STAAR™ Modified

State of Texas Assessments of Academic Readiness Modified

MATHEMATICS
Grade 8

Modified

2011 Released Test Questions

These released test questions represent how the modification process can be applied to the 2011 STAAR Released Test Questions. Not every STAAR released test question has been modified. These test questions are samples only and do not represent all the TEKS student expectations from each reporting category eligible for assessment. Nor do they represent all the ways in which a test question can be modified.

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1 Mr. Valdez plans to open a savings account. The annual interest rates offered by 3 banks are shown below.

$$2\frac{1}{2}\%,\ \ 2\frac{4}{5}\%,\ \ 2\frac{2}{3}\%$$

Which list shows these interest rates in order from greatest to least?

A $2\frac{1}{2}\%,\ \ 2\frac{2}{3}\%,\ \ 2\frac{4}{5}\%$

B $2\frac{4}{5}\%,\ \ 2\frac{1}{2}\%,\ \ 2\frac{2}{3}\%$

C $2\frac{4}{5}\%,\ \ 2\frac{2}{3}\%,\ \ 2\frac{1}{2}\%$

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2 Shanika is making cookies.

- Her recipe calls for 1 cup of sugar for $1\frac{1}{2}$ dozen cookies.
- Shanika wants to make 6 dozen cookies.

How many cups of sugar will she need?

A 3 cups

B 7 cups

C 4 cups

3 Gabriel can type 90 words in 60 seconds. Which equation can be used to find w, the number of words Gabriel can type at this rate in 120 seconds?

A $w = \frac{90}{60}(120)$

B $w = \frac{60}{90}(120)$

C $w = \frac{90(60)}{120}$

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4 Look at the table below. It shows the weights and prices of three different brands of coffee.

Coffee	Price		
	4 ounces	8 ounces	12 ounces
Brand X	$2.00	$4.00	$6.00
Brand Y	$2.00	$3.80	$5.40
Brand Z	$2.00	$3.00	$5.00

Which brand of coffee offers a proportional relationship between its weight and its price?

A Brand X

B Brand Y

C Brand Z

5 A store sells bottled water.

- Last week a bottle cost $1.25.
- This week a bottle is on sale for $1.00.

What is the percent decrease from $1.25 to $1.00?

A 11%

B 13%

C 20%

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6 Which equation best represents the data in the table below?

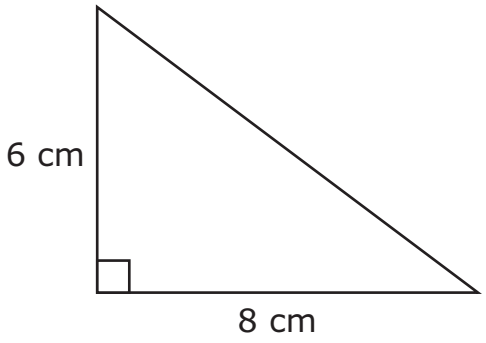
x	0	3	6
y	1	7	13

A $y = 2x + 1$

B $y = 3x + 1$

C $y = x - 1$

7 The lengths of the legs of the right triangle shown below are given in centimeters (cm). The length of the hypotenuse is missing.



Pythagorean theorem
$a^2 + b^2 = c^2$

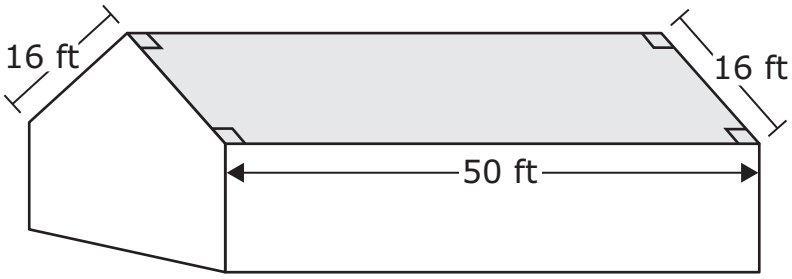
The triangle is dilated by a scale factor of 2 to create a new triangle. What is the length of the hypotenuse of the new triangle?

A 28 cm

B 10 cm

C 20 cm

8 Mr. Barber wants to have the entire roof of his house replaced. His roof is made with 2 panels shaped like rectangles. Their dimensions are shown below in feet (ft).



$A = bh$
Area of a rectangle = base • height

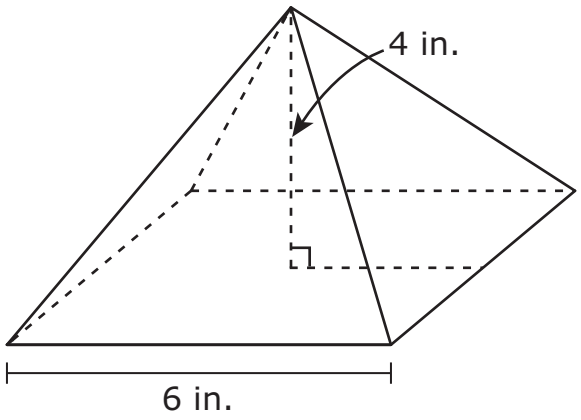
The cost of replacing the roof is $3.00 per square foot. What will be the cost for Mr. Barber to have the roof replaced?

A $1,600

B $800

C $4,800

9 The paperweight shown below is in the shape of a square pyramid.



$$V = \frac{1}{3}Bh$$

Volume of a square pyramid $= \frac{1}{3} \cdot \text{side} \cdot \text{side} \cdot \text{height}$

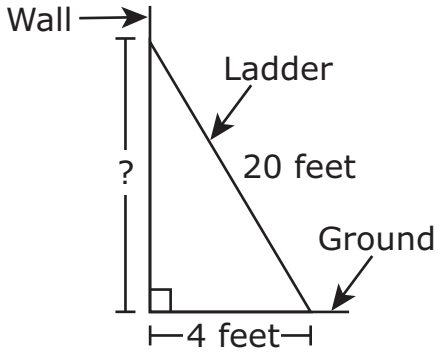
What is the volume of this paperweight?

A 144 cubic inches

B 24 cubic inches

C 48 cubic inches

10 A 20-foot ladder is leaning against a wall, as shown in the diagram below. The bottom of the ladder is 4 feet (ft) from the wall.



Pythagorean theorem
$a^2 + b^2 = c^2$

How many feet above the ground does the ladder touch the wall?

A 16 ft

B $\sqrt{384}$ ft

C $\sqrt{416}$ ft

11 The dimensions of a rectangle are dilated using a scale factor of $\frac{2}{3}$. What is the relationship between the new area and the original area?

A The area of the new rectangle is $\frac{8}{3}$ the original area.

B The area of the new rectangle is $\frac{4}{9}$ the original area.

C The area of the new rectangle is $\frac{8}{27}$ the original area.

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12 Rufus has a box with the following cards.

- 3 yellow cards
- 2 red cards

He draws a card at random, replaces it, and draws a second card. What is the probability that both cards are red?

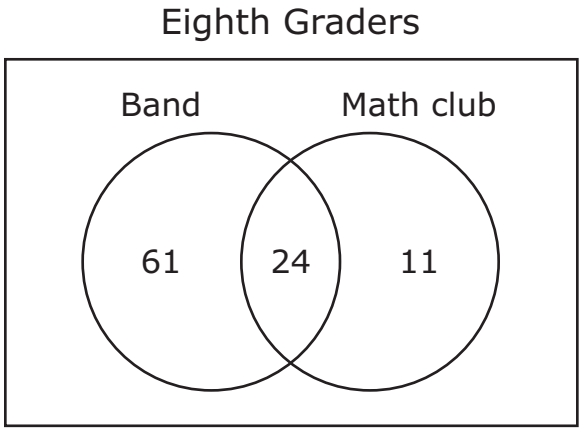
A $\frac{1}{10}$

B $\frac{4}{25}$

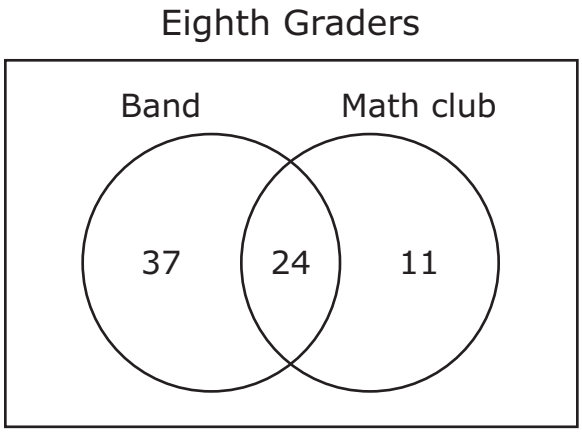
C $\frac{2}{5}$

13 At a middle school, 61 eighth graders are in the band, and 35 eighth graders are in the math club. There are 24 eighth graders who are in both groups. Which Venn diagram best represents this information?

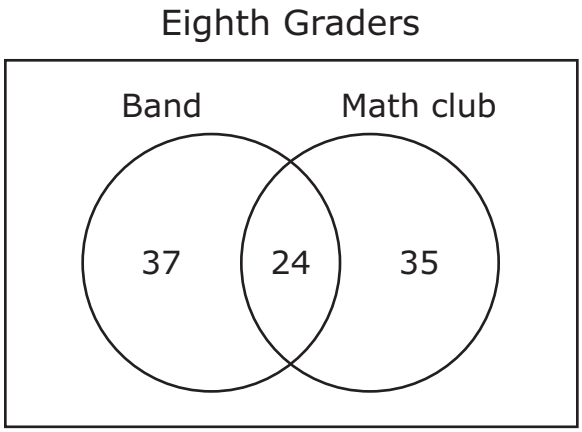
A



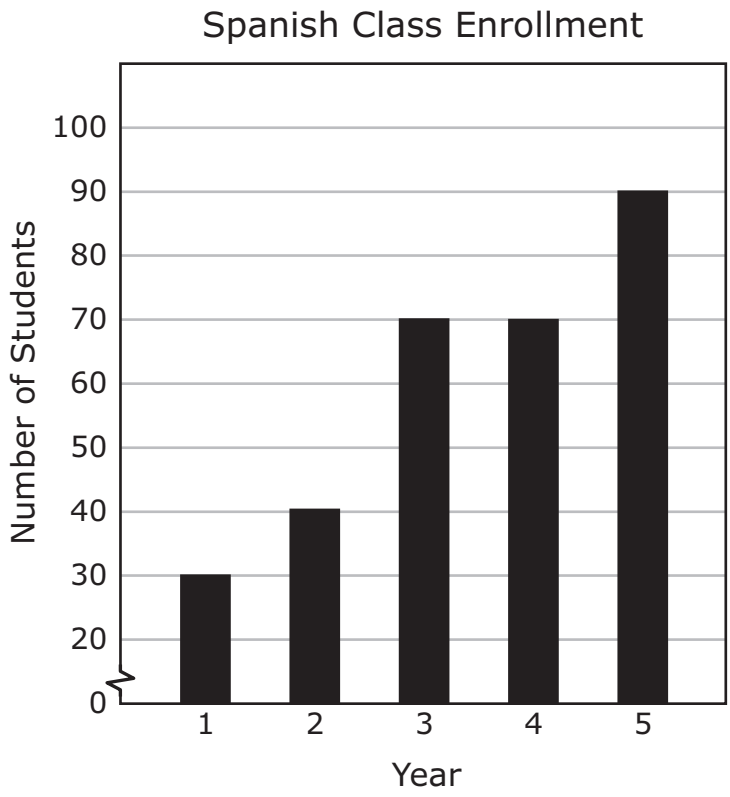
B



C



14 Look at the graph below. It shows the number of students at Collins Middle School enrolled in Spanish classes over a 5-year period.



Based on the graph, which statement is true?

A The number of students enrolled in Spanish in Year 5 is 3 times the number enrolled in Year 1.

B The number of students enrolled in Spanish increased the most from Year 4 to Year 5.

C The number of students enrolled in Spanish increased by about 10% each year.

Item Number	Reporting Category	Readiness or Supporting	Content Student Expectation	Process Student Expectation	Correct Answer
1	1	Readiness	8.1(A)		C
2	1	Readiness	8.2(B)	8.14(A)	C
3	1	Supporting	8.2(D)	8.15(A)	A
4	2	Supporting	8.3(A)	8.14(A)	A
5	2	Readiness	8.3(B)	8.14(A)	C
6	2	Readiness	8.4(A)		A
7	3	Readiness	8.6(A)	8.14(C)	C
8	3	Supporting	8.7(B)	8.14(B)	C
9	4	Readiness	8.8(C)	8.14(B)	C
10	4	Readiness	8.9(A)	8.14(B)	B
11	4	Supporting	8.10(A)	8.15(A)	B
12	5	Readiness	8.11(A)		B
13	5	Supporting	8.12(C)	8.15(A)	B
14	5	Readiness	8.13(B)	8.15(A)	A

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