



**THIRD SPACE
LEARNING**

6th Grade CCSS State Test

Common Core Grade 6

Grade 6

Questions

Name:

Class:

Date:

Score:

- 1 A grocery store has 23 red apples and 38 green apples. What is the ratio of green apples to total apples?

- A. 23:38
- B. 38:23
- C. 61:38
- D. 38:61

- 2 What is the value of a ?

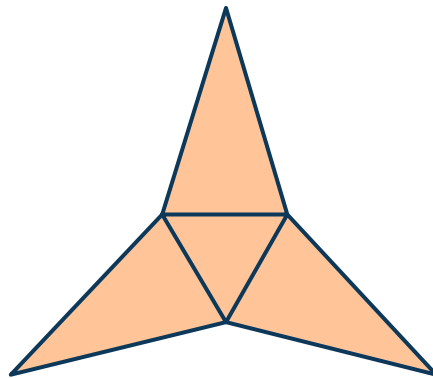


- A. -0.2
- B. -0.3
- C. -0.45
- D. -0.6

3 Which expression is equivalent to $8x + 28$?

- A. $8(x+20)$
- B. $7(x+4) + x$
- C. $8(x+4) + 4$
- D. $7(x+3) + x$

4 Which shape is formed by the net above?

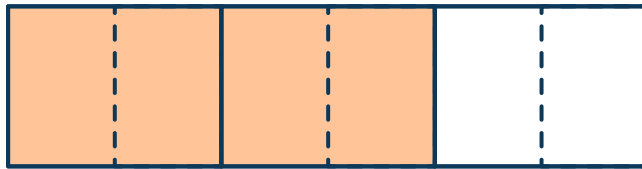


- A. Triangular pyramid
- B. Triangular prism
- C. Square pyramid
- D. Isosceles triangle

- 5 Chantal makes 8 bracelets with 3 yards of string. How many yards of string does she need for 12 bracelets?

A. 32 yards of string
B. $2\frac{2}{3}$ yards of string
C. $4\frac{1}{2}$ yards of string
D. $5\frac{1}{3}$ yards of string

- 6 Which expressions can be represented by the model? Select all the correct answers.



- a. $\frac{2}{3} \div \frac{1}{6}$
b. $\frac{4}{6} \div \frac{1}{3}$
c. $\frac{1}{6} \div \frac{2}{3}$
d. $\frac{1}{3} \div \frac{1}{6}$
e. $\frac{1}{6} \div \frac{4}{6}$

- 7 Isadora needs at least 14 volunteers to sign up for the event on Saturday. If v is the number of volunteers, which inequality shows how many Isadora needs?

A. $v \geq 14$
B. $v \leq 14$
C. $v < 14$
D. $v > 14$

- 8 Below are the total scores for the first 5 games Otto's baseball team played.
Total score: 5, 9, 2, 2, 8.

What is the mean of the total scores?

A. 5.2
B. 7
C. 2
D. 5.1

- 9 A pair of shoes was on sale for 25% off. After the discount, Kyla paid \$36 for the pair of shoes. What was the original price?

A. \$12
B. \$45
C. \$9
D. \$48

-
- 10 Solve $500.76 \div 5.2$.

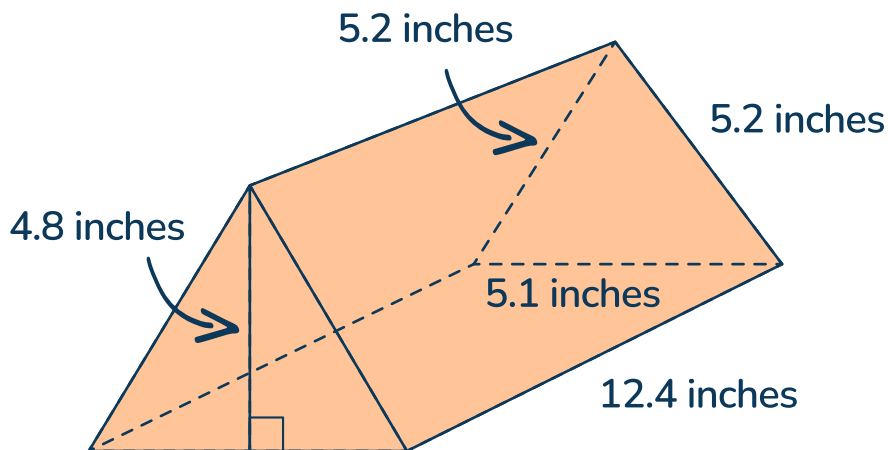
A. 98.1
B. 96.3
C. 96.156
D. 95.4

11 $\frac{b}{3}=12$

Which value for b makes the equation true?

- A. 4
- B. $\frac{1}{4}$
- C. 15
- D. 36

12

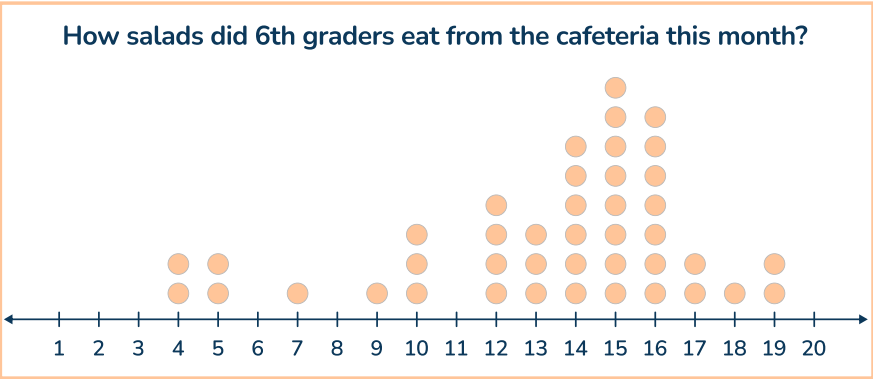


Alma is painting the outside of the box above - an isosceles triangular prism. How many square inches does she paint?

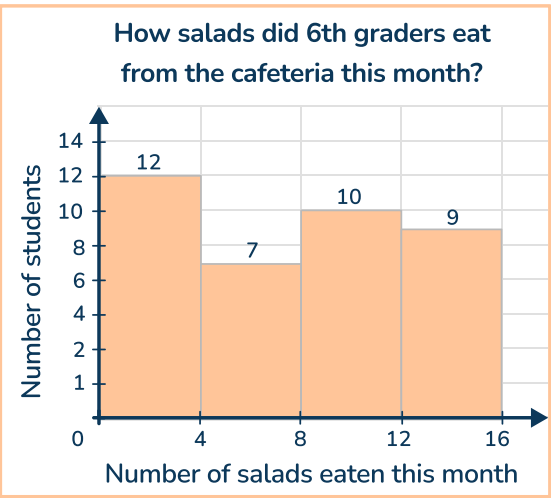
- A. 1,578.4704 inches²
- B. 303.552 inches²
- C. 216.68 inches²
- D. 37.2 inches²

13 Which graph supports the conclusion that “most 6th graders ordered 12 or more salads this month.”

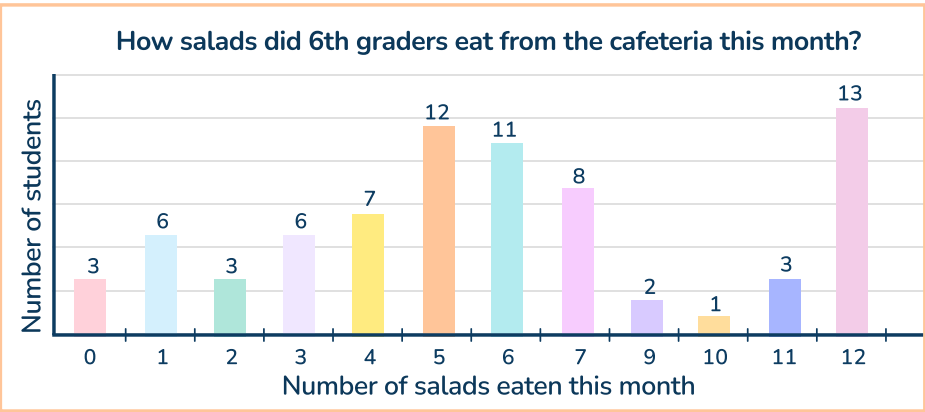
A.



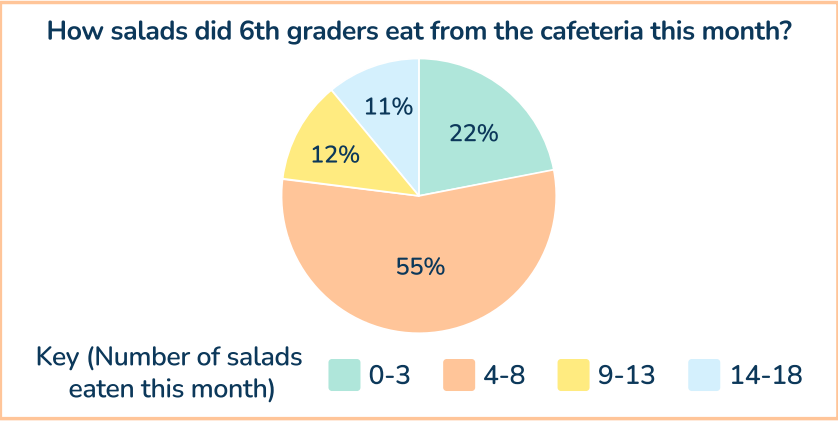
B.



C.



D.



14 Which statement is true?

- A. $-5 > -4$
- B. $-12 > -14$
- C. $5.6 > 5\frac{2}{3}$
- D. $4.05 < 4.005$

15 Emery is collecting data on two water filters.

Water Filter A	
Time (minutes)	Ounces filtered
3	51
4	58
7	119

Water Filter B	
Time (minutes)	Ounces filtered
2	32
5	80
6	96

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 4 ounces per minute
- D. Filter B is faster by 17 ounces per minute

- 16 Andres solved $688.8 \div 56$ using the standard algorithm. What mistake did Andres make?

$$\begin{array}{r}
 012.30 \\
 56 \overline{) 688.8} \\
 \underline{- 0} \\
 68 \\
 \underline{- 56} \\
 128 \\
 \underline{- 112} \\
 168 \\
 \underline{- 168} \\
 0
 \end{array}$$

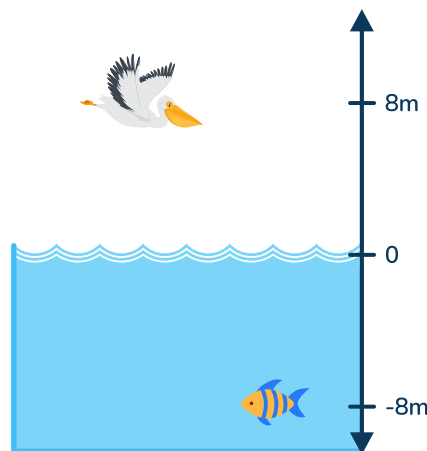
- A. Andres made a subtraction error.
 B. Andres did not include the remainder.
 C. Andres' answer has the wrong place value.
 D. Andres did not make a mistake.
-
- 17 Estelle is five years older than her brother Dorian. Which equation(s) show the relationship between Estelle's age, e , and Dorian's age, d . Select all the correct answers.

- A. $d - 5 = e$
 B. $d + 5 = e$
 C. $e - 5 = d$
 D. $e + d = 5$
 E. $e - d = 5$

18 Which of the following is a statistical question?

- A. What is the temperature of the classroom today?
 - B. Does Kaylah think the temperature of the classroom this week was too hot?
 - C. What is the average temperature of the classroom this week?
 - D. How many days has the temperature of the classroom been above 74° ?
-

19 The diagram below shows the location of a seagull and fish in comparison to sea level.



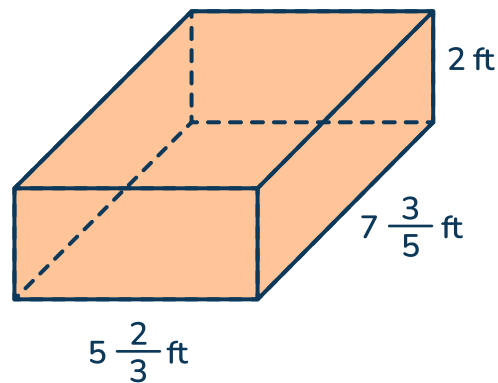
Which statement is true?

- A. The seagull is 8m higher than the fish.
- B. The fish is 16m below the seagull.
- C. The water the fish is in measures -8 degrees.
- D. The sea level is at 0, with the fish above and the seagull below.

20 Solve $6(5^2 - 3 + 2) \div \frac{1}{3}$.

- A. 432
 - B. 162
 - C. 10
 - D. 40
-

21 Calculate the volume of the rectangular prism.



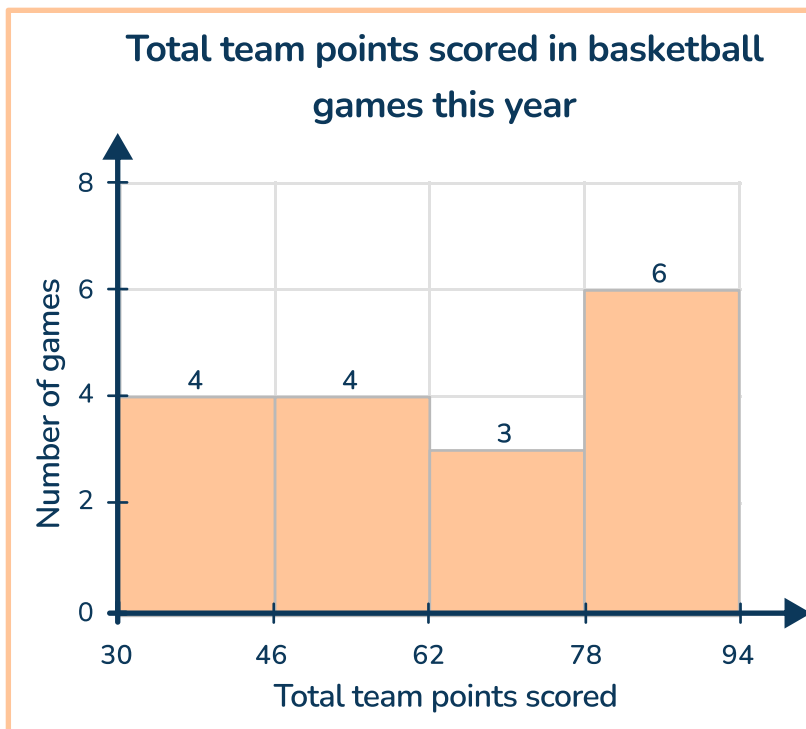
- A. $15 \frac{4}{15}$ cups
- B. $139 \frac{1}{5}$ cups
- C. $70 \frac{6}{15}$ cups
- D. $86 \frac{2}{15}$ cups

- 22 The student council is selling tickets to the school dance for \$4. Daniel wrote the following equation: $4x = y$.

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

- A. x is the price of one ticket
- B. y is the total dollars for x tickets sold
- C. 4 is the total number of tickets sold so far
- D. $4x$ is the ticket price multiplied by the tickets sold
- E. y has only one correct solution

23



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

- A. 30-46
- B. 46-62
- C. 62-78
- D. 78-94

- 24 Are the two expressions equivalent? Why or why not?

$$5c - 7b \quad \text{and} \quad 7b - 5c$$

- A. No, because $-7b$ is not the same as $7b$.
 - B. Yes, because they both have the terms $5c$ and $7b$.
 - C. No, because equivalent expressions cannot have two variables.
 - D. Yes, because they are both subtracting the same amount, just in a different order.
-

- 25 For every 5 cups of water, there are 6 tablespoons of plant food. Which statement about the ratio is true?

- A. There is $\frac{5}{6}$ of a cup of water for every tablespoon of plant food.
- B. For every 10 cups of water, there are 11 tablespoons of plant food.
- C. There is $\frac{6}{5}$ of a cup of water for every tablespoon of plant food.
- D. For every 2 cups of water, there are 3 tablespoons of plant food.

26 Talia is solving the two equations below. She says, “I can just solve expression a, because expression b will have the same answer.” Do you agree? Why or why not?

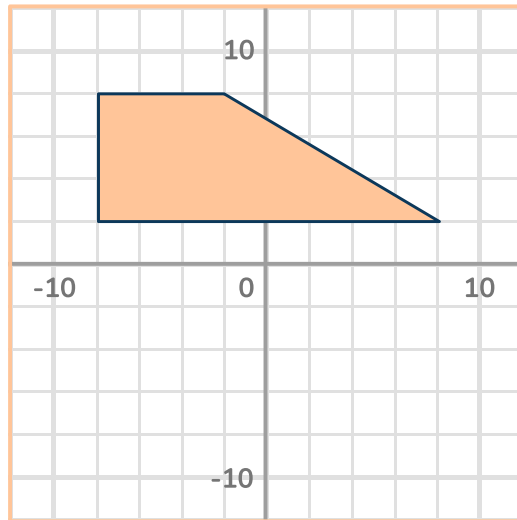
- Expression a: $(7+51)^3$
- Expression b: $7+51^3$

- A. Yes, because the order of operations is the same.
- B. No, because expression a will add first and expression b will not.
- C. Yes, because the expressions have the same operations.
- D. No, because expression b will multiply by 3 first and expression a will not.
-

27 Which expression is equivalent to $45 + 108$?

- A. $9(45 + 108)$
- B. $9 \times 5+12$
- C. $9 \times (36+99)$
- D. $9(5 + 12)$

28 What is the area of the shape shown?

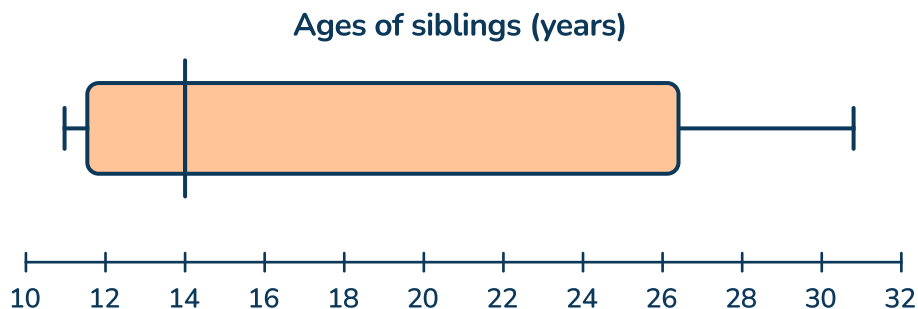


- A. 16.5 units²
- B. 19 units²
- C. 66 units²
- D. 96 units²

29 Which numbers are solutions for $t \geq -3$. Select all the correct answers.

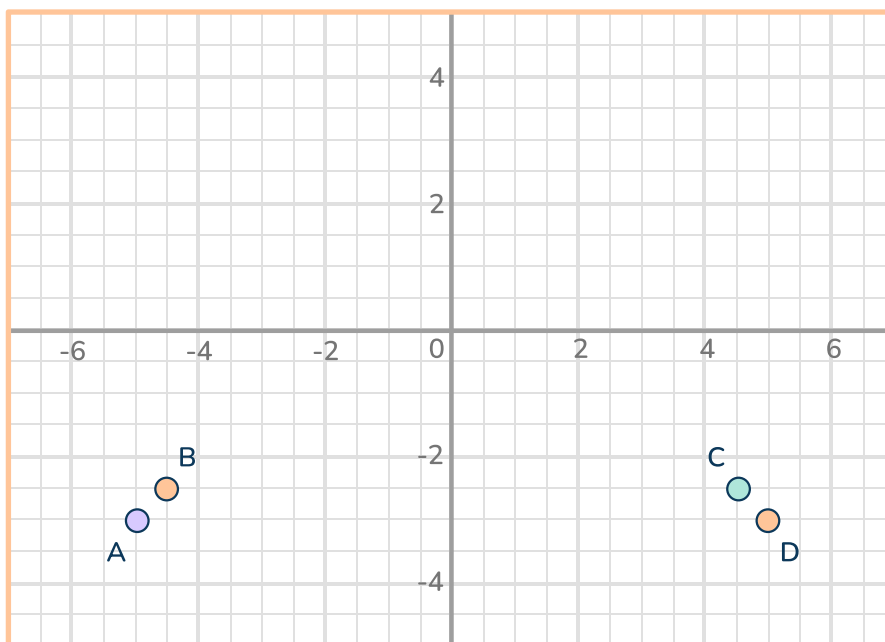
- A. -3
- B. -4
- C. -2
- D. $\frac{1}{12}$
- E. $-\frac{1}{12}$

- 30 Which statement about the data shown in the box plot below is true?



- A. The range is 22 years and the IQR is 15.
- B. The second half of the data has less variability than the first half.
- C. The median age is 21 years.
- D. At least half the siblings are 14 years old 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 “2 less than the quotient of b and 3”?

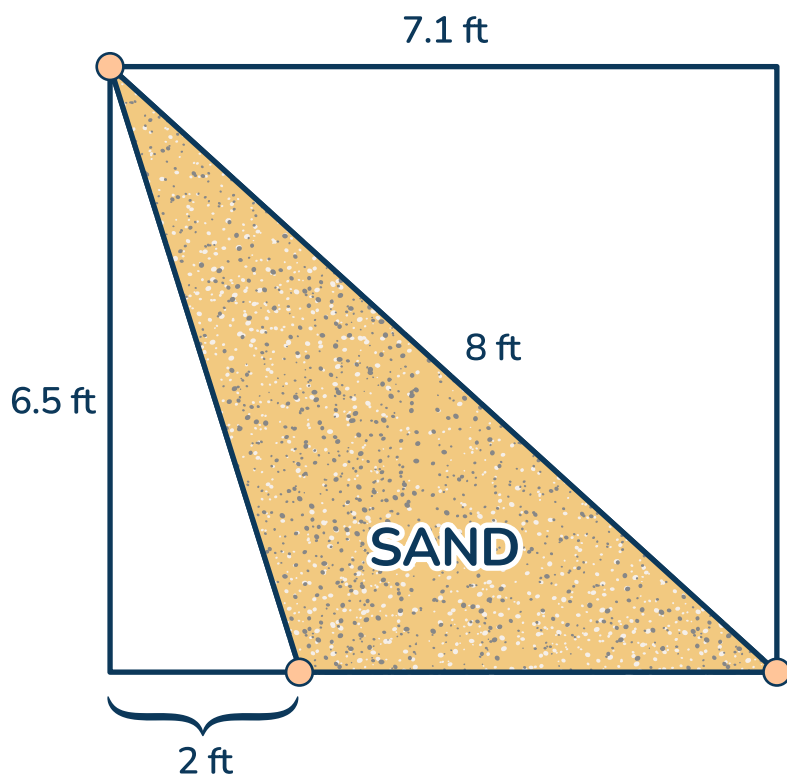
A. $2 - b \div 3$

B. $\frac{b}{3} - 2$

C. $3b - 2$

D. $2 - 3b$

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



How many square feet will Bianca cover with sand?

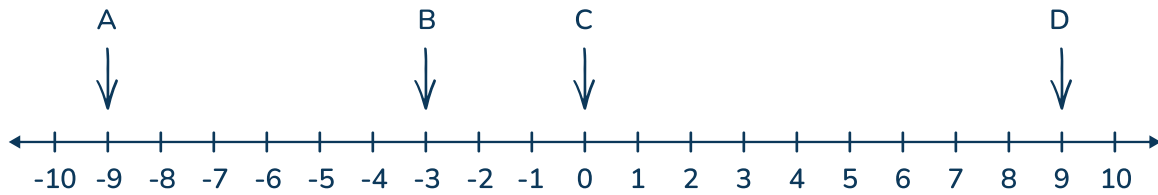
A. 6.5 inches²

B. 18.651 inches²

C. 16.575 inches²

D. 31.15 inches²

34 Where is $-(-9)$ on the number line?

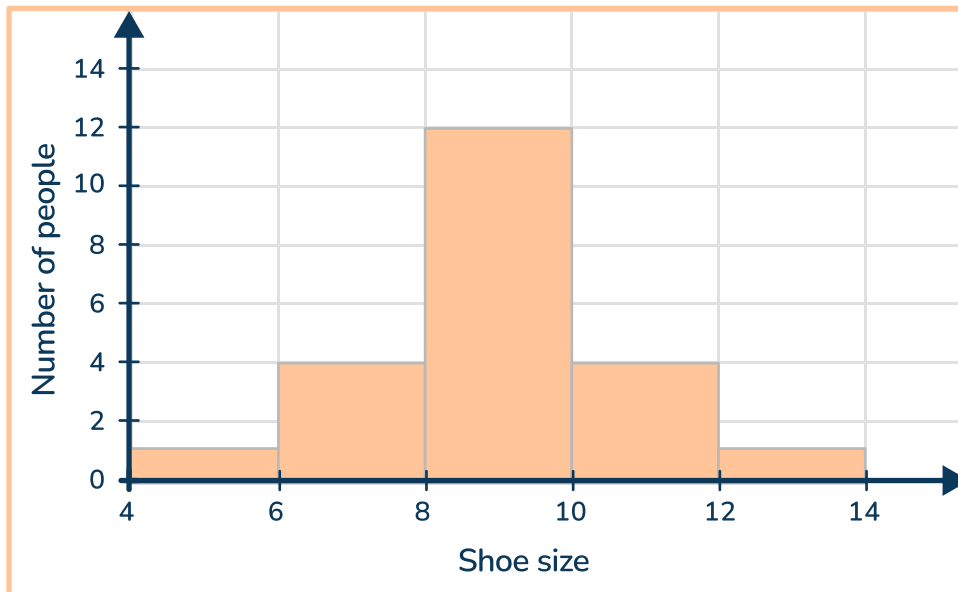


- A. A
- B. B
- C. C
- D. D

35 Jerome pays \$37 for supplies to make bracelets. He sells the bracelets for \$6 each. Which equation shows Jerome's profit, p , after selling b bracelets?

- A. $p = 6b - 37$
- B. $37 + 6b = p$
- C. $b = 6p - 37$
- D. $37 + 6p = b$

36



Which statements are true about the data shown in the histogram above?
Select all the correct answers.

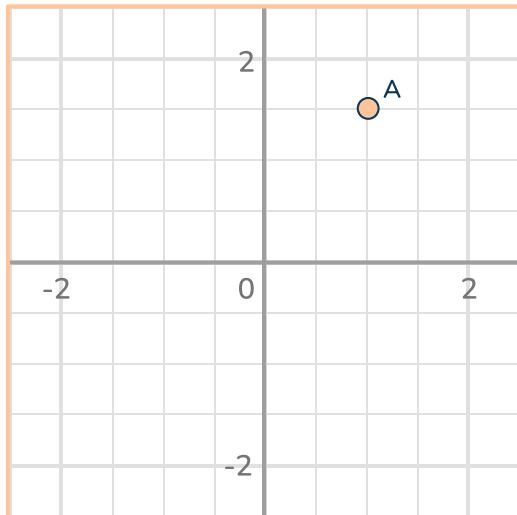
- A. The graph includes data points for 22 people.
- B. The largest shoe size is 12.
- C. Only whole number shoe sizes were collected.
- D. The data is centered around the bin with the median.
- E. Each bar shows 1 shoe size - with 5 shown in total.

37

There are $4\frac{1}{8}$ cups of tomato sauce in the kitchen. If Chef George needs $\frac{2}{3}$ of a cup of tomato sauce for each recipe, how many complete recipes can he make?

- A. $6\frac{3}{16}$ recipes
- B. 6 recipes
- C. 7 recipes
- D. 3 recipes

38



Point B is...

- in Quadrant 4
- 3.5 units away from Point A

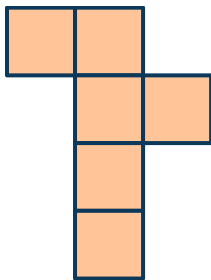
Point C is Point B reflected across the y-axis.

What are the coordinates of Point C?

- A. (2.5, 1.5)
- B. (-1.5, -2)
- C. (-1, -2)
- D. (1, 2)

39

A cube has a side length of 4.7 inches. The net of the cube is shown below.



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

- A. 132.54 inches²
- B. 103.823 inches³
- C. 103.823 inches²
- D. 132.54 inches³

40 For the paint color aquamarine, the ratio of ounces of blue paint to green paint is 3:2. What is a possible mixture that will create aquamarine?

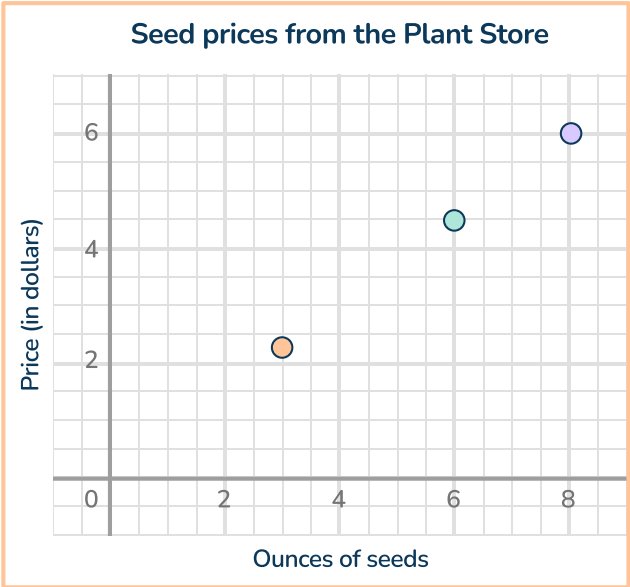
- A. 42 ounces of blue and 28 ounces of green
- B. 48 ounces of blue and 72 ounces of green
- C. 33 ounces of green and 22 ounces of blue
- D. 45 ounces of green and 32 ounces of blue

Standard: 6.EE.9, 6.RP.3, 6.EE.7

DOK 3

Extended Response - 6 points

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



Seed prices from the farmer	
Ounces of seeds	Price
4	\$2.80
5	\$3.50
8	\$5.60

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 $1.95p = t$, 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	Student correctly calculates the unit seed prices: • Plant store - \$0.75 per ounce • Farmer - \$0.70 per ounce • Hardware store - \$0.65 per ounce Student clearly explains how they found the unit price from the graph, table and equation.
	5 points	Student correctly calculates the unit seed prices: Student explains how they found the unit price from the graph, table and equation, but some parts of the explanation are incomplete or unclear.
	4 points	Student correctly calculates 2 out of 3 the unit seed prices. Student explains how they found the unit price from the graph, table and equation.
	3 points	Student correctly calculates 2 out of 3 the unit seed prices. Student explains how they found the unit price from the graph, table and equation, but some parts of the explanation are incomplete or unclear.

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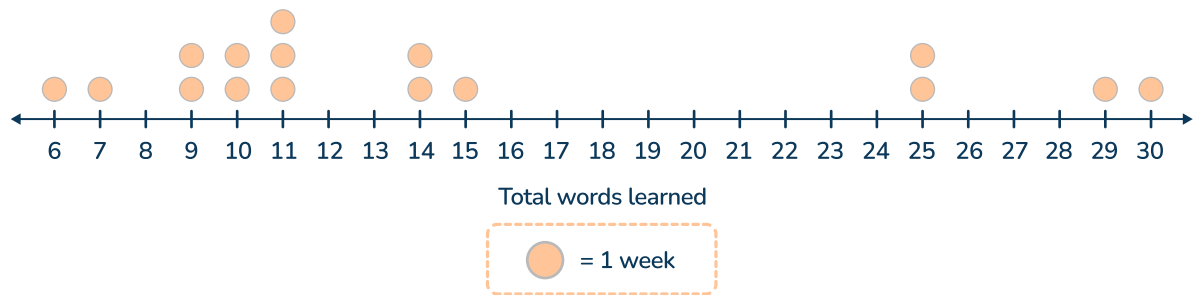
Item	KEY	Rationale
	2 points	Student correctly calculates 1 out of 3 the unit seed prices: • Plant store - \$0.75 per ounce • Farmer - \$0.70 per ounce • Hardware store - \$0.65 per ounce Student explains how they found the unit price from the graph, table and equation, but some parts of the explanation are incomplete or unclear.
	1 point	Student miscalculates all of the unit seed prices: • Plant store - \$0.75 per ounce • Farmer - \$0.70 per ounce • Hardware store - \$0.65 per ounce 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.
	0 points	Response is blank or does not include any correct calculations or explanations.

Extended response - 6 points

Standard: 6.SP.2, 6.SP.3, 6.SP.5, 6.NS.3

DOK 3

42 Lily is learning new words in French. 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 Lily 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	Student correctly calculates: • Mean - 14.75 • Median - 11 • Mode - 11 • Range - 24 Student correctly describes the overall spread, connecting both the center and spread to Lily's goal. For example, "Lily'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 Lily'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.
	5 points	Student correctly calculates mean, median, mode and range. Student describes the overall spread, connecting both the center and spread to Lily's goal, but some parts may be incomplete or unclear.
	4 points	Student correctly calculates 3 out of the 4: mean, median, mode and range. Student correctly describes the overall spread, connecting both the center and spread to Lily's goal.

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Item	KEY	Rationale
	3 points	Student correctly calculates 3 out of the 4: mean, median, mode and range. Student describes the overall spread, connecting both the center and spread to Lily's goal, but some parts may be incomplete or unclear.
	2 points	Student correctly calculates 2 out of the 4: mean, median, mode and range. Student attempts to describe the overall spread, connecting both the center and spread to Lily's goal, but most parts are incomplete or unclear.
	1 point	Student correctly calculates 1 out of the 4: mean, median, mode and range. Student attempts to describe the overall spread, connecting both the center and spread to Lily's goal, but some parts may be incomplete or unclear.
	0 points	Response is blank or does not include any correct calculations or explanations.

Answer Key - Multiple Choice

Item number	Correct answer	Standard(s)	DOK
1	D	6.RP.1	DOK 1
2	C	6.NS.6c	DOK 1
3	B	6.EE.3	DOK 2
4	A	6.G.4	DOK 1
5	C	6.RP.3b	DOK 2
6	A,B	6.NS.1	DOK 3
7	A	6.EE.8	DOK 2
8	A	6.SP.5b	DOK 1
9	D	6.RP.3c	DOK 2
10	B	6.NS.3	DOK 1
11	D	6.EE.5	DOK 1
12	C	6.G.4	DOK 2
13	A	6.SP.4, 6.SP.5c	DOK 2
14	B	6.NS.7	DOK 1
15	A	6.RP.3a, 6.RP.3b	DOK 2
16	D	6.NS.2	DOK 3
17	B,C,E	6.EE.6, 6.EE.7	DOK 2
18	C	6.SP.1	DOK 1
19	B	6.NS.5	DOK 2

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Item number	Correct answer	Standard(s)	DOK
20	A	6.EE.1	DOK 1
21	D	6.G.2	DOK 1
22	B,D	6.EE.9	DOK 2
23	C	6.SP.3, 6.SP.5c	DOK 1
24	A	6.EE.4	DOK 3
25	A	6.RP.1, 6.RP.2, 6.RP.3	DOK 2
26	B	6.EE.1	DOK 2
27	D	6.NS.4	DOK 1
28	C	6.G.1, 6.G.3	DOK 2
29	A,C,D,E	6.EE.8, 6.NS.7a	DOK 1
30	D	6.SP.4, 6.SP.5c, 6.SP.5d	DOK 2
31	D	6.NS.8	DOK 1
32	B	6.EE.2	DOK 1
33	C	6.G.1	DOK 2
34	D	6.NS.6a	DOK 1
35	A	6.EE.9	DOK 2
36	A,D	6.SP.2, 6.SP.4, 6.SP.5b	DOK 2
37	B	6.NS.1	DOK 2
38	C	6.NS.8	DOK 2
39	B	6.G.2	DOK 2
40	A	6.RP.1, 6.RP.3	DOK 1

ANSWERS SORTED BY CCSS STRAND

RP			
1	D	6.RP.1	DOK 1
5	C	6.RP.3b	DOK 2
9	D	6.RP.3c	DOK 2
15	A	6.RP.3a, 6.RP.3b	DOK 2
25	A	6.RP.1, 6.RP.2, 6	DOK 2
40	A	6.RP.1, 6.RP.3	DOK 1

NS			
2	C	6.NS.6c	DOK 1
6	A,B	6.NS.1	DOK 3
10	B	6.NS.3	DOK 1
14	B	6.NS.7	DOK 1
16	D	6.NS.2	DOK 3
19	B	6.NS.5	DOK 2
27	D	6.NS.4	DOK 1
31	D	6.NS.8	DOK 1
34	D	6.NS.6a	DOK 1
37	B	6.NS.1	DOK 2
38	C	6.NS.8	DOK 2

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EE			
3	B	6.EE.3	DOK 2
7	A	6.EE.8	DOK 2
11	D	6.EE.5	DOK 1
17	B,C,E	6.EE.6, 6.EE.7	DOK 2
20	A	6.EE.1	DOK 1
22	B,D	6.EE.9	DOK 2
24	A	6.EE.4	DOK 3
26	B	6.EE.1	DOK 2
29	A,C,D,E	6.EE.8, 6.NS.7a	DOK 1
32	B	6.EE.2	DOK 1
35	A	6.EE.9	DOK 2
41	Extended Response	6.EE.9, 6.RP.3, 6.EE.7	DOK 3

G			
4	A	6.G.4	DOK 1
12	C	6.G.4	DOK 2
21	D	6.G.2	DOK 1
28	C	6.G.1, 6.G.3	DOK 2
33	C	6.G.1	DOK 2
39	B	6.G.2	DOK 2

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SP			
8	A	6.SP.5.b	DOK 1
13	A	6.SP.4, 6.SP.5c	DOK 2
18	C	6.SP.1	DOK 1
23	C	6.SP.3, 6.SP.5c	DOK 1
30	D	6.SP.4, 6.SP.5c, 6.SP.5d	DOK 2
36	A,D	6.SP.2, 6.SP.4, 6.SP.5b	DOK 2
42	Extended Response	6.SP.2, 6.SP.3, 6.SP.5, 6.NS.3	DOK 3

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- ✓ Scaffolded learning to close gaps

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