



**THIRD SPACE
LEARNING**

7th Grade Georgia State Test

State Test Grade 7

Grade 7

Questions

Name:

Class:

Date:

Score:

1 Solve the equation:

$$(9.1 - 12.3) \div -8 = \underline{\hspace{2cm}}$$

2 $\frac{1}{4}$ of a cup of fruit is $\frac{2}{3}$ of a serving. How many cups of fruit are in 1 serving?

A. $\frac{2}{12}$

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

C. $\frac{3}{8}$

D. $\frac{11}{12}$

- 3 Which expressions are equivalent to $4(x + 5) - 6x - 3$? Select all the correct answers.

A. $-2x + 2$
B. $4x + 17 - 6x$
C. $2x - 17$
D. $17 - 2x$
E. $15x$

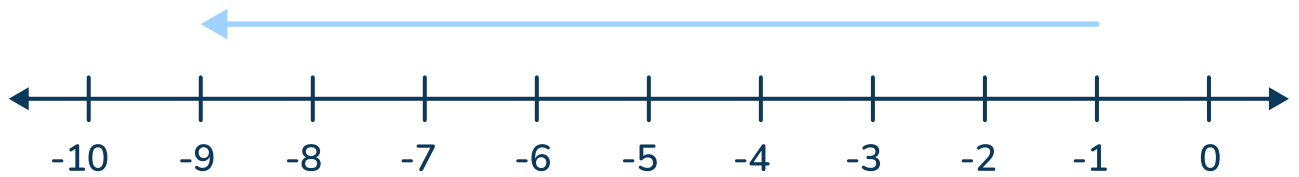
- 4 A bag contains red marbles, blue marbles and green marbles. The number of each of the marbles in the bag is as follows:

- 5 red marbles
- 5 blue marbles
- 10 green marbles

What is the probability that the marble selected is NOT blue?

A. 15%
B. 25%
C. 33%
D. 75%

- 5 Which expressions are shown by the model? Select all the correct answers.

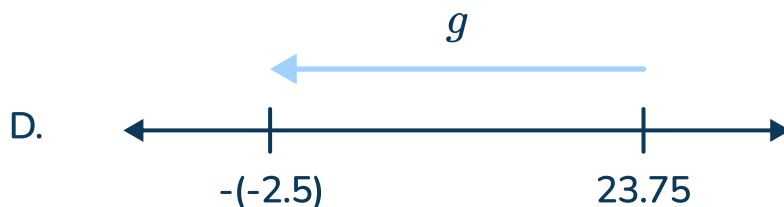
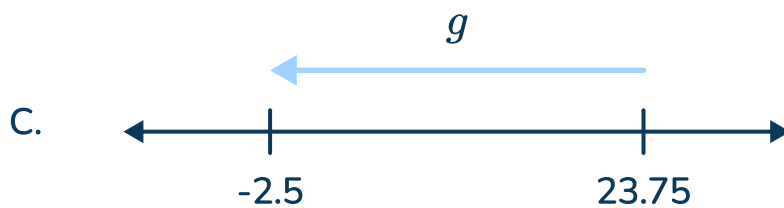
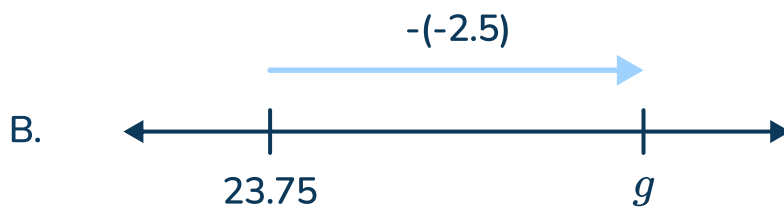
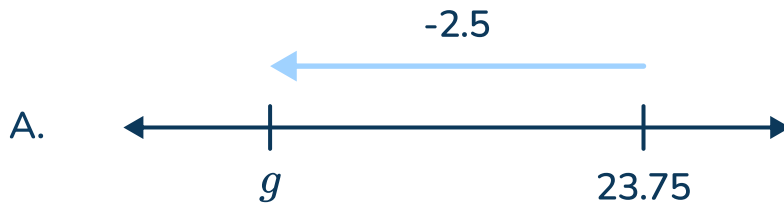


- A. $-1 - (-8)$
- B. $-1 + (-9)$
- C. $-1 - 8$
- D. $-1 - (-9)$
- E. $-1 + (-8)$

-
- 6 Juan takes a 265 mile train ride that lasts 5 hours. Addy takes a 171 mile train ride that lasts 3 hours. Which statement is true?

- A. Addy's train traveled 57 miles per hour faster than Juan's.
- B. Juan's train traveled 15 miles per hour faster than Addy's.
- C. Addy's train traveled 4 miles per hour faster than Juan's.
- D. Juan's train traveled 47 miles per hour faster than Addy's.

- 7 Darrell completed his first race in 23.75 minutes. His goal, g , is to change his time by -2.5 minutes in the next race. Which number line shows the result of Darrell completing his goal, g ?

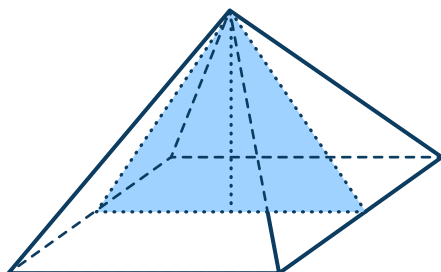


- 8 Which scenario below will result in a final value of zero?

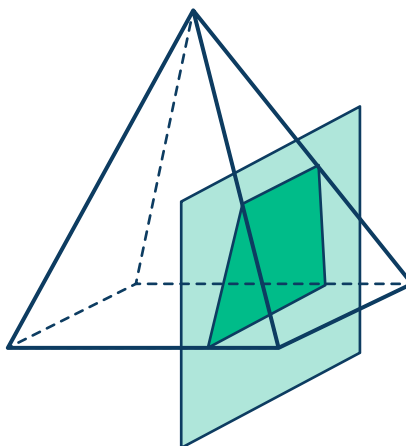
- A. The balance of an account after a \$35 payment, if the starting balance was $-\$35$.
- B. Going from a subway station that is -15 feet below sea level to the street.
- C. A kite that goes from sea level to 15 meters above sea level.
- D. The overall change in temperature from -3° to 3° .

- 9 The image below shows two cross-sections of a square pyramid.

Shape A



Shape B



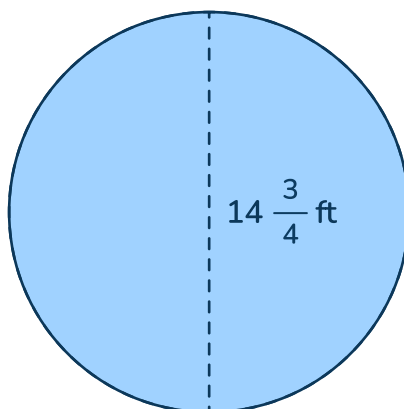
The cross-sections create shape A and shape B.

Complete the statement using the word blank.

Shape A is a _____ and shape B is a _____.

Word bank : triangle, pentagon, parallelogram, rhombus, trapezoid

- 10 A school is building a new fence around their circular compost bin, shown in the diagram below.



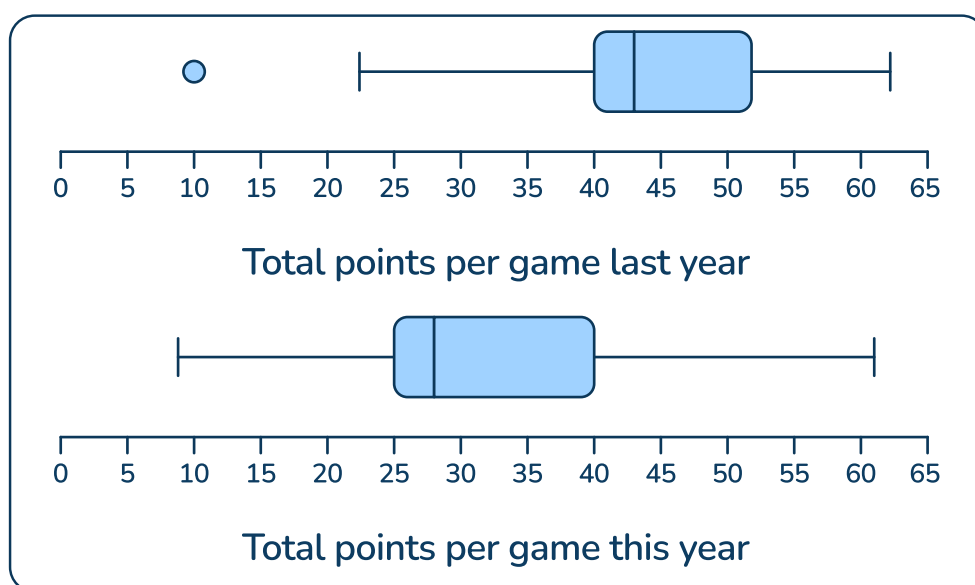
How many feet of fencing is needed to enclose the compost bin?

($C = 2\pi r$ or $A = \pi r^2$)

- A. 23.17 ft
- B. 46.34 ft
- C. 170.87 ft
- D. 683.49 ft

- 11** Recipe A uses 5 cups of cherries and 3 cups of grapes. Recipe B uses 8 cups of cherries and 6 cups of grapes. Are the recipes proportional?
- A. Yes, because Recipe B's ingredients are both 3 cups more than Recipe A.
 - B. No, because from Recipe A to B the cups of grapes double, but the cherries do not.
 - C. Yes, because in both recipes the unit rate of cups of cherries per a cup of grape is equal.
 - D. No, because the only way to tell if a relationship is proportional is by its graph.

- 12** The two box plots show the total points per game for the school's football team last year and this year.



Marshall says that on average, the team was better last year. Which statement about the box plot supports his conclusion?

- A. The range for last year is smaller than the range for this year.
- B. There is an outlier of around 10 points for last year's games, but no outlier for this year.
- C. The median for this year's games is about 15 points more than last year's.
- D. Only the top quarter of this year's games are in the same range as the top 75% of last year's.

- 13 The drawing below will be used to design postcards for Michelle's business.



She wants the drawing on the postcard to be $\frac{1}{4}$ the size of the drawing. What will the area of the soccer ball be on the postcard? Round to the nearest hundredth.

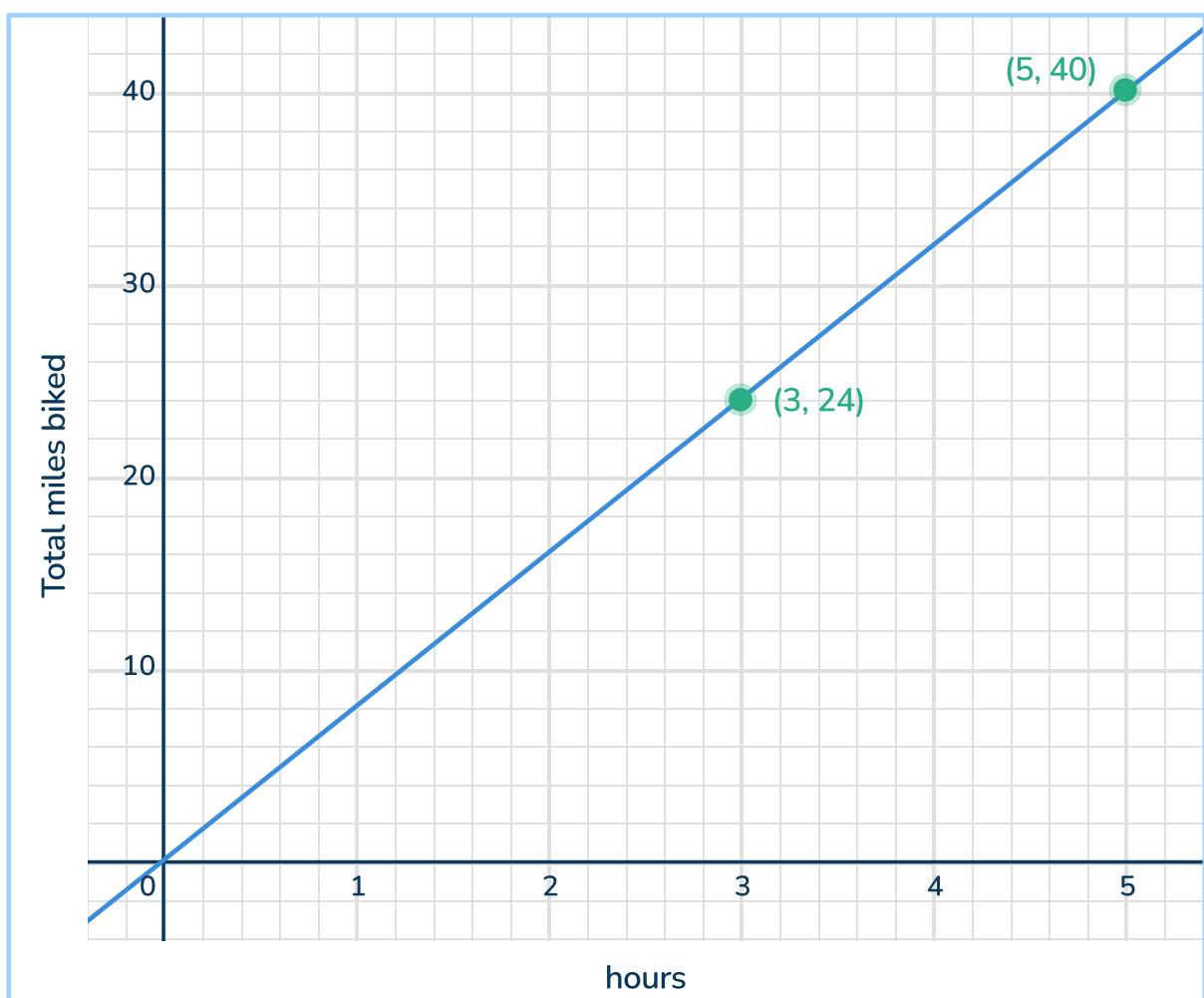
$$(C = 2r \text{ or } A = r^2)$$

- A. 28.27 inches²
B. 1.77 inches²
C. 7.07 inches²
D. 0.2 inches²
-
- 14 The weather app indicates that the probability of rain tomorrow is $\frac{4}{5}$. Which word is the best description of the likelihood of rain tomorrow?
- A. likely
B. unlikely
C. certain
D. impossible

- 15 Graph the solutions for r in $2r - 5 \geq -3$.



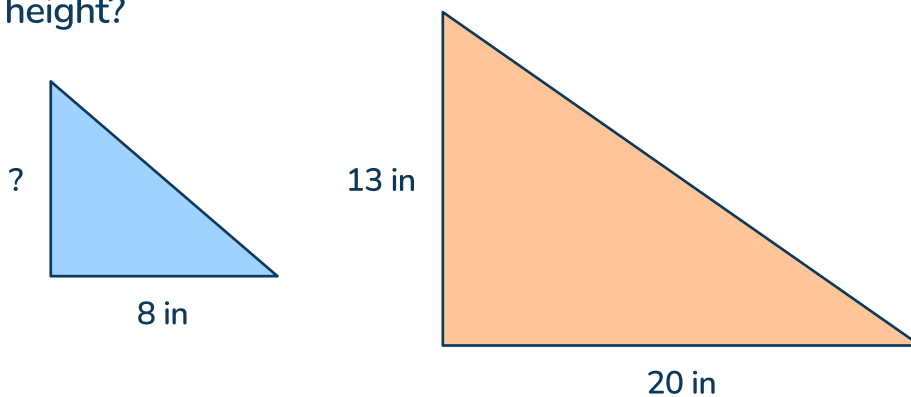
16



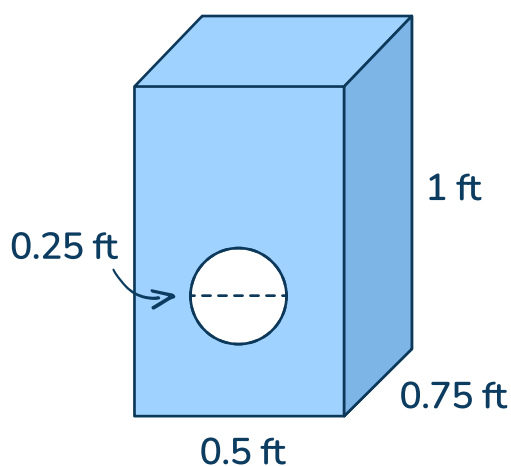
Which statements about the graph are true? Select all the correct answers.

- A. The relationship between hours and total miles biked is proportional.
- B. The point (3, 24) is the unit rate per hour.
- C. The point (5, 40) shows that after 5 hours, the total miles biked is 40.
- D. The point (1.5, 12) is a point on the line.
- E. As the total miles biked increases by 1, the hours increase by 8.

- 17 The orange triangle is a scaled version of the blue triangle. What is the missing height?



- 18 Carrie paints and sells birdhouses, in the shape of a rectangular prism with a small hole in front.



What is the total area that Carrie needs to paint, in feet squared, of one birdhouse?

Round your answer to the nearest thousandth.

_____ ft²

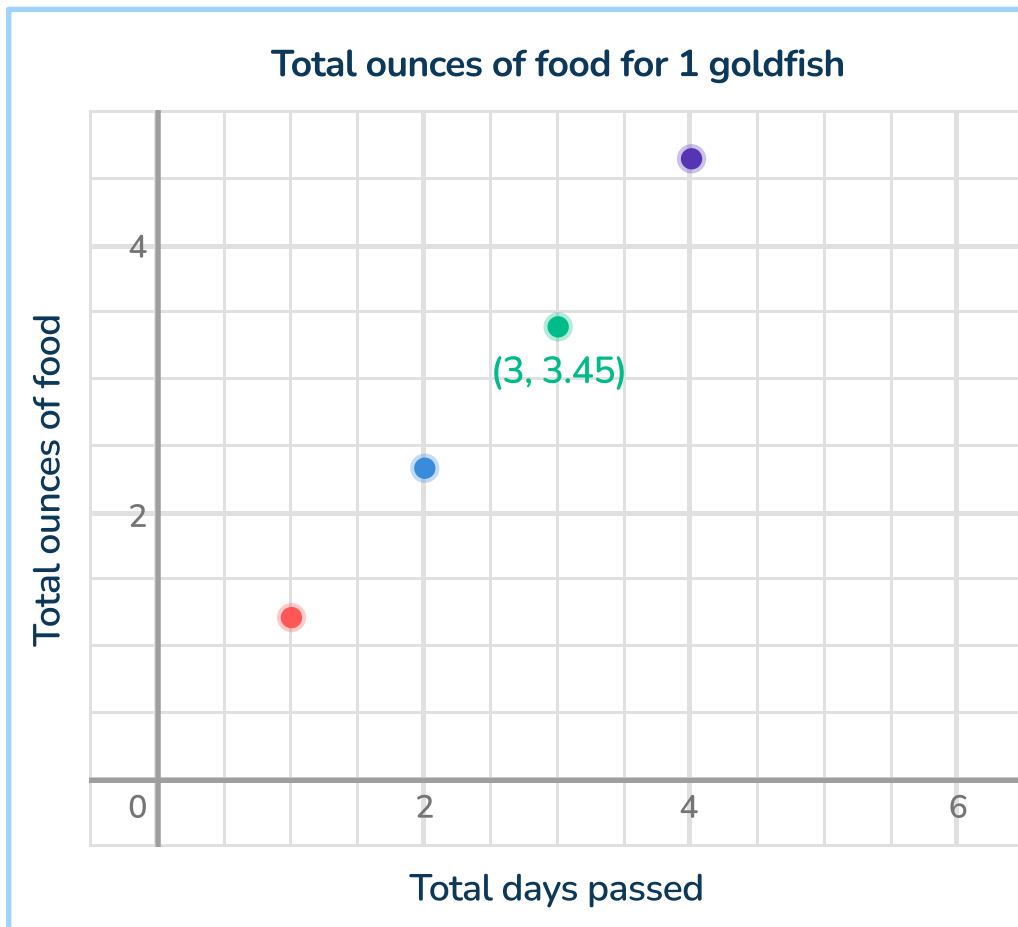
- 19 Simon lost 15 points in the first four rounds of a game. In the fifth round, Simon earned 45 points and in the final round Simon lost 12 more points. What was Simon's final score?

A. 18
B. -3
C. 153
D. -27

- 20 Lainey bought 4 games at the same price. Lainey went to the store with \$72 and left with \$23.75. Choose the equation and solution that represents the cost of each game, g .

A. $4g - 72 = 23.75$, $g = 23.94$
B. $4g + 23.75 = 72$, $g = 12.06$
C. $72 - 4g = 23.75$, $g = 12.06$
D. $72 - 23.75g = 4$, $g = 2.86$

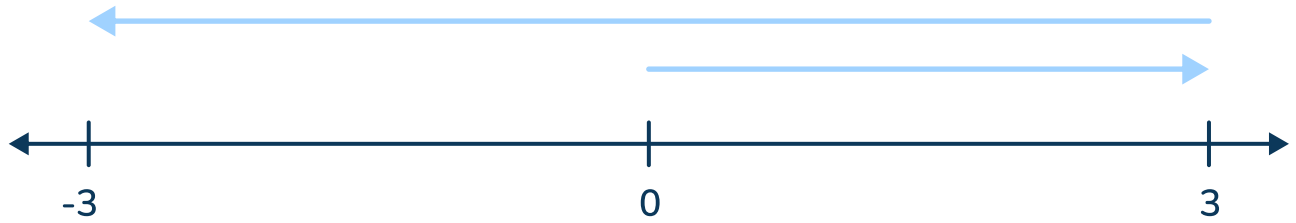
- 21 What does point (3, 3.45) mean in the context of the graph below?



- A. 3.45 ounces of food is used in 3 days
B. 3 ounces of food is used in 3.45 days
C. 3 fish eat 3.45 ounces of food
D. 3 ounces of food costs \$3.45
-
- 22 Which expression is equivalent to $-63x + 9$?

- A. $-9(-7x + 1)$
B. $3(21x - 3)$
C. $9(7x + 1)$
D. $-3(21x - 3)$

- 23 Which equations are shown by the number line? Select all the correct answers.



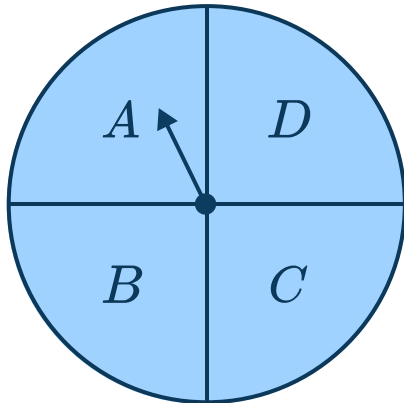
- A. $-3 + -3 = 0$
- B. $3 + (-6) = 0$
- C. $3 - 6 = -3$
- D. $6 + (-3) = 3$
- E. $3 + (-6) = -3$

- 24 Jazz is five years younger than his brother Dean. Mia is twice as old as Jazz. The equation shows the situation: $2(x - 5) = 18$. Complete the statement.

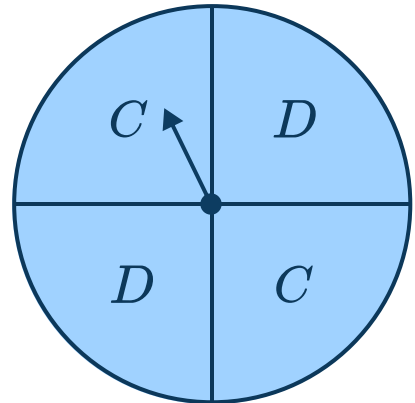
x represents _____'s age and $x =$ _____.

- 25 Which spinners show the probability of landing on C is 0.33? Select all the correct answers.

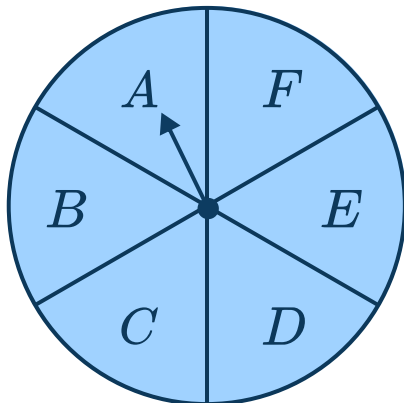
A.



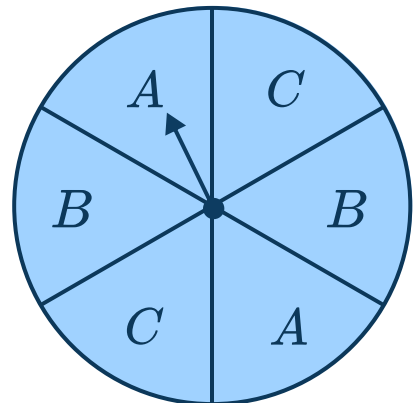
B.



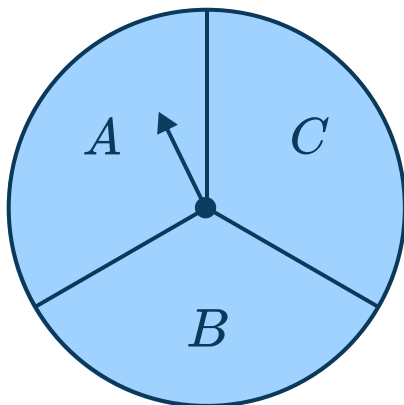
C.



D.



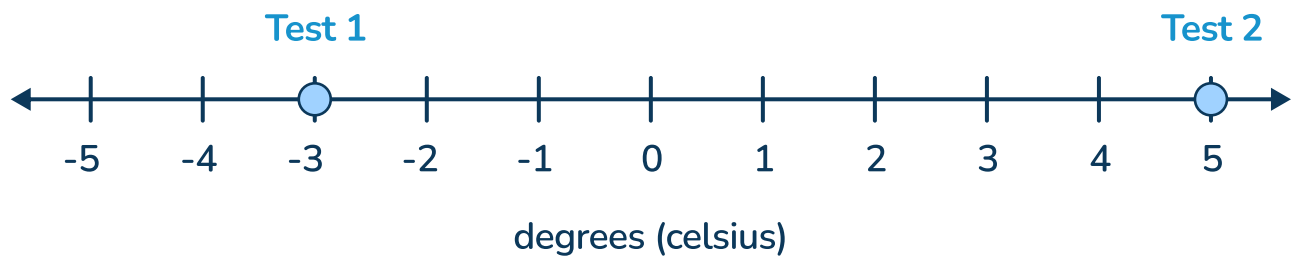
E.



- 26 Harley runs $8\frac{1}{2}$ miles in $1\frac{1}{4}$ hours. What is Harley's average speed in miles per hour?

- A. $6\frac{4}{5}$ mph
 - B. $7\frac{1}{4}$ mph
 - C. 6 mph
 - D. $7\frac{1}{6}$ mph
-

27



Lucian completed two tests for his science fair project. He recorded the results of the test as 8. How did he calculate this result?

- A. The difference of the absolute values of test 1 and test 2.
- B. The sum of test 1 and test 2.
- C. The absolute value of the sum of test 2 and test 1.
- D. The difference between test 2 and test 1.

- 28 Tara and Krishaun were comparing the price of apples, a , to bananas, b . They each wrote an equation to represent the comparison.

Tara's equation: $a = b + 0.3b$

Krishaun's: $1.3b = a$

Which statement about the equations is correct?

- A. Krishaun's equation shows that apples cost 130% more than bananas.
- B. Tara's equation shows apples cost 30% more than bananas.
- C. Krishaun's equation shows that apples cost 1.3% more than bananas.
- D. Tara's equation shows that apples cost 3% more than bananas.

-
- 29 The equation $7.25x = y$ models the cost, in dollars, for a child's movie tickets. The table models the cost, y , for an adult's ticket.

x	3	5	6
y	\$25.50	\$42.50	\$51

Which comparison statement is true?

- A. 1 adult ticket costs \$18.25 more than 1 child ticket
- B. 1 child ticket costs \$3.75 more than 1 adult ticket
- C. 1 child ticket and 1 adult ticket cost \$15.75
- D. 1 adult ticket costs \$1.25 more than 1 child ticket

30 Which expressions are equal to $-(\frac{15}{3})$? Select all the correct answers.

A. $\frac{-15}{3}$

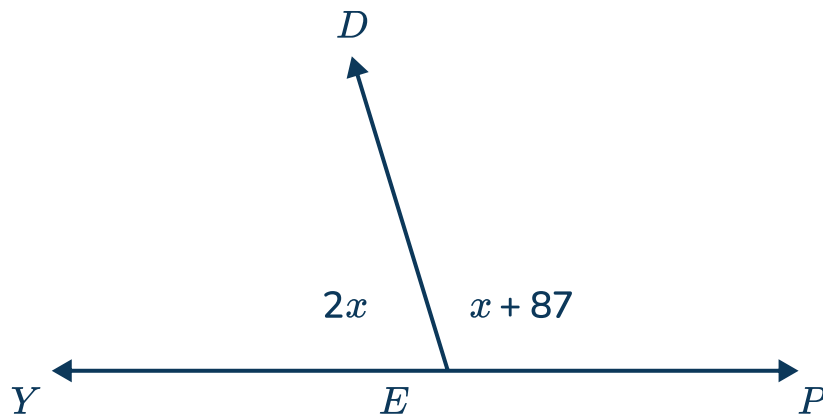
B. $\frac{-15}{-3}$

C. $\frac{15}{-3}$

D. 5

E. -5

31 The figure shows line YP and two angles formed by ray ED . Solve for x .



A. 33

B. 62

C. 31

D. 93

- 32 Fill in the blanks to create an equivalent expression to $3(\frac{3}{4}x - 5)$.

_____ + _____

- 33 Gigi is preparing to plant a field of watermelons. In the past, around 8% of the watermelon plants do not survive the first month. If Gigi wants to have 80 watermelon plants at the end of the first month, how many should she plant?

A. 88
B. 87
C. 86
D. 85

- 34 Convert $\frac{3}{8}$ to a decimal.

A. 0.38
B. 0.375
C. 0.3
D. 3.8

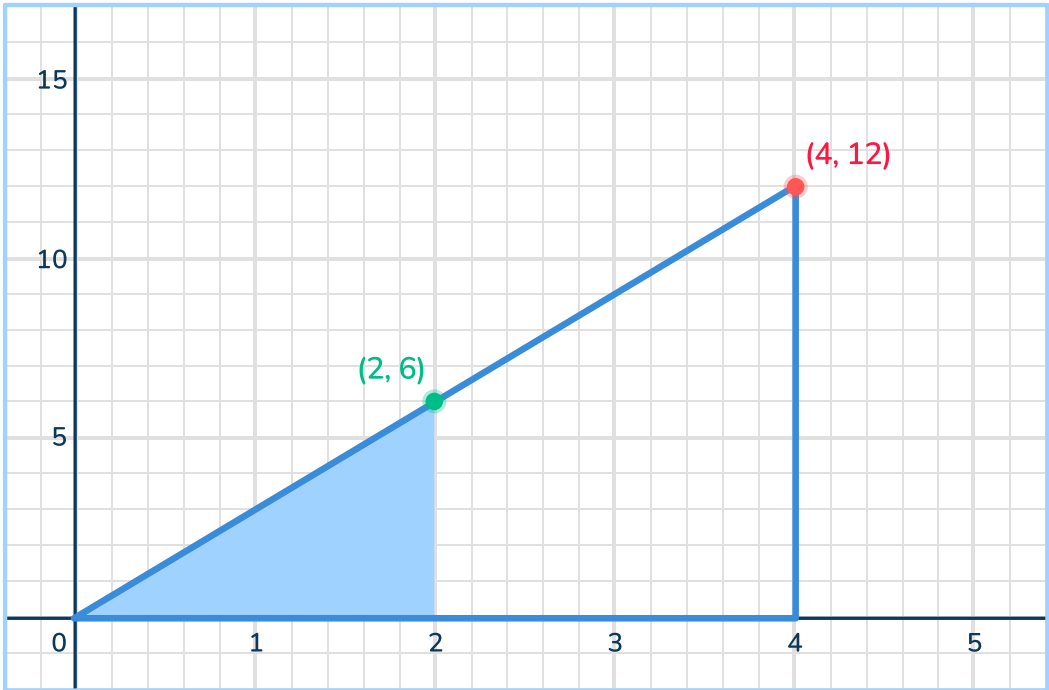
35 Hussain tossed a water bottle up in the air 120 times and recorded the results in the table.

How it landed	On its side	On its bottom	On its top (the lid)
How many times	93	25	2

Using these results, what is the expected probability for the bottle landing on its bottom for one flip? Round to the nearest thousandth.

- A. 0.25
- B. 0.333
- C. 0.208
- D. 0.025

36 Two triangles share a vertex at (0,0) on the graph below. The large triangle is outlined and the small triangle is shaded in.



Fill in the blanks to create a proportion that proves the two triangles are similar.

_____ = _____

37 Which statements are true? Select all the correct answers.

- A. $5 \times (-7)$ is 5 groups of -7
 - B. $(-7) \times 5$ is the opposite of $5 \times (-7)$
 - C. $(-5) \times 7$ is -5 groups of -7
 - D. $(-5) \times (-7)$ is the opposite of $5 \times (-7)$
 - E. 5×7 is the opposite of $(-5) \times (-7)$
-

38 Cynthia sells bags of dog treats for \$6 each. She has already sold 7 bags, b . She wants to earn at least \$90. Write an inequality to represent the situation.

- A. $7b + 6 \leq 90$
- B. $7b + 42 \geq 90$
- C. $6b + 7 \geq 90$
- D. $6b + 42 \geq 90$

- 39 The number of servings, x , in a bag, determines the total ounces of veggie chips, y .

x	y
3	1.68
7	3.92
8	4.48

Which equation represents the relationship between the number of servings and the total ounces of veggie chips?

- A. $1.68x = y$
 - B. $y + 1.32 = x$
 - C. $0.56x = y$
 - D. $3x = y$
-

- 40 Sid earns \$21.75 per hour and works 40 hours per week. Sid is paid every 2 weeks, and he puts 15% of his check into savings. How much money does Sid save after 6 weeks?

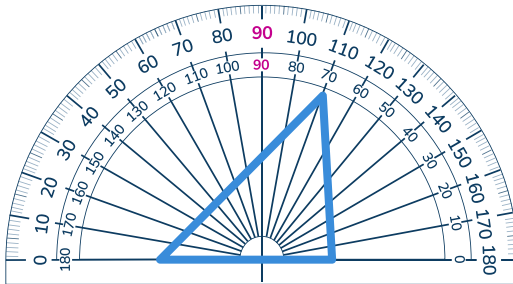
- A. \$783
- B. \$261
- C. \$391.50
- D. \$65.25

- 41 Describe a realistic situation and create a model for $-4 \times 2 = -8$.

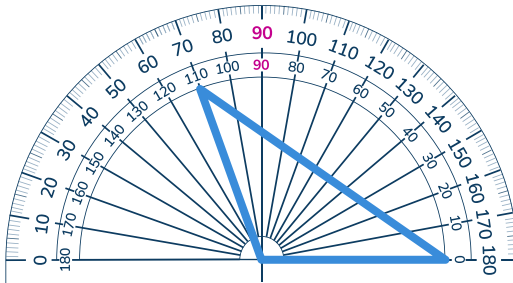
 Answer

- 42 Which shows a triangle with a 70° angle?

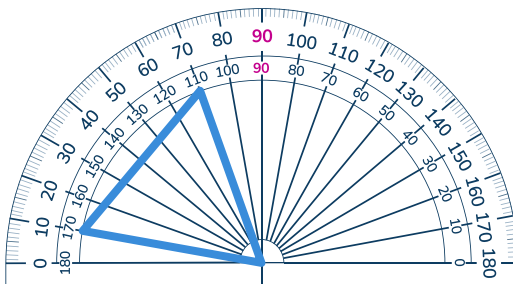
A.



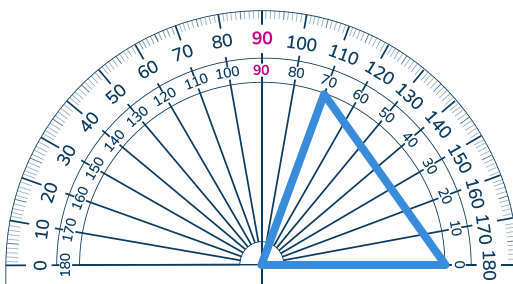
B.



C.

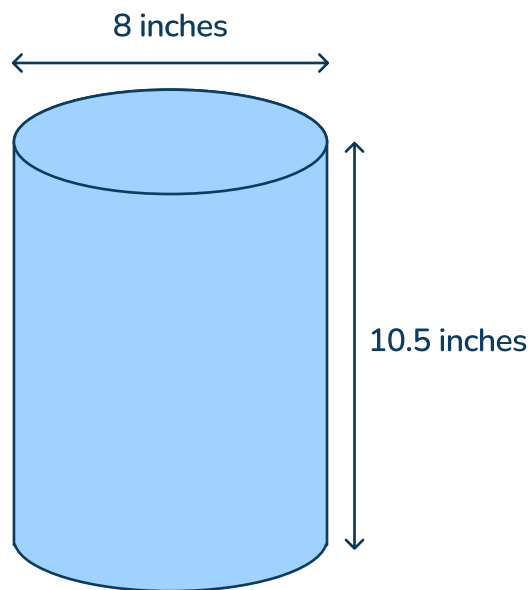


D.



- 43 José wanted to know how many students at his school have a pet. Which sampling method should he use to collect data?
- A. Post a survey on his social media account and record the response after 1 day.
 - B. Survey 25 students chosen randomly from a list of all students at the school.
 - C. Randomly survey 20 of his friends at school.
 - D. Post a survey in the art teacher's room and record the first 50 responses.
-

- 44 Felicia is filling a cylinder pot with soil. She wants to fill it all the way to the top, without going over.




How many square inches of soil will fill the pot? Round to the nearest whole number.

- A. 84 inches³
- B. 264 inches³
- C. 528 inches³
- D. 364 inches³

45 Georgina works at a video game store and earns 5% in commission for every sale. A customer buys a game that is normally \$46.45, but it is on sale for 10% off. How much money will Georgina earn from this sale?


- A. \$39.48
- B. \$20.90
- C. \$6.97
- D. \$2.10

Answer Key

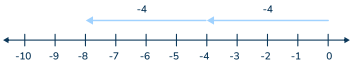
Item number	Correct answer	Standard(s)	DOK
1	0.4	7.NR.1.5, 7.NR.1.9	DOK 1
2	C	7.PAR.4.1	DOK 2
3	B, D	7.PAR.2.1	DOK 1
4	D	7.PR.6.3	DOK 2
5	C, E	7.NR.1.4	DOK 2
6	C	7.PAR.4.2	DOK 2
7	A	7.NR.1.3	DOK 2
8	A	7.NR.1.1	DOK 2
9	Shape A is a triangle and shape B is a trapezoid.	7.GSR.5.7	DOK 1
10	B	7.GSR.5.5	DOK 2
11	B	7.PAR.4.3	DOK 2
12	D	7.PR.6.6	DOK 2
13	B	7.PAR.4.6, 7.GSR.5.5	DOK 2
14	A	7.PR.6.1	DOK 1
15		7.PAR.3.2	DOK 1
16	A, B, D	7.PAR.4.3, 7.PAR.4.4, 7.PAR.4.5	DOK 2

Georgia State Test | Grade 7 | Answers

Item number	Correct answer	Standard(s)	DOK
17	D	7.PAR.4.6	DOK 2
18	2.858 ft ²	7.GSR.5.6, 7.GSR.5.5	DOK 2
19	D	7.NR.1.5	DOK 2
20	C	7.PAR.3.1	DOK 2
21	A	7.PAR.4.5	DOK 1
22	D	7.PAR.2.1	DOK 1
23	C, E	7.NR.1.2	DOK 2
24	x represents Dean's age and $x = 14$.	7.PAR.3.1	DOK 2
25	D, E	7.PR.6.3	DOK 2
26	A	7.PAR.4.1	DOK 2
27	D	7.NR.1.3	DOK 2
28	B	7.PAR.2.2	DOK 2
29	D	7.PAR.4.8	DOK 2
30	A, C, E	7.NR.1.7	DOK 1
31	C	7.GSR.5.3	DOK 2
32	$\frac{9}{4}x + (-15)$ OR $2\frac{1}{4}x + (-15)$	7.PAR.2.1	DOK 2
33	B	7.PAR.4.9	DOK 2
34	B	7.NR.1.10	DOK 1

Item number	Correct answer	Standard(s)	DOK
35	C	7.PR.6.5, 7.PAR.4.10	DOK 1
36	Correct answers are proportions that correspond two of the following measurements: 2 → 4 6 → 12 6.3 → 12.6 *hypotenuses rounded	7.PAR.4.7	DOK 1
37	A, D	7.NR.1.6	DOK 2
38	D	7.PAR.3.2	DOK 2
39	C	7.PAR.4.2	DOK 2
40	A	7.NR.1.11	DOK 2
41	Answers will vary. Example answer:  <p>The temperature dropped 4 degrees each hour for 2 hours. The total change was -8 degrees.</p>	7.NR.1.8	DOK 3
42	D	7.GSR.5.2	DOK 1
43	B	7.PAR.4.11	DOK 2
44	C	7.GSR.5.8	DOK 2
45	D	7.PAR.4.9	DOK 2


ANSWERS SORTED BY COMPETENCIES

7.NR.1 (Numerical Reasoning Competency 1)			
1	0.4	7.NR.1.5, 7.NR.1.9	DOK 1
5	C, E	7.NR.1.4	DOK 2
7	A	7.NR.1.3	DOK 2
8	A	7.NR.1.1	DOK 2
19	D	7.NR.1.5	DOK 2
23	C, E	7.NR.1.2	DOK 2
27	D	7.NR.1.3	DOK 2
30	A, C, E	7.NR.1.7	DOK 1
34	B	7.NR.1.10	DOK 1
37	A, D	7.NR.1.6	DOK 2
40	A	7.NR.1.11	DOK 2
41	<div>Answers will vary. Example answer:  The temperature dropped 4 degrees each hour for 2 hours. The total change was -8 degrees.</div>	7.NR.1.8	DOK 3

7.PAR.2 (Patterning & Algebraic Reasoning Competency 2)

3	B, D	7.PAR.2.1	DOK 1
22	D	7.PAR.2.1	DOK 1
28	B	7.PAR.2.2	DOK 2
32	$\frac{9}{4}x + (-15)$ OR $2\frac{1}{4}x + (-15)$	7.PAR.2.1	DOK 2

7.PAR.3 (Patterning & Algebraic Reasoning Competency 3)

15		7.PAR.3.2	DOK 1
20	C	7.PAR.3.1	DOK 2
24	x represents Dean's age and $x = 14$.	7.PAR.3.1	DOK 2
38	D	7.PAR.3.2	DOK 2

7.PAR.4 (Patterning & Algebraic Reasoning Competency 4)			
2	C	7.PAR.4.1	DOK 2
6	C	7.PAR.4.2	DOK 2
11	B	7.PAR.4.3	DOK 2
13	B	7.PAR.4.6, 7.GSR.5.5	DOK 2
16	A, B, D	7.PAR.4.3, 7.PAR.4.4, 7.PAR.4.5	DOK 2
17	D	7.PAR.4.6	DOK 2
21	A	7.PAR.4.5	DOK 1
26	A	7.PAR.4.1	DOK 2
29	D	7.PAR.4.8	DOK 2
33	B	7.PAR.4.9	DOK 2
36	Correct answers are proportions that correspond two of the following measurements: 2 → 4 6 → 12 6.3 → 12.6 *hypotenuses rounded	7.PAR.4.7	DOK 1
39	C	7.PAR.4.2	DOK 2
43	B	7.PAR.4.11	DOK 2
45	D	7.PAR.4.9	DOK 2

7.GSR.5 (Geometric & Spatial Reasoning Competency 5)

9	Shape A is a triangle and shape B is a trapezoid.	7.GSR.5.7	DOK 1
10	B	7.GSR.5.5	DOK 2
18	2.858 ft ²	7.GSR.5.6, 7.GSR.5.5	DOK 2
31	C	7.GSR.5.3	DOK 2
42	D	7.GSR.5.2	DOK 1
44	C	7.GSR.5.8	DOK 2

7.PR.6 (Probability Reasoning Competency 6)




4	D	7.PR.6.3	DOK 2
12	D	7.PR.6.6	DOK 2
14	A	7.PR.6.1	DOK 1
25	D, E	7.PR.6.3	DOK 2
35	C	7.PR.6.5, 7.PAR.4.10	DOK 1

Do you have a group of students who need a boost in math?

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