 points	<p>The student correctly calculates 2 out of 4:</p> <ul style="list-style-type: none"> • Mean - 15.5 • Median - 12.5 • Mode - 12 • Range - 23 <p>Student attempts to describe the overall spread, connecting both the center and spread to Olive's goal, but most parts are incomplete or unclear.</p>
	1 points	<p>Student correctly calculates 1 out of 4:</p> <ul style="list-style-type: none"> • Mean - 15.5 • Median - 12.5 • Mode - 12 • Range - 23 <p>Student describes the overall spread, connecting both the center and spread to Olive's goal, but some parts may be incomplete or unclear.</p>
	0 points	<p>Response is blank or does not include any correct calculations or explanations.</p>

Answer Key - Multiple Choice

Item number	Correct answer	Standard(s)	DOK
1	B	MA.6.AR.3.1	DOK 2
2	D	MA.6.NSO.1.1	DOK 1
3	C	MA.6.AR.1.4	DOK 1
4	A	MA.6.GR.2.4	DOK 1
5	D	MA.6.AR.3.5	DOK 2
6	C	MA.6.AR.2.4	DOK 1
7	A	MA.6.AR.1.2	DOK 2
8	C	MA.6.DP.1.2	DOK 1
9	D	MA.6.AR.3.4	DOK 2
10	B	MA.6.NSO.2.1	DOK 1
11	C	MA.6.NSO.3.4	DOK 1
12	C	MA.6.GR.2.4	DOK 2
13	D	MA.6.DP.1.4, MA.6.DP.1.6	DOK 2
14	B	MA.6.NSO.1.3	DOK 2
15	B	MA.6.AR.3.3, MA.6.AR.3.5	DOK 2
16	A, C, E	MA.6.NSO.3.2	DOK 1
17	A, E	MA.6.AR.2.3	DOK 2
18	C, D	MA.6.DP.1.1	DOK 1
19	C	MA.6.NSO.1.2	DOK 2

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Item number	Correct answer	Standard(s)	DOK
20	B	MA.6.NSO.4.1, MA.6.NSO.4.	DOK 1
21	D	MA.6.GR.2.3	DOK 1
22	B, D	MA.6.AR.1.1	DOK 2
23	B	MA.6.DP.1.2, MA.6.DP.1.5	DOK 2
24	D	MA.6.NSO.3.3	DOK 1
25	A	MA.6.AR.3.1, MA.6.AR.3.2, MA.6.AR.3.5	DOK 2
26	B	MA.6.NSO.1.4	DOK 2
27	D	MA.6.NSO.3.1	DOK 2
28	C	MA.6.GR.1.3, MA.6.GR.2.2	DOK 2
29	A, B, D	MA.6.AR.2.1	DOK 1
30	B, D	MA.6.DP.1.2, MA.6.DP.1.3	DOK 2
31	A	MA.6.GR.1.1	DOK 1
32	C	MA.6.AR.1.1	DOK 1
33	B	MA.6.GR.2.1, MA.6.GR.2.2	DOK 2
34	D	MA.6.NSO.1.1	DOK 1
35	A	MA.6.AR.1.1	DOK 2
36	B, E	MA.6.NSO.3.5	DOK 1
37	B	MA.6.NSO.2.2	DOK 2
38	C	MA.6.GR.1.1, MA.6.GR.1.2	DOK 2
39	B	MA.6.GR.2.3	DOK 2
40	D	MA.6.AR.3.1, MA.6.AR.3.2	DOK 1

ANSWERS SORTED BY CCSS STRAND

NSO			
2	D	MA.6.NSO.1.1	DOK 1
10	B	MA.6.NSO.2.1	DOK 1
11	C	MA.6.NSO.3.4	DOK 1
14	B	MA.6.NSO.1.3	DOK 1
16	A, C, E	MA.6.NSO.3.2	DOK 1
19	C	MA.6.NSO.1.2	DOK 2
20	B	MA.6.NSO.4.1, MA.6.NSO.4.2	DOK 1
24	D	MA.6.NSO.3.3	DOK 1
26	B	MA.6.NSO.1.4	DOK 2
27	D	MA.6.NSO.3.1	DOK 2
34	D	MA.6.NSO.1.1	DOK 1
36	B, E	MA.6.NSO.3.5	DOK 1
37	B	MA.6.NSO.2.2	DOK 2

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AR			
1	B	MA.6.AR.3.1	DOK 2
3	C	MA.6.AR.1.4	DOK 1
5	D	MA.6.AR.3.5	DOK 2
6	C	MA.6.AR.2.4	DOK 1
7	A	MA.6.AR.1.2	DOK 2
9	D	MA.6.AR.3.4	DOK 2
15	B	MA.6.AR.3.3, MA.6.AR.3.5	DOK 2
17	A, E	MA.6.AR.2.3	DOK 2
22	B, D	MA.6.AR.1.1	DOK 2
25	A	MA.6.AR.3.1, MA.6.AR.3.2, MA.6.AR.3.5	DOK 2
29	A, B, D	MA.6.AR.2.1	DOK 1
32	C	MA.6.AR.1.1	DOK 1
35	A	MA.6.AR.1.1	DOK 2
40	D	MA.6.AR.3.1, MA.6.AR.3.2	DOK 1
41	Short Answer Response	MA.6.AR.1.1, MA.6.AR.3.3, MA.6.AR.2.2, MA.6.AR.2.3	DOK 3

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GR			
4	A	MA.6.GR.2.4	DOK 1
12	C	MA.6.GR.2.4	DOK 2
21	D	MA.6.GR.2.3	DOK 1
28	C	MA.6.GR.1.3, MA.6.GR.2.2	DOK 2
31	A	MA.6.GR.1.1	DOK 1
33	B	MA.6.GR.2.1, MA.6.GR.2.2	DOK 2
38	C	MA.6.GR.1.1, MA.6.GR.1.2	DOK 2
39	B	MA.6.GR.2.3	DOK 2




DP			
8	C	MA.6.DP.1.2	DOK 1
13	D	MA.6.DP.1.4, MA.6.DP.1.6	DOK 2
18	C, D	MA.6.DP.1.1	DOK 1
23	B	MA.6.DP.1.2, MA.6.DP.1.5	DOK 2
30	B, D	MA.6.DP.1.2, MA.6.DP.1.3	DOK 2
42	Extended response	MA.6.DP.1.2, MA.6.DP.1.3, MA.6.DP.1.4, MA.6.NSO.2.3	DOK 3

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