



**THIRD SPACE
LEARNING**

6th Grade Pennsylvania State Test

State Test Grade 6

Grade 6

Questions

Name:

Class:

Date:

Score:

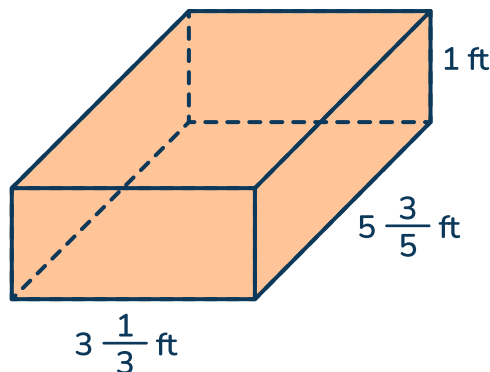
No Calculator For Questions 1 - 6



1 Solve $393.12 \div 5.2$

- A. 75.6
- B. 75.984
- C. 15.4
- D. 13.22

2 Calculate the volume of the rectangular prism.



- A. $9 \frac{14}{15} \text{ ft}^3$
- B. $15 \frac{1}{5} \text{ ft}^3$
- C. $18 \frac{2}{3} \text{ ft}^3$
- D. 12 ft^3

- 3 Below are the total scores for the first 5 games Otto's baseball team played.

Total score: 5, 9, 2, 2, 9.

What is the mean of the total scores?

- A. 5.4
 - B. 5
 - C. 9
 - D. 5.2
-

4 Solve $6(5^2 - 3 + 2) \div \frac{1}{4}$

- A. 216
 - B. 236
 - C. 65
 - D. 576
-

- 5 Mercedes makes 7 bracelets with 3 yards of string. How many yards of string does she need for 12 bracelets?

- A. 28 yards of string
- B. $1\frac{3}{4}$ yards of string
- C. $4\frac{1}{2}$ yards of string
- D. $5\frac{1}{7}$ yards of string

- 6 There are $5\frac{2}{5}$ cups of tomato sauce in the kitchen. If Chef Gigli needs $\frac{2}{3}$ of a cup of tomato sauce for each recipe, how many complete recipes can he make?

A. $8\frac{1}{10}$ recipes
B. 8 recipes
C. 9 recipes
D. 5 recipes

Calculator Can Be Used For Questions 7 - 45



- 7 Khalil can spend no more than \$22 on his brother's gift. If s is the amount Khalil will spend, which inequality is true?

A. $s \geq 22$
B. $22 > s$
C. $s > 22$
D. $22 \geq s$

-
- 8 Which expression is equivalent to $7x + 56$?

A. $7(x + 49)$
B. $8(x + 7) - x$
C. $7(7x + 8)$
D. $8(x + 6) + 8$

9 A pair of shoes was on sale for 40% off. After the discount, Jessica paid \$36 for the pair of shoes. What was the original price?

- A. \$60
 - B. \$14.40
 - C. \$21.60
 - D. \$50.40
-

10 A grocery store has 19 red apples and 17 green apples. What is the ratio of green apples to total apples?

- A. 19:17
 - B. 36:19
 - C. 17:19
 - D. 17:36
-

11 Each person needs a plate and a cup. Plates come in packs of 12. Cups come in packs of 8. What is the fewest number of packs of cups and plates you can buy so that there are no leftovers?

- A. 24 packs of cups and plates
- B. 6 packs of cups and 4 packs of plates
- C. 2 packs of plates and 3 packs of cups
- D. 4 packs of cups and plates

- 12 Marcus is 6 years younger than Tia. Tia is $\frac{1}{3}$ the age of Freddie. If Freddie is f years old, which expression shows how old Marcus is?

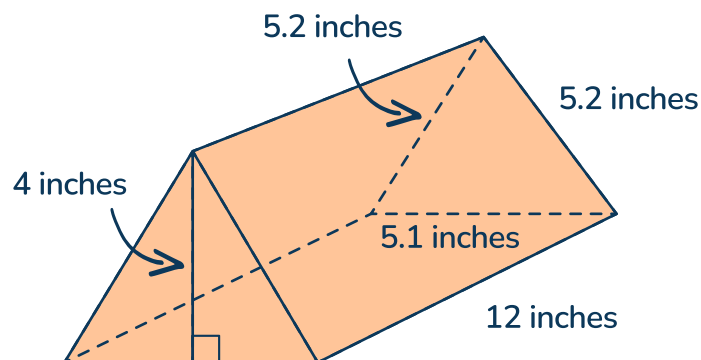
A. $f - \frac{1}{3} \times 6$

B. $\frac{1}{3}f - 6$

C. $\frac{1}{3}(f - 6)$

D. $f - 3 + 6$

13



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

- A. 133.8 inches²
 B. 196.2 inches²
 C. 206.4 inches²
 D. 226.8 inches²

14 The low temperature Monday night was -6° . Which inequality shows that the low temperature Tuesday was warmer than Monday?

- A. $-1^{\circ} > -6^{\circ}$
- B. $-6^{\circ} > 3^{\circ}$
- C. $4^{\circ} < -6^{\circ}$
- D. $-6^{\circ} < -3^{\circ}$

15 Garrison is collecting data on two water filters.

Water Filter A	
Time (minutes)	Ounces filtered
3	48
4	64
7	112

Water Filter B	
Time (minutes)	Ounces filtered
2	36
5	90
6	108

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 2 ounces per minute
- C. Filter A is faster by 12 ounces per minute
- D. Filter B is faster by 4 ounces per minute

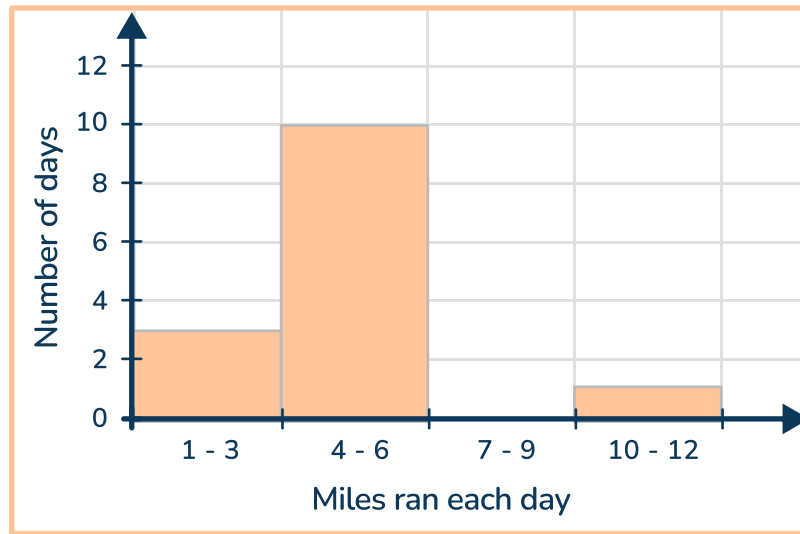
- 16 After shopping, Van had \$3.12 left. If Van spent \$23.09 on socks and \$6.77 on a smoothie, how much did Van have before going shopping?

A. \$26.74
B. \$13.20
C. \$19.44
D. \$32.98

-
- 17 Helen drank 4 cups of water. This was $\frac{2}{3}$ of the water that was in her bottle. Which equation shows how to find the total amount of water that was in her bottle to begin with?

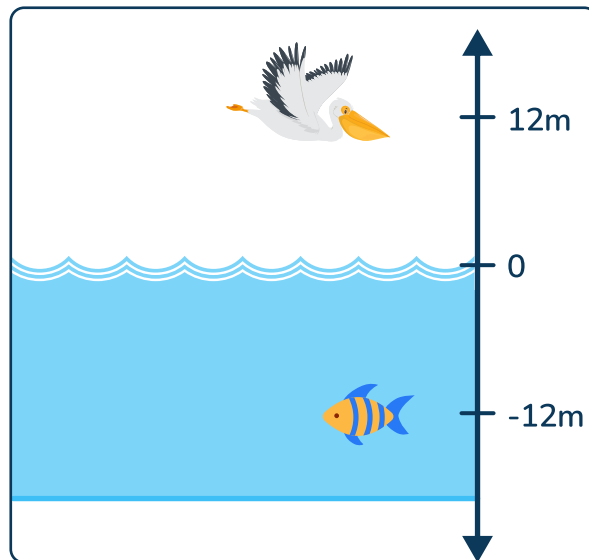
A. $4 \times \frac{2}{3} = x$
B. $4 = \frac{2}{3}x$
C. $x = \frac{2}{3} \div 4$
D. $4x = \frac{2}{3}$

18 Which data set matches the histogram?



- A. 6, 4, 5, 2, 1, 10, 6, 4, 5, 3, 6, 4, 5, 5
- B. 5, 2, 1, 5, 4, 6, 5, 5, 2, 4, 10, 6, 1, 6, 4
- C. 11, 5, 5, 2, 6, 1, 3, 4, 4, 4, 6, 5, 2, 1
- D. 6, 3, 2, 4, 5, 7, 4, 3, 6, 12, 5, 4, 5, 6, 4

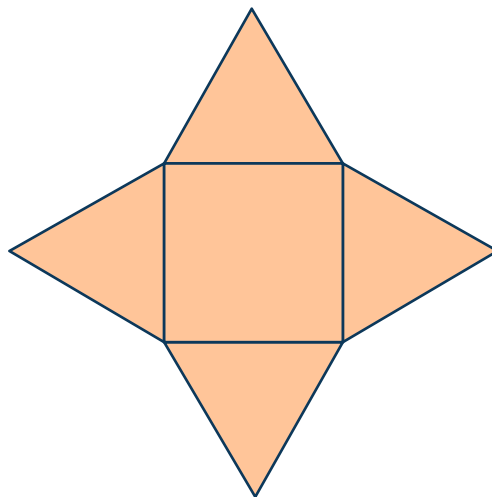
- 19 The diagram below shows the location of a seagull and fish in comparison to sea level.



Which statement is true?

- A. The seagull is $12m$ higher than the fish.
- B. The fish is $12m$ below the sea level.
- C. The water the fish is in measures -12 degrees.
- D. The sea level is at 0, with the fish above and the seagull below.

20



Which shape is formed by the net above?

- A. Square pyramid
- B. Triangular pyramid
- C. Equilateral triangle
- D. Cube

21 What is the value of a ?



- A. 0
- B. 0.1
- C. -0.5
- D. -0.9

22 A business charges \$20 to wash a car. Carey wrote the following equation:
 $20x = y$.

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

- A. x is the price of one car wash
- B. y is the total dollars for x cars washed
- C. 4 is the total number of cars washed
- D. 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?

$$8c - b \text{ and } b - 8c$$

- A. No, because equivalent expressions cannot have two variables.
- B. Yes, because they are both subtracting the same amount, just in a different order.
- C. No, because $-8c$ is not the same as $8c$ and $-b$ is not the same as b .
- D. Yes, because they both have the terms $8c$ and b .

25 For every 4 cups of water, there are 6 tablespoons of plant food. Which statement about the ratio is true?

- A. There is $\frac{2}{3}$ of a cup of water for every tablespoon of plant food.
 - B. For every 8 cups of water, there are 10 tablespoons of plant food.
 - C. There is $\frac{3}{2}$ of a cup of water for every tablespoon of plant food.
 - D. For every 1 cup of water, there are 2 tablespoons of plant food.
-

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

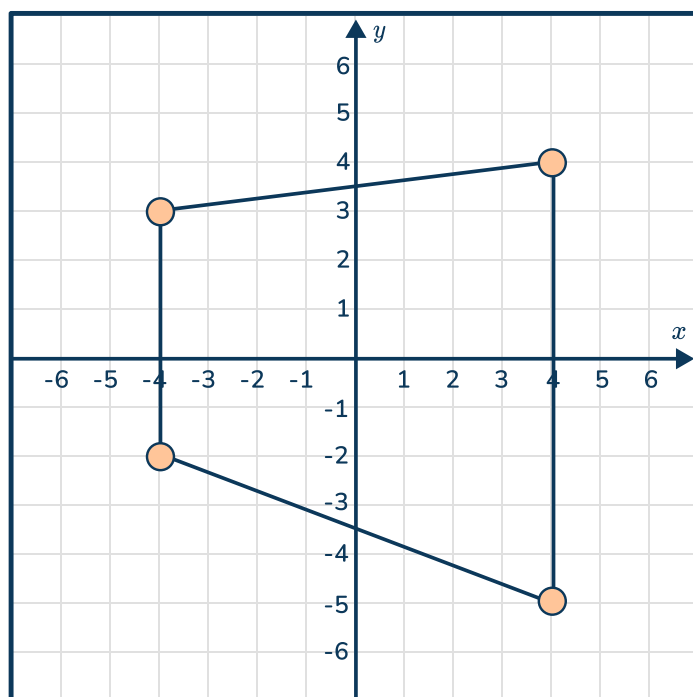
- Expression a: $(122 - 5)^3$
- Expression b: $122 - 5^3$

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

27 There are $11\frac{2}{3}$ cups of apples. Each recipe for baked apples needs $\frac{5}{6}$ cups of apples. How many recipes of baked apples can be made?

- A. 14
- B. $9\frac{13}{18}$
- C. 7
- D. 13

28 What is the area of the shape shown?

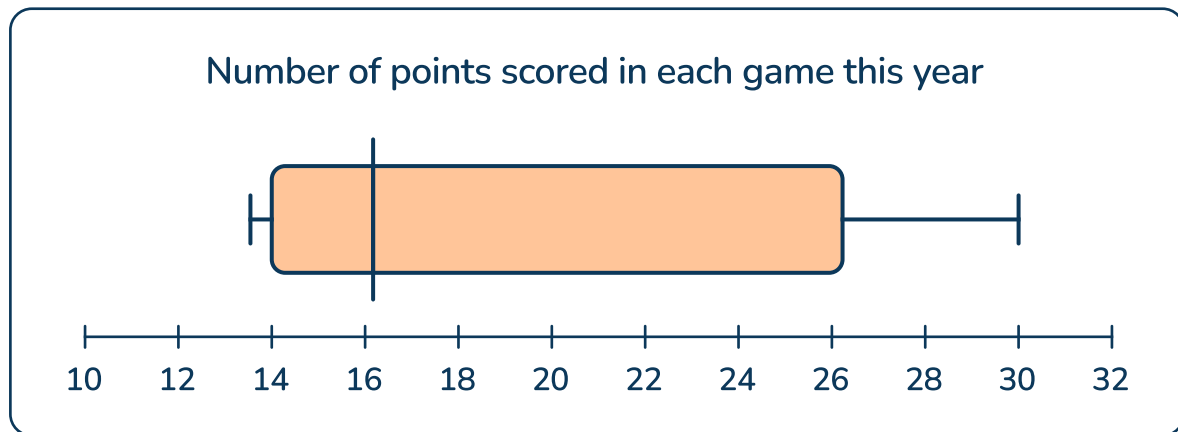


- A. 72 units²
- B. 56 units²
- C. 40 units²
- D. 52 units²

29 Which shows $t \geq -3$ on the number line?

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

30



Given the graph above, estimate the interquartile range.

- A. 18
- B. 16
- C. 30
- D. 12

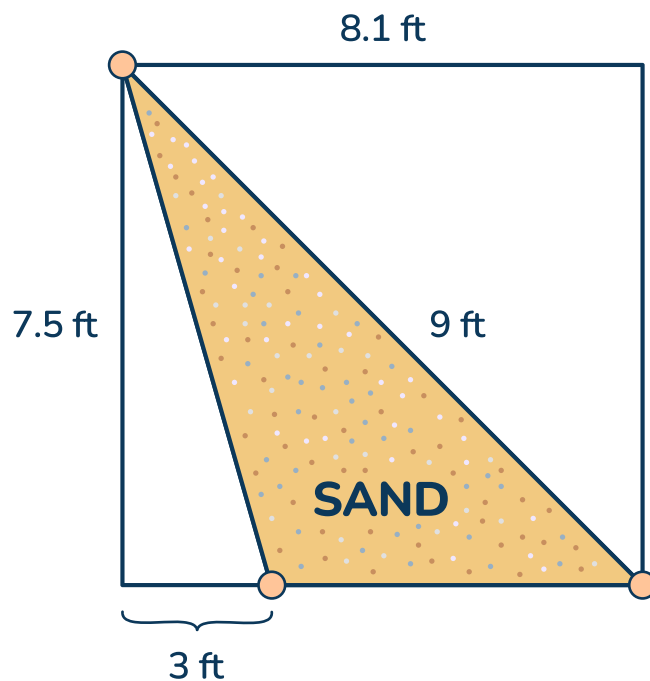
31 Which point is NOT 4 units away from $(-3, 1)$?

- A. $(-7, 1)$
- B. $(1, 1)$
- C. $(-3, 4)$
- D. $(-3, -3)$

32 Which expression shows “6 more than the quotient of g and 3”?

- A. $(6 + g) \div 3$
- B. $\frac{g}{3} + 6$
- C. $3g + 6$
- D. $6 + 3g$

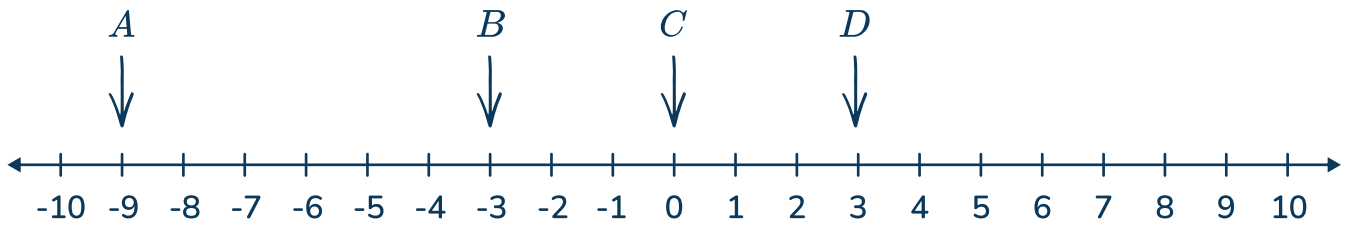
33 Silas is covering a triangular part of a garden with sand. The diagram below shows where Silas will place the sand.



How many square feet will Silas cover with sand?

- A. 6.5 ft^2
- B. 19.125 ft^2
- C. 36.45 ft^2
- D. 38.25 ft^2

34 Where is $-(-3)$ on the number line?

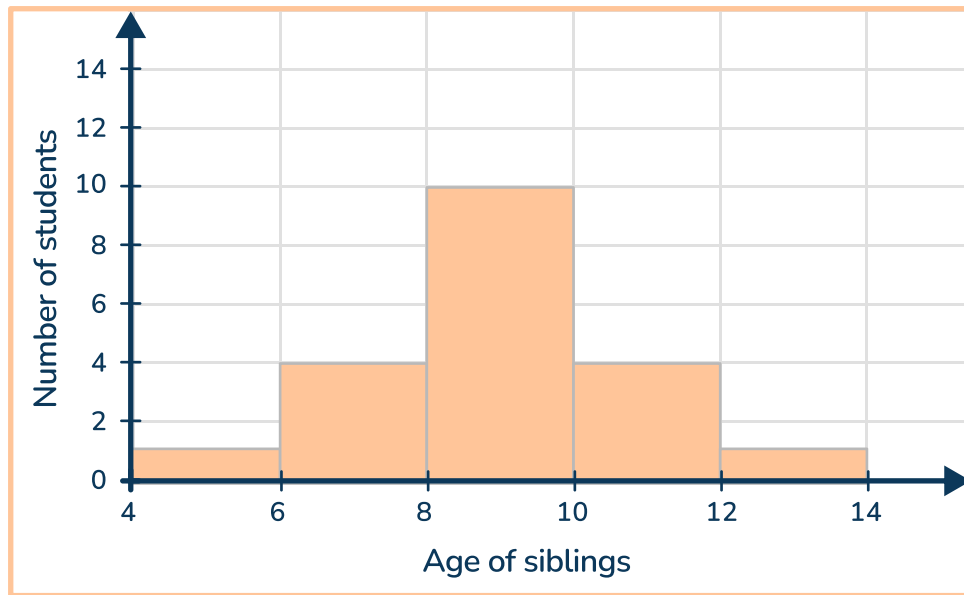


- A. A
- B. B
- C. C
- D. D

35 Charlie pays \$37 for supplies to make cookies. Charlie sells the cookies for \$5 each. Which equation shows total money Charlie earned, m , after selling c cookies?

- A. $m = 5c - 37$
- B. $37 + 5c = m$
- C. $c = 5m - 37$
- D. $37 + 5m = c$

36

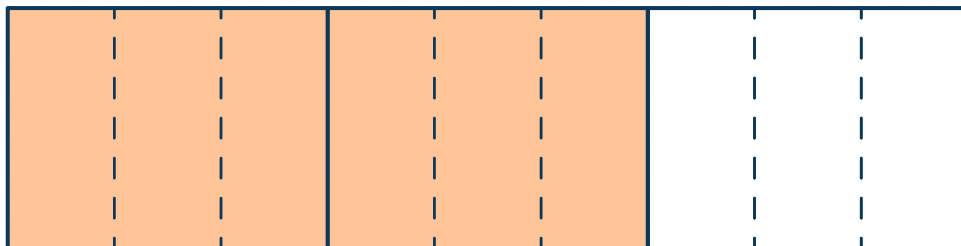


Which statement is true about the data shown in the histogram above?

- A. The oldest sibling is 14 years old.
- B. The data is centered around the bin with the median.
- C. Each bar shows 1 age - with 5 shown in total.
- D. The mean age of the siblings is 9 years old.

37

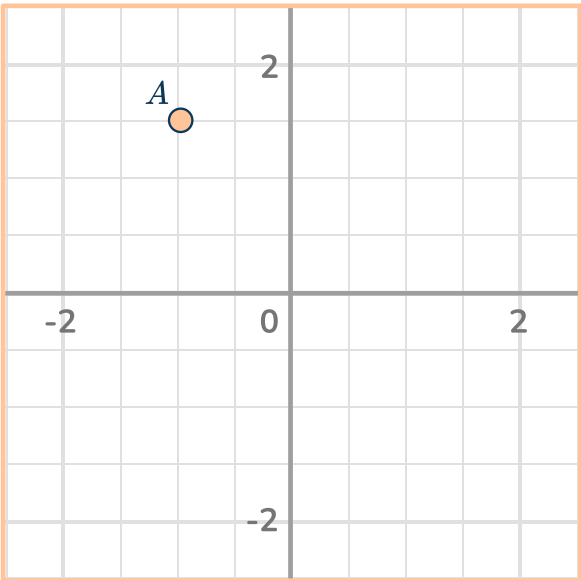
Which expression can be represented by the model?



- A. $\frac{2}{3} \div \frac{1}{9}$
- B. $\frac{1}{9} \div \frac{2}{3}$
- C. $\frac{6}{9} \div \frac{1}{6}$
- D. $\frac{1}{6} \div \frac{6}{9}$

- 38
- Point B is...
- in Quadrant 3
 - 2.5 units away from Point A

The coordinates of Point C are the opposite of Point B.



What are the coordinates of Point C?

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

- 39
- Which equation represents the table?

Bags (<i>b</i>)	2	4	6	10
Total number of Apples (<i>a</i>)	14	28	42	70

- A. $2b = a$
- B. $7b = a$
- C. $10b = a$
- D. $14b = a$

- 40 The dimensions of a fish tank are 9 inches by 10 inches by 13 inches. The fish tank is considered full when it 90% is filled with water. How many cubic inches of water would this be?

A. 1,170 inches³
B. 1,053 inches³
C. 125 inches³
D. 288 inches³

- 41 Which expression is equivalent to $64 + 56$?

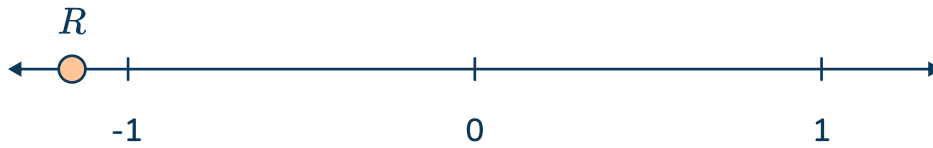
A. $8(45 + 56)$
B. $7 \times 8 + 8$
C. $8 \times (8 + 7)$
D. $8 (8 \times 7)$

42 $\frac{b}{3} = 12$

Which value for b makes the equation true?

A. 3
B. $\frac{1}{3}$
C. 15
D. 36

43 What is the value of point R?



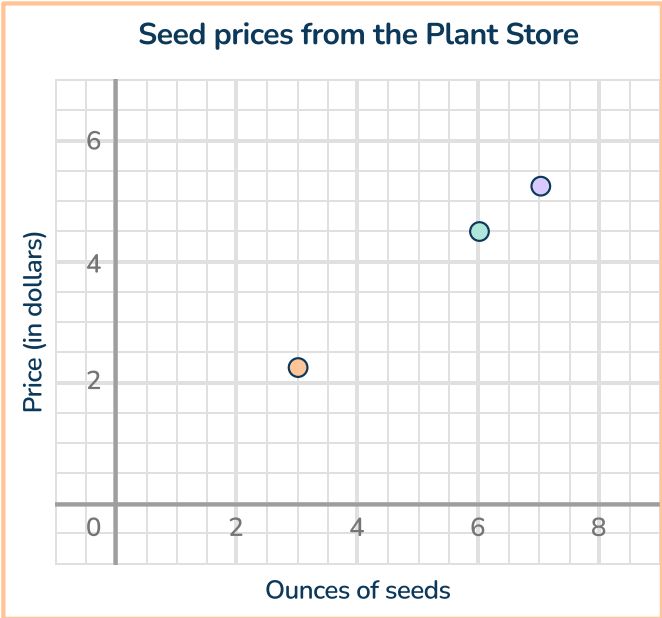
- A. -1
- B. $-\frac{7}{8}$
- C. $-1\frac{1}{7}$
- D. -2

44 Which number has the greatest magnitude?

- A. -19.2
- B. $10\frac{1}{2}$
- C. -9
- D. 4

Open Ended Question

45 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	\$3.20
5	\$4.00
11	\$8.80

a. Which seeds are cheaper per ounce? Explain how you solved.

A Hardware store sells seeds in packages of 2 ounces. They use the equation $1.90p = t$, where p is the number of packages and t is the total price.

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

Answer Key - Multiple Choice

Item number	Correct answer	Standard(s)	DOK
1	A	M06.A-N.2.1.1	DOK 1
2	C	M06.C-G.1.1.3	DOK 1
3	A	M06.D-S.1.1.2	DOK 1
4	D	M06.B-E.1.1.1	DOK 1
5	D	M06.A-R.1.1.4	DOK 2
6	B	M06.A-N.1.1.1	DOK 2
7	D	M06.B-E.2.1.4	DOK 2
8	B	M06.B-E.1.1.5	DOK 2
9	A	M06.A-R.1.1.5	DOK 2
10	D	M06.A-R.1.1.1	DOK 1
11	C	M06.A-N.2.2.2	DOK 2
12	B	M06.B-E.2.1.2	DOK 2
13	C	M06.C-G.1.1.6	DOK 2
14	D	M06.A-N.3.2.1	DOK 1
15	B	M06.A-R.1.1.3	DOK 2
16	D	M06.A-N.2.1.1	DOK 3
17	B	M06.B-E.2.1.3	DOK 2

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Item number	Correct answer	Standard(s)	DOK
18	A	M06.D-S.1.1.1	DOK 1
19	B	M06.A-N.3.1.1	DOK 2
20	A	M06.C-G.1.1.5	DOK 1
21	C	M06.A-N.3.1.3	DOK 1
22	B	M06.B-E.3.1.1	DOK 2
23	B	M06.D-S.1.1.2	DOK 1
24	C	M06.B-E.1.1.5	DOK 3
25	A	M06.A-R.1.1.1, M06.A-R.1.1.2	DOK 2
26	D	M06.B-E.1.1.1	DOK 2
27	A	M06.A-N.1.1.1	DOK 2
28	B	M06.C-G.1.1.4	DOK 2
29	C	M06.B-E.2.1.4	DOK 1
30	D	M06.D-S.1.1.2	DOK 1
31	C	M06.A-N.3.2.3	DOK 2
32	B	M06.B-E.1.1.2	DOK 1
33	B	M06.C-G.1.1.1	DOK 2
34	D	M06.A-N.3.1.2	DOK 1
35	A	M06.B-E.3.1.1	DOK 2

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Item number	Correct answer	Standard(s)	DOK
36	B	M06.D-S.1.1.3	DOK 2
37	A	M06.A-N.1.1.1	DOK 3
38	B	M06.A-N.3.2.3	DOK 2
39	B	M06.B-E.3.1.2	DOK 2
40	B	M06.A-R.1.1.5	DOK 2
41	C	M06.A-N.2.2.2	DOK 1
42	D	M06.B-E.2.1.1	DOK 1
43	C	M06.A-N.3.1.3	DOK 1
44	A	M06.A-N.3.2.2	DOK 1

Pennsylvania State Test | Grade 6 | Answers

Item	KEY	Rationale
45	6 points	<p>Student correctly calculates the unit seed prices:</p> <ul style="list-style-type: none"> • Plant store - \$0.75 per ounce • Farmer - \$0.80 per ounce • Hardware store - \$0.95 per ounce <p>Student clearly explains how they found the unit price from the graph, table and equation.</p>
	5 points	<p>Student correctly calculates the unit seed prices.</p> <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> <p>Student explains how they found the unit price from the graph, table and equation.</p>
	3 points	<p>Student correctly calculates 2 out of 3 the unit seed prices.</p> <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 points	<p>Student correctly calculates 1 out of 3 the unit seed prices.</p> <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>
	1 point	<p>Student miscalculates all of the unit seed prices.</p> <p>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>Response is blank or does not include any correct calculations or explanations.</p>

ANSWERS SORTED BY STANDARD

CC.2.1.6.D.1			
Item number	Correct answer	Standard(s)	DOK
5	D	M06.A-R.1.1.4	DOK 2
9	A	M06.A-R.1.1.5	DOK 2
10	D	M06.A-R.1.1.1	DOK 1
15	B	M06.A-R.1.1.3	DOK 2
25	A	M06.A-R.1.1.1, M06.A-R.1.1.2	DOK 2
40	B	M06.A-R.1.1.5	DOK 2

CC.2.1.6.E.1			
Item number	Correct answer	Standard(s)	DOK
6	B	M06.A-N.1.1.1	DOK 2
27	A	M06.A-N.1.1.1	DOK 2
37	A	M06.A-N.1.1.1	DOK 3

CC.2.1.6.E.2			
Item number	Correct answer	Standard(s)	DOK
1	A	M06.A-N.2.1.1	DOK 1
16	D	M06.A-N.2.1.1	DOK 3

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CC.2.1.6.E.3			
Item number	Correct answer	Standard(s)	DOK
11	C	M06.A-N.2.2.2	DOK 2
41	C	M06.A-N.2.2.2	DOK 1

CC.2.1.6.E.4			
Item number	Correct answer	Standard(s)	DOK
14	D	M06.A-N.3.2.1	DOK 1
19	B	M06.A-N.3.1.1	DOK 2
21	C	M06.A-N.3.1.3	DOK 1
31	C	M06.A-N.3.2.3	DOK 2
34	D	M06.A-N.3.1.2	DOK 1
38	B	M06.A-N.3.2.3	DOK 2
43	C	M06.A-N.3.1.3	DOK 1
44	A	M06.A-N.3.2.2	DOK 1

CC.2.2.6.B.1			
Item number	Correct answer	Standard(s)	DOK
4	D	M06.B-E.1.1.1	DOK 1
8	B	M06.B-E.1.1.5	DOK 2
24	C	M06.B-E.1.1.5	DOK 3
26	D	M06.B-E.1.1.1	DOK 2
32	B	M06.B-E.1.1.2	DOK 1

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CC.2.2.6.B.2			
Item number	Correct answer	Standard(s)	DOK
7	D	M06.B-E.2.1.4	DOK 2
12	B	M06.B-E.2.1.2	DOK 2
17	B	M06.B-E.2.1.3	DOK 2
29	C	M06.B-E.2.1.4	DOK 1
42	D	M06.B-E.2.1.1	DOK 1

CC.2.2.6.B.3			
Item number	Correct answer	Standard(s)	DOK
22	B	M06.B-E.3.1.1	DOK 2
35	A	M06.B-E.3.1.1	DOK 2
39	B	M06.B-E.3.1.2	DOK 2
45	Answer shown after open-ended response question	M06.B-E.3.1.1, M06.B-E.3.1.2	DOK 2

CC.2.3.6.A.1			
Item number	Correct answer	Standard(s)	DOK
2	C	M06.C-G.1.1.3	DOK 1
13	C	M06.C-G.1.1.6	DOK 2
20	A	M06.C-G.1.1.5	DOK 1
28	B	M06.C-G.1.1.4	DOK 2
33	B	M06.C-G.1.1.1	DOK 2

Pennsylvania State Test | Grade 6 | Answers

SP (7 - 11)			
Item number	Correct answer	Standard(s)	DOK
3	A	M06.D-S.1.1.2	DOK 1
18	A	M06.D-S.1.1.1	DOK 1
23	B	M06.D-S.1.1.2	DOK 1
30	D	M06.D-S.1.1.2	DOK 1
36	B	M06.D-S.1.1.3	DOK 2

CC.2.2.6.B.3			
Item number	Correct answer	Standard(s)	DOK
22	B	M06.B-E.3.1.1	DOK 2
35	A	M06.B-E.3.1.1	DOK 2
39	B	M06.B-E.3.1.2	DOK 2
45	Answer shown after open-ended response question	M06.B-E.3.1.1, M06.B-E.3.1.2	DOK 2

CC.2.3.6.A.1			
Item number	Correct answer	Standard(s)	DOK
2	C	M06.C-G.1.1.3	DOK 1
13	C	M06.C-G.1.1.6	DOK 2
20	A	M06.C-G.1.1.5	DOK 1
28	B	M06.C-G.1.1.4	DOK 2
33	B	M06.C-G.1.1.1	DOK 2




SP (7 - 11)			
Item number	Correct answer	Standard(s)	DOK
3	A	M06.D-S.1.1.2	DOK 1
18	A	M06.D-S.1.1.1	DOK 1
23	B	M06.D-S.1.1.2	DOK 1
30	D	M06.D-S.1.1.2	DOK 1
36	B	M06.D-S.1.1.3	DOK 2

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Each student could receive a personalized lesson every week from our specialist one-on-one math tutors.

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- ✓ Scaffolded learning to close gaps

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