THIRD SPACE
LEARNING

Mock STAAR 7th Grade Assessment

Texas Practice Test Grade 7

Grade 7

Questions

Name: ....

Class: ....

Date: ....

Score: ....

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1 What is the solution to this equation?

$$4x + 21 = 64$$

A. 42

B. 10

C. 10.75

D. 45

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2 What is the value in simplest form?

$$\left(-\frac{3}{7}\right) \div \left(\frac{9}{14}\right)$$

A. $-\frac{27}{98}$

B. $\frac{27}{98}$

C. $\frac{14}{21}$

D. $-\frac{2}{3}$

3 A pair of jeans that were originally $84.00 are on sale for 20%. There is a 6% sales tax. How much will you pay for the jeans?

    A. $67.20

    B. $73.08

    C. $71.23

    D. $71.00

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4 Rudy's monthly income is $4,200. Rudy's monthly budget is shown in the table below.

| Rudy's Monthly Budget	
Category	**Amount of Money**
Mortgage	$2,210
Groceries	$419
Phone bill	$122
Insurance	$192
Savings	$200

What percentage of Rudy's income is used to pay for his insurance and groceries?

    A. 13%

    B. 75%

    C. 15%

    D. 9%

5   The dimensions of a rectangular prism are 2.3 feet by 4.5 feet by 3 feet. What is the volume of the rectangular prism in cubic feet?

    A. 31.05 ft³

    B. 10.35 ft³

    C. 9.8 ft³

    D. 6.9 ft³

6   The rectangles below have proportional dimensions. What is the width of the larger rectangle?

5 in [rectangle]

8 in

? [rectangle]

10.2 in
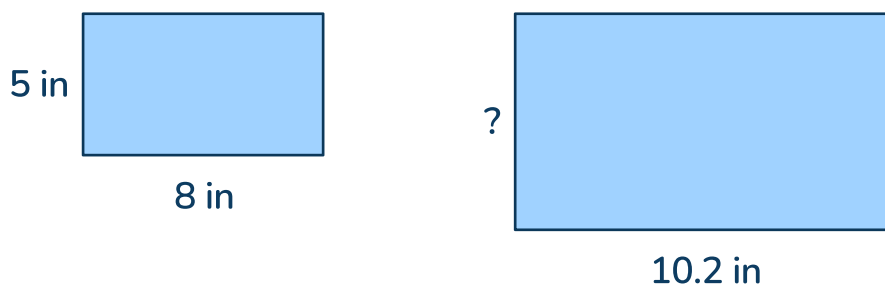
    A. 6 in

    B. 3.9 in

    C. 4 in

    D. 6.375 in

7   Anna paid for 15 cases of water to be delivered to the gym. Each case of water cost $22.69 and the delivery charge was $34.66. What is the total amount that Anna paid?

    A. $340.35
    B. $72.35
    C. $519.90
    D. $375.01

8   A jewelry store sells necklaces for $45. Bracelets cost $22. If Tanya is buying 2 necklaces and x bracelets. Which equation can be used to find y, the total price of the jewelry Tanya is buying?

    A. y = $45x$ + 44
    B. y = $22x$ + 45
    C. y = $22x$ + 90
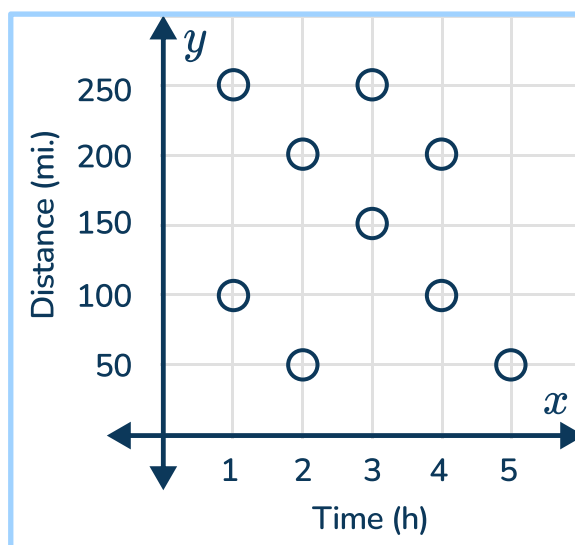   D. y=$45x$ + 2

9 The angle measures of a triangle are shown in the diagram below.
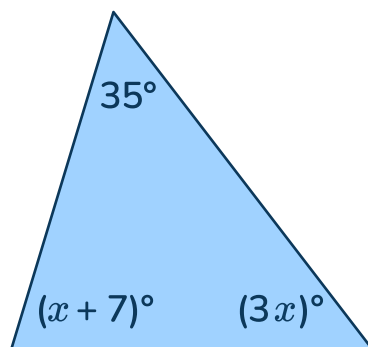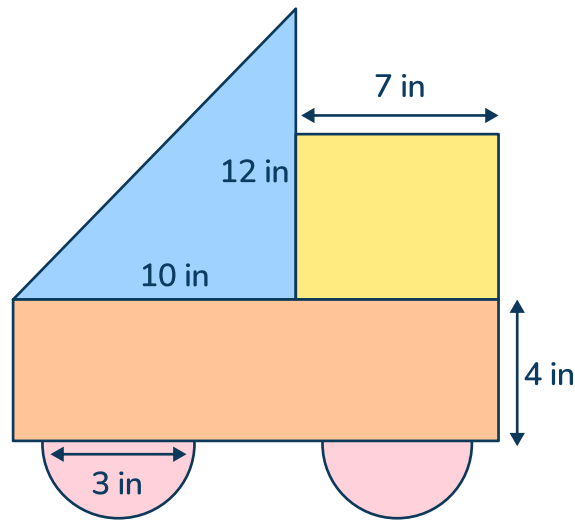

What is the value of x?

    A. 138°

    B. 34.5°

    C. 45°

    D. 48°

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10 Tanya biked at a constant rate of 25 miles in $\frac{1}{4}$ hours. Create a graph to represent y, the number of miles Tanya travels in x hours.

Shade in two points on the coordinate grid that would be included on the line.

11 Titus sketched a car using a square, rectangle, a triangle and two congruent semicircles.

Which measurement is closest to the area of the figure in square inches?

A. 184.07 in²

B. 219.07 in²

C. 180.54 in²

D. 176.09 in²

12 Phil and Julie are taking a road trip. On the map, New York City and Boston are 2.5 inches apart. The map has a scale of 1 inch to 86 miles. How far apart, in miles, are New York City and Boston?

A. 220 miles

B. 34.4 miles

C. 34 miles

D. 215 miles

13 Katelyn wants to purchase a new smartphone for $875. She received $120 for her birthday and she earns $25 a week for doing chores. Which inequality can be used to find w, the number of weeks she needs to do chores to buy her new smartphone?

    A. $25w + 120 \leq 875$
    B. $25w + 120 \geq 875$
    C. $120w + 25 \geq 875$
    D. $120w + 25 \leq 875$

14 What is the solution set for the inequality $-7a + 12 < 47$?

    A. $a < 5$
    B. $a > -5$
    C. $a > 5$
    D. $a < -5$

15 The dimensions of a rectangular prism are shown in the diagram below.

$h = 9$ cm

$l = 7$ cm

$w = 2.5$ cm
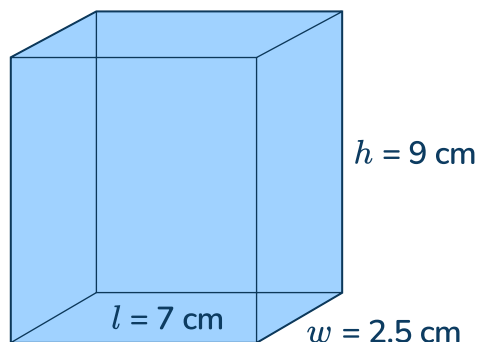
What is the volume of the rectangular prism in cubic centimeters? Write your answer in the box below.

Answer

16 The table below shows the proportional relationship between x and y. What is the constant of proportionality?

x	y
2	3.5
3	5.25
5	8.75
7	12.25

A. 1.25

B. 1.5

C. 1.75

D. 1

17 Students were asked their favorite color in a class survey. The bar graph shows the number of students that selected each color.
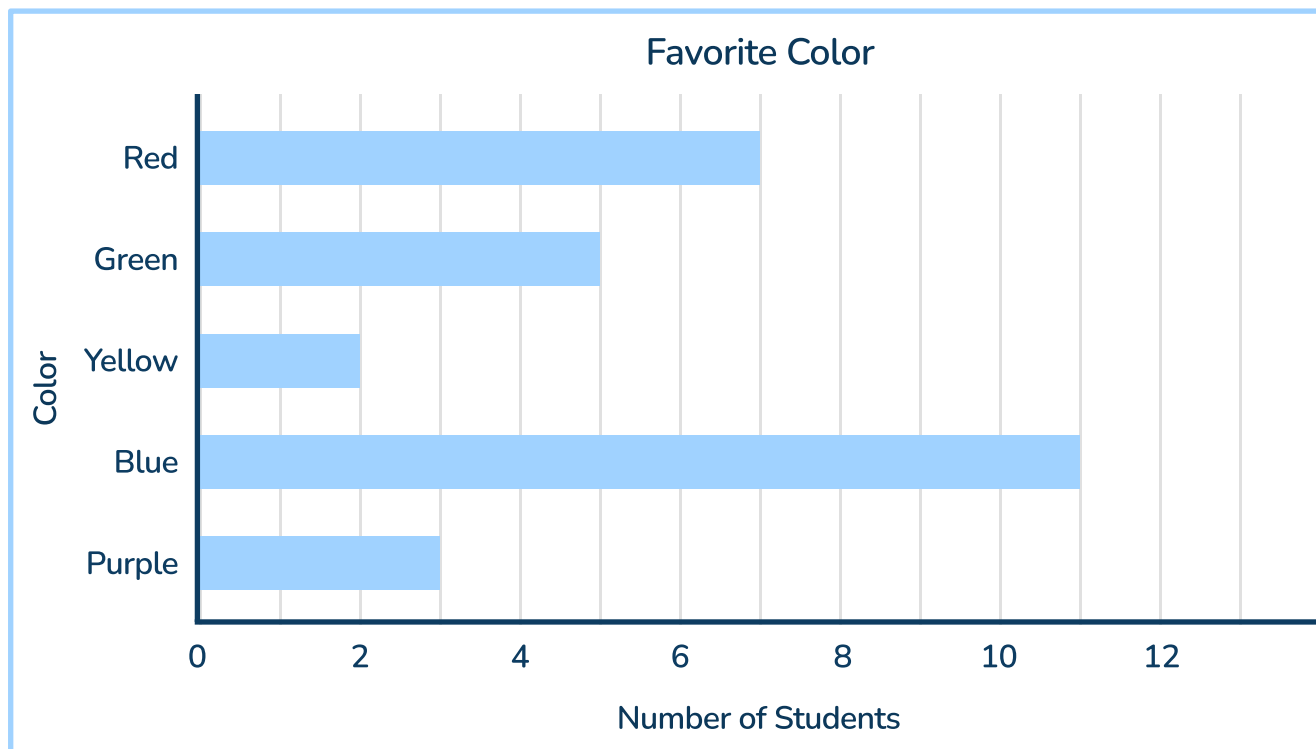
What percentage of students chose "blue" as their favorite color?

A. 42%

B. 39%

C. 61%

D. 28%

18 A bag contains:

- 5 yellow shapes
- 9 orange shapes
- 7 blue shapes
- 3 red shapes
- 6 pink shapes

A shape will be drawn from the bag and replaced 100 times. What is a reasonable prediction for the number of times a pink or orange shape will be drawn?

    A.   30
    B.   50
    C.   20
    D.   15

19 A recipe for cookies includes $2\frac{1}{2}$ cups of flour for 20 cookies. How many cups of flour are needed for 70 cookies?

    A. $7\frac{1}{2}$ cups

    B. $1\frac{1}{4}$ cups

    C. 7 cups

    D. $8\frac{3}{4}$ cups

20 A circle has a diameter of 18 inches. What measurement is closest to the circumference of the circle in inches?

    A.   56.55 inches

    B.   113.1 inches

    C.   54.51 inches

    D.   59.67 inches

21 Which number line represents the solution to the inequality $-y + 14 < 23$?

A.

B.

C.

D.
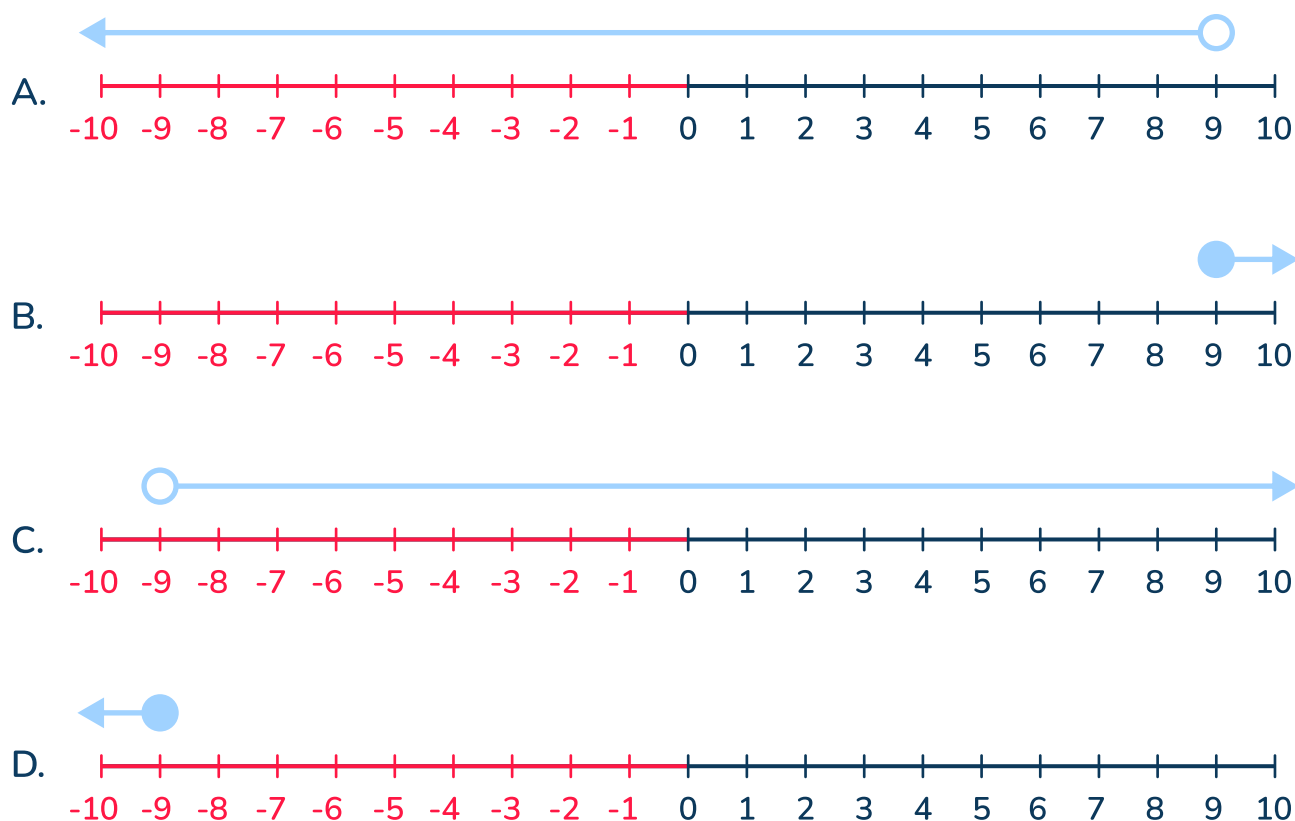
22 A spinner with 10 equal sections is shown.
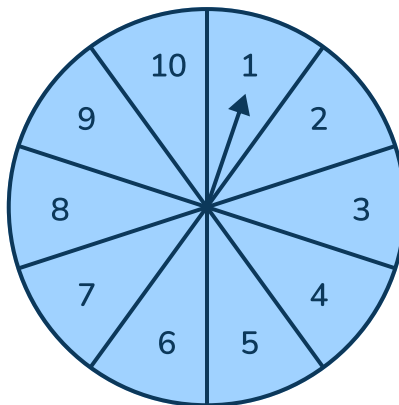
In the blanks below, write the probability of spinning a number less than 5.

$$\frac{\boxed{}}{\boxed{}}$$

23 The dot plots show the number of pencils purchased by students at two different elementary schools on the same day.

Central Elementary

Smith Elementary

Number of pencils

Number of pencils
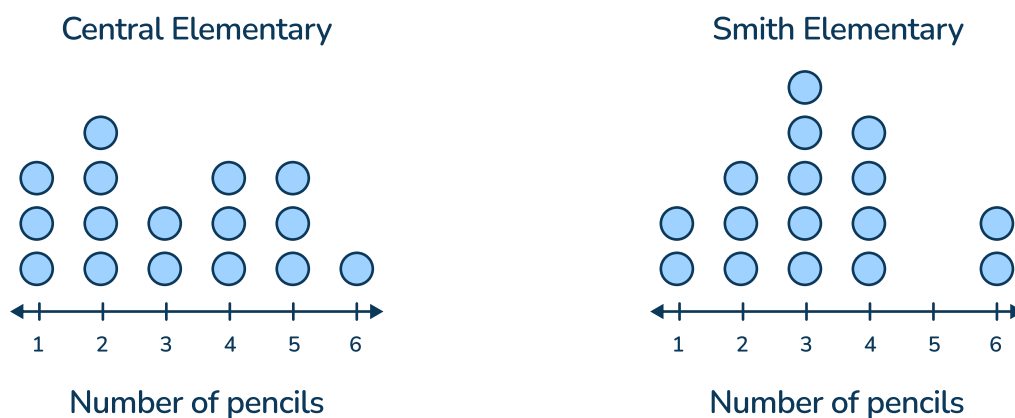
Which statement is supported by the information on the dot plots?

   A. The median of the data at Smith Elementary is less than the median of the data for Central Elementary.

   B. The mean of the data at Smith Elementary is less than the mean of the data for Central Elementary.

   C. The range of the data at Smith Elementary is greater than the median of the data for Central Elementary.

   D. The mode of the data at Smith Elementary is greater than the mode of the data for Central Elementary.

24 The distance between Midland and Odessa is 21 miles. One mile is approximately equal to 1.6 kilometers. Which measurement is closest to the number of kilometers between the two cities?

A. 33.6 km

B. 19 km

C. 23 km

D. 10.5 km

25 The figure is composed of a trapezoid and a triangle in centimeters.

6 cm

4 cm

7 cm   7 cm
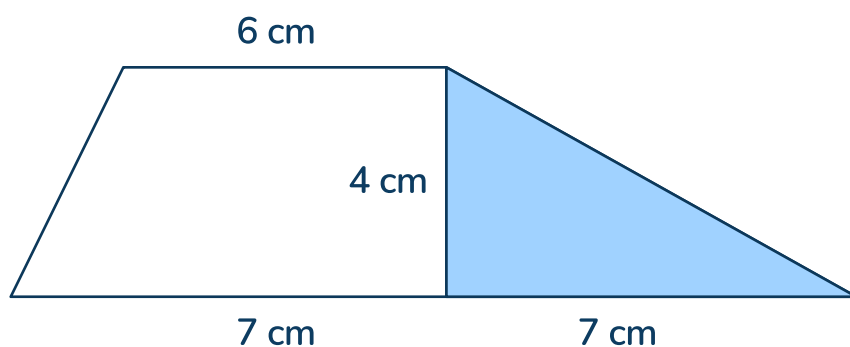
What is the area of the figure in square centimeters? Write your answer in the box.

26 Which equation best represents the relationship between x and y in the graph?
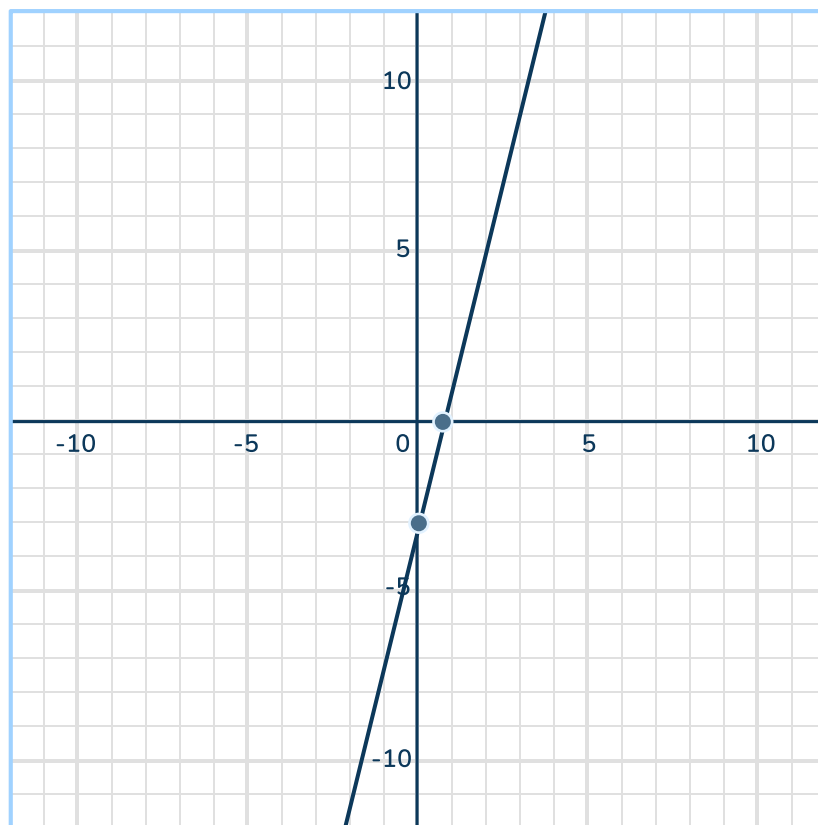
A. $4x + 3$

B. $3x + 1$

C. $4x - 3$

D. $-2x + 1$

27 The net of a rectangular prism and its dimensions are shown in the diagram below.

8.5 ft

6 ft   8.5 ft

6 ft
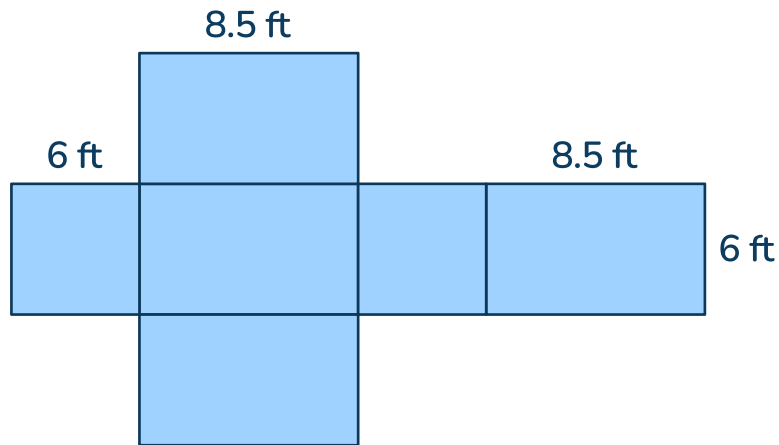
What is the total surface area of the rectangular prism in square feet?

A. 105 ft²

B. 83 ft²

C. 276 ft²

D. 256 ft²

28 Cassie surveyed 50 classmates about their favorite coffee flavor. Each person chose one flavor. The results are shown in the graph below.

Favorite Coffee Flavors
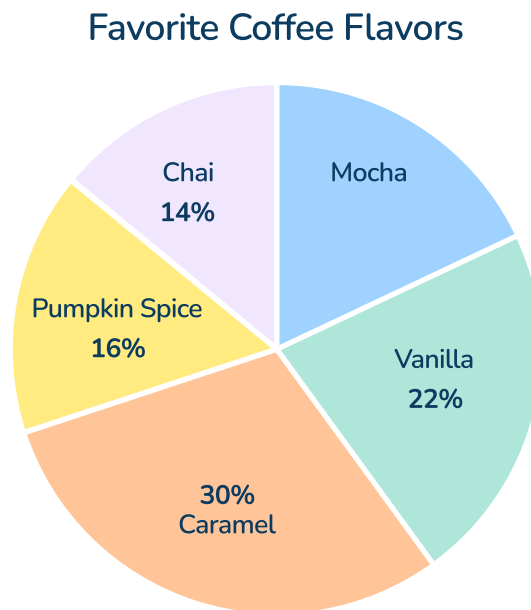
How many more of Cassie's classmates chose caramel than chose mocha?

    A. 18 classmates

    B. 6 classmates

    C. 9 classmates

    D. 24 classmates

29 A science teacher adds 20 new vocabulary words for students to learn each week. Which graph best represents the relationship between, , the number of weeks the student is learning new vocabulary and , the number of new vocabulary words each student will learn?

A.
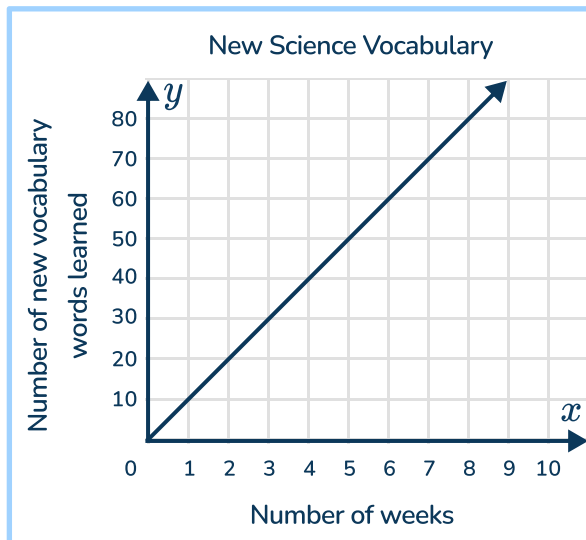
C.
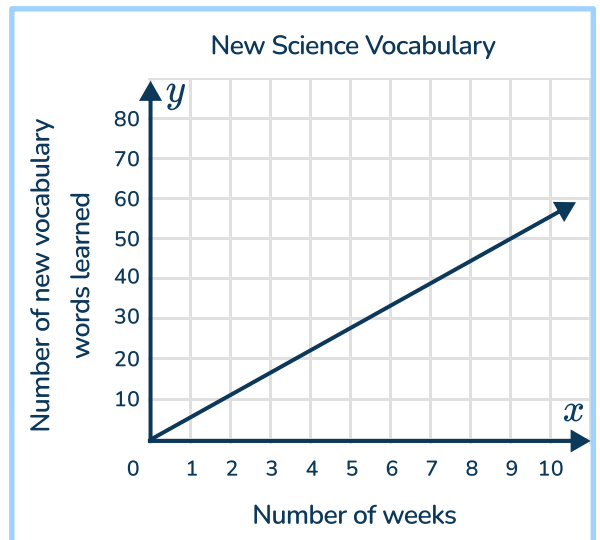
B.
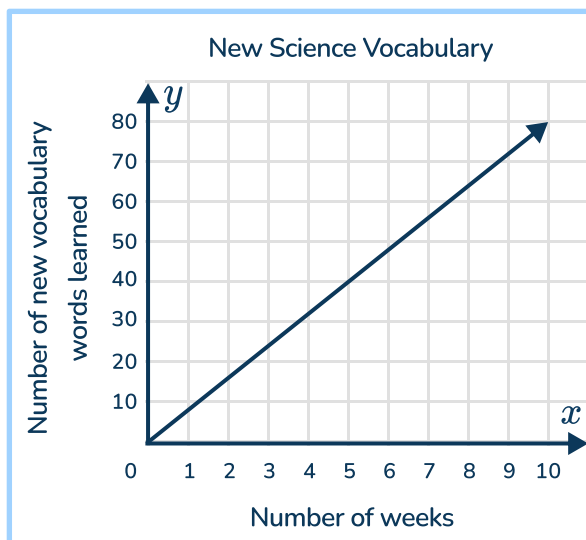
D.
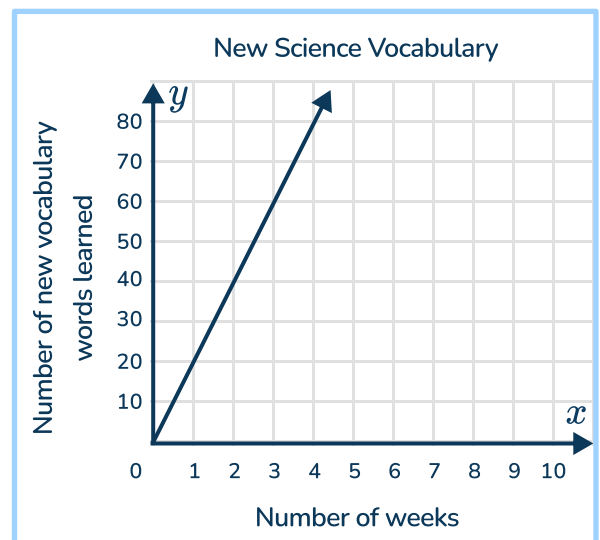
30 Which situation is best represented by the following equation?

$$80 + 22x \geq 170$$

A. Kyle is saving to buy new wireless earbuds. The earbuds are $170. Currently, he has $22 saved and just got a new job paying $80 an hour. What is, x, the amount of hours Kyle has to work in order to have enough money?

B. Kyle is saving to buy new wireless earbuds. The earbuds are $170. Currently, he has $80 saved and just got a new job paying $22 an hour. What is, x, the amount of hours Kyle has to work in order to have enough money?

C. Kyle is reading a book with 170 pages in it. He has already read 22 pages and will read 80 pages each day until he finishes. What is, x, the number of days Kyle needs to finish the book?

D. Kyle is reading a book with 170 pages in it. He has already read 99 pages. What is, x, the number of pages Kyle needs to finish the book?

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31 Which value of x makes the equation true?

$$2(x - 5) + 6 = \frac{1}{2}(6x - 18)$$

      A. $x = -5$
      B. $x = 4$
      C. $x = -4$
      D. $x = 5$

32 The weather app indicates that the probability of snow tomorrow is 0.83.
Which is the best description of the likelihood of snow tomorrow?

     A. It is likely to snow tomorrow.

     B. It is certain it will snow tomorrow.

     C. It is unlikely that it will snow tomorrow.

     D. It is impossible for it to snow tomorrow.

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33 A baker uses $1\frac{1}{2}$ tablespoons of cinnamon to make 3 dozen cookies.
What is the unit rate in tablespoons per dozen?

     A. $\frac{1}{2}$ tablespoon per dozen

     B. 1 tablespoon per dozen

     C. $\frac{3}{2}$ tablespoons per dozen

     D. $\frac{1}{3}$ tablespoons per dozen

34 A drawing of a rectangular table top is shown below. The drawing has a scale of 1 inch to 1.5 feet. What is the area of the actual table top model?

1.5 inches

4.5 inches
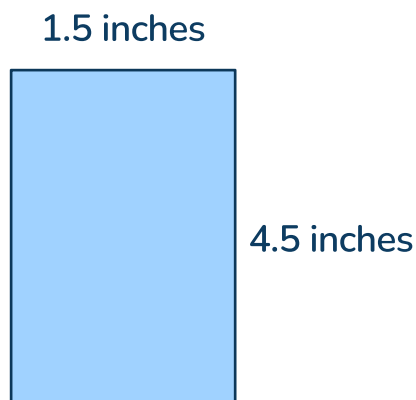
Write your answer in the box below.

35 A circle has a radius of 3.5 centimeters. Which measurement is closest to the circumference of the circle in centimeters?

A. 20.19 cm
B. 21.99 cm
C. 24.83 cm
D. 43.98 cm

36   A student tosses a fair coin with heads (H) on one side and tails (T) on the other and rolls a fair-numbered cube with eight faces numbered 1 through 8. Which list contains all the possible outcomes?

A	B	C	D
H1	T1	H1 T1	H1
H2	T2	H2 T2	T2
H3	T3	H3 T3	H3
H4	T4	H4 T4	T4
H5	T5	H5 T5	H5
H6	T6	H6 T6	T6
H7	T7	H7 T7	H7
H8	T8	H8 T8	T8

37 Tara is passing out keychains to her classmates. 6 of the keychains are blue, 8 keychains are striped, 4 keychains are red, and 2 keychains are silver.

What is the probability that the first classmate received a red keychain?

A. $\frac{3}{10}$

B. $\frac{1}{5}$

C. $\frac{2}{5}$

D. $\frac{1}{10}$

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38 What value will make the equation true?

$-2.5 -$ _____ $= - 4\frac{1}{2}$

A. -2

B. 2

C. -2.5

D. 2.5

39 The table below shows the different types of cookies that were purchased at the bake sale last week.

Type of cookie	Number sold
Chocolate chip	25
Sugar	14
Peanut butter	16
Ginger snap	4

Based on the information in this table, which statement is true?

    A. Chocolate chips are the least likely cookie to be sold.
    B. The type of cookie sold is equally likely to be sugar or ginger snap.
    C. Peanut butter is 4 times as likely to be sold than ginger snap.
    D. Sugar is the most likely cookie to be sold.

40 The boxplots below show the number of points achieved by two football teams during the regular football season.
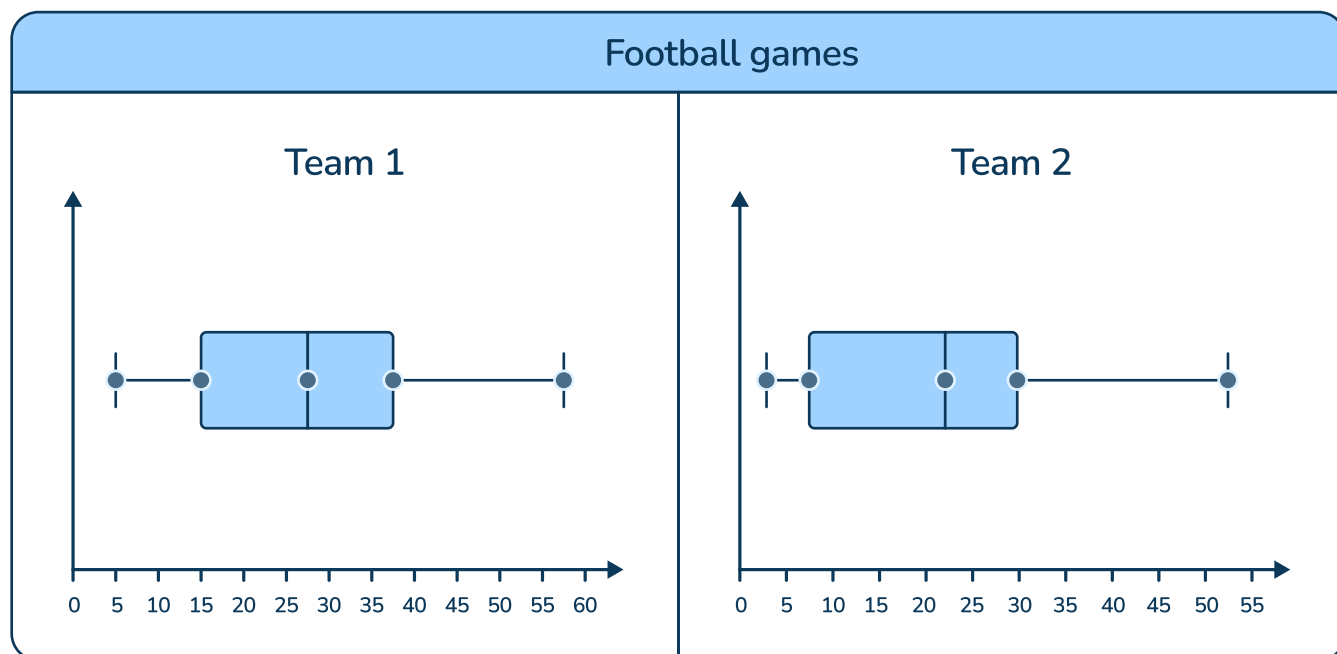
Which statement is best supported by the data in the box plots?

A. The range of the data for team number one is greater than the range of the data for team number two.

B. The median of the data for team one is less than the median of the data for team two.

C. The first quartile of the data for team one is greater than the first quartile of the data for team two.

D. The mode of the data for team one is greater than than the mode of the data for team two.

Answers

STAAR Answer Key - 7th Grade					
Item position	Item type	Correct answer	TEKS Alignment	Reporting Category	Readiness or Supporting
1	Multiple choice	C	7.2.11.A	2	Readiness
2	Multiple choice	D	7.2.3.A	2	Supporting
3	Multiple choice	C	7.2.4.D	2	Readiness
4	Multiple choice	C	7.4.13.B	4	Supporting
5	Multiple choice	A	7.3.9.A	3	Readiness
6	Multiple choice	D	7.3.5.A	3	Supporting
7	Multiple choice	D	7.2.3.B	2	Readiness
8	Multiple choice	C	7.2.7.A	2	Readiness
9	Multiple choice	B	7.3.11.C	3	Supporting
10	Multi-select	(1,100), (2,200)	7.3.4.A	2	Readiness
11	Multiple choice	A	7.3.9.C	3	Readiness
12	Multiple choice	D	7.3.5.C	3	Readiness
13	Multiple choice	B	7.2.10.A	2	Supporting
14	Multiple choice	B	7.2.11.A	2	Readiness
15	Open-ended	157.5 cm³	7.3.9.A	3	Readiness
16	Multiple choice	C	7.3.5.B	3	Supporting

Texas Practice Test | Grade 7 | Answers

		STAAR Answer Key - 7th Grade			
Item position	Item type	TEKS Alignment	Correct answer(s)	Reporting Category	Readiness or Supporting
17	Multiple choice	B	7.4.6.G	4	Readiness
18	Multiple choice	B	7.1.6.D	1	Supporting
19	Multiple choice	D	7.2.4.D	2	Readiness
20	Multiple choice	A	7.3.9.B	3	Readiness
21	Multiple choice	C	7.2.10.B	2	Supporting
22	Fill in the blank	$\frac{4}{10}$ OR $\frac{2}{5}$	7.1.6.I	1	Readiness
23	Multiple choice	D	7.4.12.A	4	Readiness
24	Multiple choice	A	7.3.4.E	3	Supporting
25	Open-ended	40 cm²	7.3.9.C	3	Readiness
26	Multiple choice	C	7.2.7.A	2	Readiness
27	Multiple choice	C	7.3.9.D	3	Supporting
28	Multiple choice	B	7.4.6.G	4	Readiness
29	Multiple choice	D	7.2.4.A	2	Readiness
30	Multiple choice	B	7.2.10.C	2	Supporting
31	Multiple choice	D	7.2.11.B	2	Supporting
32	Multiple choice	A	7.1.6.H	1	Readiness
33	Multiple choice	A	7.2.4.B	2	Supporting

Texas Practice Test | Grade 7 | Answers

STAAR Answer Key - 7th Grade					
Item position	Item type	TEKS Alignment	Correct answer(s)	Reporting Category	Readiness or Supporting
34	Open-ended	15.1875 ft²	7.3.5.C	3	Readiness
35	Multiple choice	B	7.3.9.B	3	Readiness
36	Multiple choice	C	7.1.6.A	1	Supporting
37	Multiple choice	B	7.1.6.I	1	Readiness
38	Multiple choice	B	7.2.11.B	2	Supporting
39	Multiple choice	C	7.1.6.H	1	Readiness
40	Multiple choice	A	7.7.12.A	4	Readiness

Breakdown of Assessment			
Probability and Numerical Representations	Computations and Numerical Relationships	Geometry and Measurement	Data Analysis and Personal Financial Literacy
15% - 6 questions	40% - 16 questions	33% - 13 questions	12% - 5 questions

Rationales

Item	KEY	Rationale
1	A is incorrect	Students likely stopped too soon while solving the equations. Students did not complete the last step of dividing by 4.
	B is incorrect	Students likely made a computation error when dividing 43 and 4.
	C is correct	To determine the solution to this equation, students must first subtract 21 from both sides of the equation. Then students will divide both sides by 4, leaving them with $x = 10.75$.
	D is incorrect	Students likely made a computation error when solving the equation.

Item	KEY	Rationale
2	A is incorrect	Students may choose this answer if they cannot recall how to divide fractions.
	B is incorrect	Students may choose this answer if they cannot recall how to divide fractions.
	C is incorrect	Students may choose this answer if they think a negative number times a positive number is positive and if they do not simplify the fraction completely.
	D is correct	This is the correct answer. $(-\frac{3}{7}) \div (\frac{9}{14})$ $(-\frac{3}{7}) \times \frac{14}{9} = -\frac{42}{63} = -\frac{2}{3}$

Item	KEY	Rationale
3	A is incorrect	Students may choose this answer if they forget to add on the sales tax.
	B is incorrect	Students may choose this answer if they take the tax of the original price.
	C is correct	This is the correct answer. 84 x 0.80 = 67.20 67.20 x 0.06 = 4.032 67.20 + 4.032 = 71.232 = $71.23
	D is incorrect	Students may choose this answer if they round the answer.

Item	KEY	Rationale
4	A is incorrect	The student likely found the percentage of Rudy's income from groceries and the phone bill instead of insurance and groceries.
	B is incorrect	The student likely found the percentage of Rudy's income from all categories.
	C is correct	The student correctly added up the cost of Rudy's insurance and groceries. 419 + 192 = $611 The student then correctly calculated the percentage out of Rudy's $4,200 a month income. 611 ÷ 4,200 = 0.145 ≈ 15%.
	D is incorrect	The student likely found the percentage of Rudy's income from savings and insurance instead of insurance and groceries.

Item	KEY	Rationale
5	A is correct	The student correctly calculated the volume of a rectangular prism by multiplying the three dimensions. V = 2.3 • 4.5 • 3 = $31.05 \, cubic \, feet$
	B is incorrect	The student likely multiplied the first two dimensions listed, and not the third.
	C is incorrect	The student likely added up all three dimensions, instead of multiplying.
	D is incorrect	The student likely multiplied two dimensions listed (2.3 x 3), and not the third dimension.

Item	KEY	Rationale
6	A is incorrect	Students may choose this answer if they round the length of the width.
	B is incorrect	Students may choose this answer if they compare the dimensions incorrectly.
	C is incorrect	Students may choose this answer if they compare the dimensions incorrectly.
	D is correct	This is the correct answer. $\dfrac{5}{8} = \dfrac{?}{10.2}$ The missing dimension (width) is 6.375 inches

Item	KEY	Rationale
7	A is incorrect	The student likely calculated the total of the cases of water only.
	B is incorrect	The student likely was unsure of how to calculate the total cost that Anna spent and added all numbers present in the word problem (15 + 22.69 + 34.66).
	C is incorrect	The student likely calculated the total of all cases of water by multiplying 15 by the delivery charge ($34.66), not the price per case ($22.69)
	D is correct	The student correctly calculated the total amount for the 10 cases of water ($22.69 x 15 = $340.35) and then added the total delivery charge ($340.35 + $34.66).

Item	KEY	Rationale
8	A is incorrect	The student likely mixed up which kind of jewelry Tanya was buying.
	B is incorrect	This equation only shows Tanya purchasing 1 necklace, instead of 2.
	C is correct	To determine the equation, the student must recognize that Tanya is buying an unknown number of bracelets (x) and spending $22 on each, or $22x$. She is buying 2 necklaces for $45 a piece, or $90 total.
	D is incorrect	The student likely is unsure how to create an equation out of a given situation.

Item	KEY	Rationale
9	A is incorrect	The student most likely set the measurements of the angle to 180°, but did not complete the last step of dividing by 4 to isolate the x.
	B is correct	The student correctly set the measurements of the angle to 180° and solved for x. $(3x + x + 7 + 35 = 4x = 138)$
	C is incorrect	The student most likely added the whole numbers (35 + 7 +3) to get to this answer choice.
	D is incorrect	The student likely miscalculated while isolating the x, resulting in an incorrect answer.

Item	KEY	Rationale
10	2 points	Student correctly identifies both of the points (1,100) and (2,200).
	1 point	Student correctly identifies one of the correct points, (1,100) or (2,100).
	0 points	Student does not select either correct points.

Texas Practice Test | Grade 7 | Rationales

Item	KEY	Rationale
11	A is correct	In order to find the area of the total figure, students must first find the area of each individual shape. Triangle - 60 in² Square - 49 in² Rectangle - 68 in² Semicircles - 7.07 in²(together)
	B is incorrect	The student likely did not recognize the square as a square, and found the area of a rectangle, using 7 inches and 12 inches.
	C is incorrect	The student likely only found the area of one of the semicircles instead of both.
	D is incorrect	The student likely made a calculation error when adding up all the areas of the shapes.

Item	KEY	Rationale
12	A is incorrect	Students may choose this answer if they make a calculation error.
	B is incorrect	Students may choose this answer if they struggle with making the comparison between the numbers by creating the wrong proportion.
	C is incorrect	Students may choose this answer if they struggle with making the comparison between the numbers by creating the wrong proportion.
	D is correct	This is the correct answer. Comparing inches to miles. $\dfrac{1}{86} = \dfrac{2.5}{x}$ $215 = x$ 215 miles

Texas Practice Test | Grade 7 | Rationales

Item	KEY	Rationale
13	A is incorrect	The student likely has a misconception about inequality signs, and while the rest of the inequality is true, the wrong sign was used.
	B is correct	To determine the inequality that can be used to find w, the student recognizes that Katelyn is being paid $25 a week, or $25w$. The 120 that she received for her birthday is added to the amount she's paid for chores, and she will need more than or equal to 875 in order to get the phone.
	C is incorrect	The student likely has a misconception about how to use variables and create an inequality from a word problem.
	D is incorrect	The student likely has a misconception about how to use variables and create an inequality from a word problem.

Item	KEY	Rationale
14	A is incorrect	The student likely has a misconception and did not flip the sign after dividing with a negative number.
	B is correct	To determine the solution set for the given inequality, students will first need to isolate the variable by subtracting 12 from both sides, leaving $-7a < 35$. Students will need to divide both sides by -7, which flips the sign and leaves $a > -5$.
	C is incorrect	The student likely has a misconception about dividing by negative numbers.
	D is incorrect	The student likely has a misconception about dividing by negative numbers.

Item	KEY	Rationale
15	157.5 cm³	To determine the volume of the rectangular prism, the student should use the formula $V = whl$ and plug in the correct values for each. $V = (7)(2.5)(9) = 157.5 cm³$.

Item	KEY	Rationale
16	A is correct	Students may choose this answer if they struggle with decimal operations and the concept of constant of proportionality.
	B is incorrect	Students may choose this answer if they struggle with decimal operations and the concept of constant of proportionality.
	C is incorrect	This is the correct answer. The constant rate between x and y is 1.75. 2 x 1.75 = 3.5 3 x 1.75 = 5.25 5 x 1.75 = 8.75 7 x 1.75 = 12.25
	D is incorrect	Students may choose this answer if they struggle with decimal operations and the concept of constant of proportionality.

Item	KEY	Rationale
17	A is incorrect	The student likely miscounted, forgetting the students that selected yellow, and found the incorrect percentage.
	B is correct	To determine the percentage of students that selected blue as their favorite color, students should add the total number of students that were surveyed (28) and divide the total number of students that selected blue (11) by the total. 11 ÷ 28 = 0.392 = 39%.
	C is incorrect	The student likely calculated the percentage of students that did not choose blue (17).
	D is incorrect	The student likely counted the number of total students that responded to the survey, and selected this answer choice as the correct answer.

Item	KEY	Rationale
18	A is incorrect	Students likely determined the percentage that an orange shape would be drawn.
	B is correct	To find a reasonable number of times a pink or orange shape will be drawn, students must find the number of times an orange shape would be picked (30) and the number of times a pink shape could be picked (20) and add them together.
	C is incorrect	Students likely determined the percentage that a pink shape would be drawn.
	D is incorrect	Instead of calculating the percentage that a shape would be drawn, students added up the number of pink and orange shapes present in the bag.

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Item	KEY	Rationale
19	A is incorrect	The student likely determined the amount of flour needed for 60 cookies would be three times the original amount.
	B is incorrect	The student likely determined the amount of flour needed for 10 cookies.
	C is incorrect	The student likely made a miscalculation and arrived at the wrong number of cups of flour.
	D is correct	To determine the amount of flour needed for 70 cookies, you would first need to determine that you would be making $3\frac{1}{2}$ times the number of cookies. $2\frac{1}{2}$ times three is $7\frac{1}{2}$ and half of $2\frac{1}{2}$ is $1\frac{1}{4}$. $7\frac{1}{2} + 1\frac{1}{4} = 8\frac{3}{4}$ cups.

Item	KEY	Rationale
20	A is correct	To determine the circumference of the circle, the student must first find the radius ($18 \div 2 = 9$). Then use the formula for finding the circumference of a circle $2\pi r$.
	B is incorrect	The student likely used the diameter within the formula for circumference instead of finding the radius, which is half the diameter.
	C is incorrect	The student likely made a miscalculation and arrived at the wrong measurement of the circumference.
	D is incorrect	The student likely made a miscalculation and arrived at the wrong measurement of the circumference.

Item	KEY	Rationale
21	A is incorrect	The student likely has a misconception of how to represent inequalities on a number line. The student likely solved the inequality for y correctly, but did not flip the sign when dividing by a negative.
	B is incorrect	The student likely has a misconception of how to represent inequalities on a number line.
	C is correct	In order to determine the solution to the inequality, the student must isolate the variable and find the solution of $y > -9$. The > says that the value -9 will not be included in the solution set, and that all numbers greater than -9 are.
	D is incorrect	The student likely has a misconception as a closed circle above the -9 states that the value is included. The student likely solved the inequality for y correctly, but did not flip the sign when dividing by a negative.

Item	KEY	Rationale
22	$\frac{4}{10}$ or $\frac{2}{5}$	To determine the probability of spinning a number less than 5, students must determine they would need to spin either a 1, 2, 3, or 4.

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Item	KEY	Rationale
23	A is incorrect	Students would need to calculate the median for both schools to determine if Smith Elementary was less than Central. However, the median for Central Elementary and the median for Smith Elementary are both 3.
	B is incorrect	The student would need to calculate the mean of both elementary schools; Central Elementary (3.125) and Smith Elementary(3.81). However, Smith Elementary is greater than Central Elementary, not less than.
	C is incorrect	Students would need to calculate the range for both schools to determine if Smith Elementary was less than Central. However, the range for Central Elementary and the median for Smith Elementary is both 5.
	D is correct	To determine if Smith Elementary has a greater mode of data than Central Elementary, students would correctly identify that Smith Elementary's mode (3) is greater than Central Elementary's mode (2).

Item	KEY	Rationale
24	A is correct	To determine the distance between Midland and Odessa in kilometers from miles, the student should have multiplied 21 by 1.6 kilometers.
	B is incorrect	The student likely has a misconception on how to convert measurements, and subtracted 21 miles by 2 to get to this answer choice.
	C is incorrect	The student likely has a misconception on how to convert measurements, and added 21 miles by 2 to get to this answer choice.
	D is incorrect	The student likely has a misconception on how to convert measurements, and divided 21 miles by 2 to get to this answer choice.

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Item	KEY	Rationale
25	40 cm²	To determine the area of the figure, you need to find the area of both shapes individually. To find the area of the trapezoid, use the formula: $\frac{a+b}{2}h = \frac{6+7}{2} \circ 4 = 6.5 \times 4 = 26cm²$ To find the area of the triangle, use the formula: $\frac{ab}{2} = \frac{4 \circ 7}{2} = 14cm²$ Then add the two areas together: 14 + 26 = 40cm²

Item	KEY	Rationale
26	A is incorrect	The student needs to focus on understanding how to determine the equation of a line from a graph.
	B is incorrect	The student needs to focus on understanding how to determine the equation of a line from a graph.
	C is correct	To determine the equation representing the relationship between x and y in the graph, the student could have identified the rate of change and the y-value when x = 0 of the graphed line and written the equation in the form $y = mx + b$.
	D is incorrect	The student needs to focus on understanding how to determine the equation of a line from a graph.

Texas Practice Test | Grade 7 | Rationales

Item	KEY	Rationale
27	A is incorrect	The student likely found the perimeter of the rectangular prism instead of finding the total surface area.
	B is incorrect	The student likely found the area of one rectangle and one square and added those, instead of adding all 4 rectangles and 2 squares.
	C is correct	To determine the total surface area of the rectangular prism, students must find the area of the squares and rectangles in the net and then add them together. Rectangles: 8.5 x 6 = 51 x 4 = 204 ft² Squares: 6 x 6 = 36 x 2 = 72ft² 204 + 72 = 276 ft²
	D is incorrect	The student likely found the correct areas of each rectangle and square but made an error in calculation.

Item	KEY	Rationale
28	A is incorrect	The student likely chose this answer choice as it's the percentage of students that chose mocha.
	B is correct	To determine the number of classmates that chose caramel over mocha, students will first need to determine the percentage of classmates that chose mocha (18%) and how many classmates that percentage represents (9 classmates). Students then would need to determine the number of classmates that chose caramel (15) and subtract 15–9=6.
	C is incorrect	The student likely chose this answer choice as it's the amount of students that chose mocha.
	D is incorrect	The student likely added up the number of classmates that chose caramel and mocha.

Item	KEY	Rationale
29	A is incorrect	The student incorrectly selected the line that represents the number of vocabulary words that will be learned.
	B is incorrect	The student incorrectly selected the line that represents the number of vocabulary words that will be learned.
	C is incorrect	The student incorrectly selected the line that represents the number of vocabulary words that will be learned.
	D is correct	The student correctly identified that in week 1, students will learn 20 words, week 2 - 40 words, week 3 - 60 words and week 4 - 80 words.

Item	KEY	Rationale
30	A is incorrect	The student likely has a misconception on how to match an inequality to a given situation.
	B is correct	To determine the correct situation, students need to recognize that Kyle has 80 dollars plus 22 times the amount of hours is greater than or equal to the price of the earbuds.
	C is incorrect	The student likely has a misconception on how to match an inequality to a given situation.
	D is incorrect	The student likely has a misconception on how to match an inequality to a given situation.

Texas Practice Test | Grade 7 | Rationales

Item	KEY	Rationale
31	A is incorrect	Students may choose this answer if they do not have a strong command of solving equacions.
	B is incorrect	Students may choose this answer if they do not have a strong command of solving equations.
	C is incorrect	Students may choose this answer if they do not have a strong command of solving equations.
	D is correct	This is the correct answer. $2(x-5) + 6 = \frac{1}{2}(6x - 18)$ $2x - 10 + 6 = 3x - 9$ $2x - 4 = 3x - 9$ $-x = -5$ $x = 5$

Item	KEY	Rationale
32	A is correct	This is the correct answer. A probability of 0.83 indicates an 83% chance which is likely.
	B is incorrect	A student may choose this answer because 0.83 is a good chance but not certain.
	C is incorrect	Students may choose this answer if they struggle with understanding probability.
	D is incorrect	Students may choose this answer if they struggle with understanding probability.

Texas Practice Test | Grade 7 | Rationales

Item	KEY	Rationale
33	A is correct	This is the correct answer. $1\frac{1}{2} \div 3$ $\frac{3}{2} \div 3$ $\frac{3}{2} \div \frac{1}{3} = \frac{1}{2}$ tablespoons per dozen
	B is incorrect	Students may choose this answer if they struggle with finding the unit rate.
	C is incorrect	Students may choose this answer if they struggle with finding the unit rate.
	D is correct	Students may choose this answer if they struggle with finding the unit rate.

Item	KEY	Rationale
34	2 points	To receive 2 points. The student has to correctly calculate the dimensions of the actual model. $\frac{inches}{feet} = \frac{1}{1.5} = \frac{1.5}{width}$ width = 2.25 feet $\frac{inches}{feet} = \frac{1}{1.5} = \frac{4.5}{length}$ length = 6.75 feet 2.25 x 6.75 = 15.1875 feet
	1 point	To receive 1 point. The student makes a minor calculation error in the conversion but calculates the area using the correct formula for the area but using the wrong dimension.
	0 points	Students will receive 0 points if they leave the response blank, or do not demonstrate understanding.

Texas Practice Test | Grade 7 | Rationales

Item	KEY	Rationale
35	A is incorrect	The student likely made a miscalculation and arrived at the wrong measurement of the circumference.
	B is correct	To determine the circumference of the circle, the student must use the formula for finding the circumference of a circle 2 π r.
	C is incorrect	The student likely made a miscalculation and arrived at the wrong measurement of the circumference.
	D is incorrect	The student likely used the diameter within the formula for circumference instead of finding the radius, which is half the diameter.

Item	KEY	Rationale
36	A is incorrect	The student just represents the possibilities of landing on a "heads" with all possible number combinations.
	B is incorrect	The student just represents the possibilities of landing on a "tails" with all possible number combinations.
	C is correct	Students need to show that there is an opportunity for the coin to land on either heads or tails, and then one of the 8 numbers for 16 total combinations.
	D is incorrect	The student likely does not have a good understanding of sample spaces.

Texas Practice Test | Grade 7 | Rationales

Item	KEY	Rationale
37	A is incorrect	The student likely finds the probability of getting a blue keychain instead of a red keychain.
	B is correct	To determine the probability of the first classmate getting a red key chain, you have to find the total of all keychains (20). The first student has $\frac{4}{20}$ chance of getting a red keychain, or $\frac{1}{5}$.
	C is incorrect	The student likely finds the probability of getting a striped keychain instead of a red keychain.
	D is incorrect	The student likely finds the probability of getting a silver keychain instead of a red keychain.

Item	KEY	Rationale
38	A is incorrect	Students may choose this answer if they do not have a strong command of operations with rational numbers.
	B is correct	This is the correct answer. -2.5 - 2 = - 4.5 $-4.5 = - 4\frac{1}{2}$
	C is incorrect	Students may choose this answer if they do not have a strong command of operations with rational numbers.
	D is incorrect	Students may choose this answer if they do not have a strong command of operations with rational numbers.

Texas Practice Test | Grade 7 | Rationales

Item	KEY	Rationale
39	A is incorrect	Chocolate chip was the most frequently sold type of cookie, not least frequently.
	B is incorrect	In order for this statement to be true, the same amount of sugar and ginger snap cookies needed to be sold.
	C is correct	Peanut butter sold 16 times, which is 4 times as many as ginger snaps sold at 4 times.
	D is incorrect	In order for a cookie to be most likely sold, it would need to be sold the most.

Item	KEY	Rationale
40	A is correct	To determine the range of both teams, the student should have subtracted the lowest points from the greatest. For Team 1, the range is 54 points. For Team 2, the range is 49 points.
	B is incorrect	The student needs to focus on the details of answers that describe the data presented in the box plots.
	C is incorrect	The student needs to focus on the details of answers that describe the data presented in the box plots.
	D is incorrect	The student needs to focus on the details of answers that describe the data presented in the box plots.

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