2021 Mathletes Challenge Sudden Death 1

You will have 5 minutes to complete this 12 question test. Good luck!

* Required

1. What is your team name? Example: Terry Team 2 *

Sudden Death 1

2. Question 1 *   1 point

A basket of fruit contains 6 apples, 5 oranges, 3 bananas, and 2 limes.

Which of the following statements about the fruits in the basket are true?
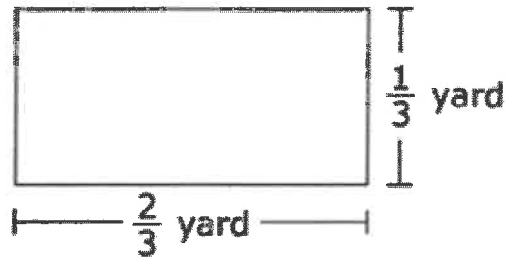
Select the **two** correct statements.

Check all that apply.

- ☐ The ratio of oranges to limes is 5 : 2
- ☐ The ratio of apples to bananas is 3 : 6
- ☐ The ratio of bananas to the total number of fruits in the basket is 3 : 16
- ☐ The ratio of limes to apples is 1 : 4 because there are 4 more apples than limes.
- ☐ The ratio of bananas to limes is 2 : 3 because 2/3 of the fruits in the basket are bananas.

3.   Question 2 *   1 point

A kitchen cabinet is in the shape of a rectangular prism. The height of the cabinet is 2 yards. The dimensions of the base of the cabinet are shown in this diagram.

What is the **volume**, in cubic yards, of the kitchen cabinet?

Mark only one oval.

◯ 2/9

◯ 4/9

◯ 2

◯ 3

4.   Question 3 *   1 point

The ratio of mass to volume for a type of metal is 27 grams to 10 cubic centimeters. A sample of the metal has a mass of 81 grams.

What is the volume, in cubic centimeters, of the sample of metal?

Mark only one oval.

◯ 30

◯ 64

◯ 118

◯ 810

5.   Question 4 *   1 point

A parent needs $\frac{1}{4}$ cup of lemonade mix to make one pitcher of lemonade. She has $\frac{1}{3}$ cup of lemonade mix.

Which of the following expressions represents the number of pitchers of lemonade that the parent can make with $\frac{1}{3}$ cup of lemonade mix?

Mark only one oval.

◯ 1/3 x 1/4

◯ 1/3 ÷ 1/4

◯ 1/4 + 1/3

◯ 1/4 ÷ 1/3

6.   Question 5 - Bill's flower garden has an area of 28 square feet. The rectangular   1 point
     garden is 7 feet long. What is the width of the garden? *

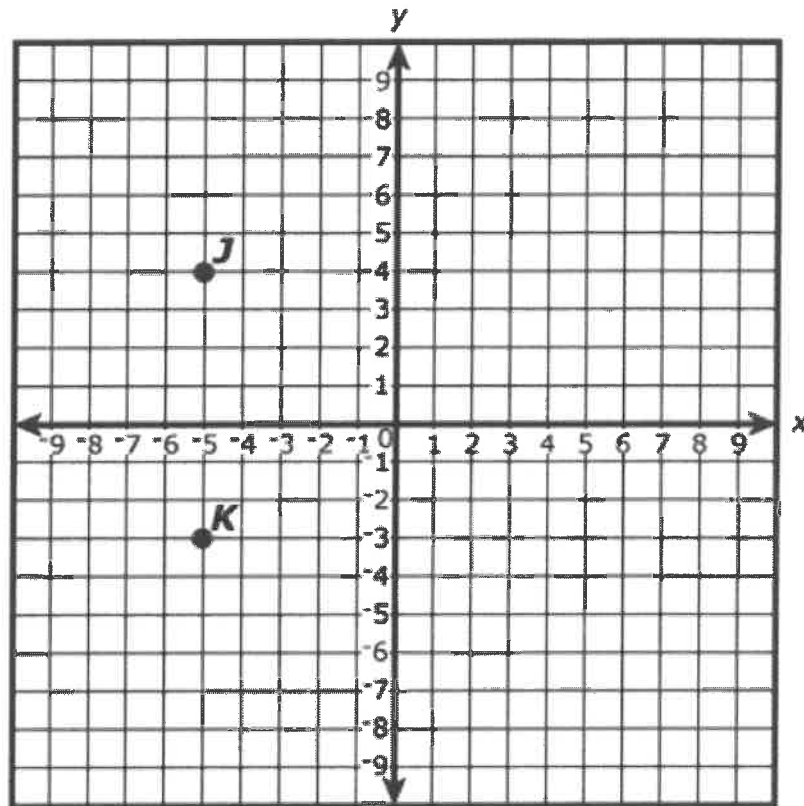*Mark only one oval.*

◯ 4 feet

◯ 8 feet

◯ 21 feet

◯ 35 feet

7. Question 6 *   1 point

Wendy plotted points J and K on a coordinate plane, as shown.

Wendy will plot point L so that when connected, points J, K, and L will form a right triangle. Which of the following could be the location of point L?

Mark only one oval.

⬭ (-7,1)

⬭ (-1,7)

⬭ (2,4)

⬭ (4,2)

8. Question 7 *　　　　　　　　　　　　　　　　　　　1 point

Ling earns $12 each time he shovels his neighbor's driveway. He earned a total of $108 shoveling the driveway last winter. Which of the following equations could be used to find w, the number of times Ling shoveled his neighbor's driveway last winter?

Mark only one oval.

◯ 108w = 12

◯ 12w = 108

◯ w + 12 = 108

◯ 108 + w = 12

9. Question 8 *　　　　　　　　　　　　　　　　　　　1 point

A school will receive between $600 and $900 to spend on art supplies.

The money will be given to three school clubs.

Each school club will get the same amount of money.

Which of the following amounts of money could each school club get?

Select all the correct answers.

Check all that apply.

☐ $145

☐ $225

☐ $295

☐ $325

☐ $355

10.   Question 9 *   1 point

Mr. Franklin wants to buy an eraser for every fourth-grade student.

There are 12 erasers in each box.

There are 7 fourth-grade classes with 24 students in each class.

How many boxes of erasers does Mr. Franklin need to buy?

Mark only one oval.

- ⬭ 2
- ⬭ 14
- ⬭ 43
- ⬭ 84

11.   Question 10 - Which student completed the same number of jumps each   1 point
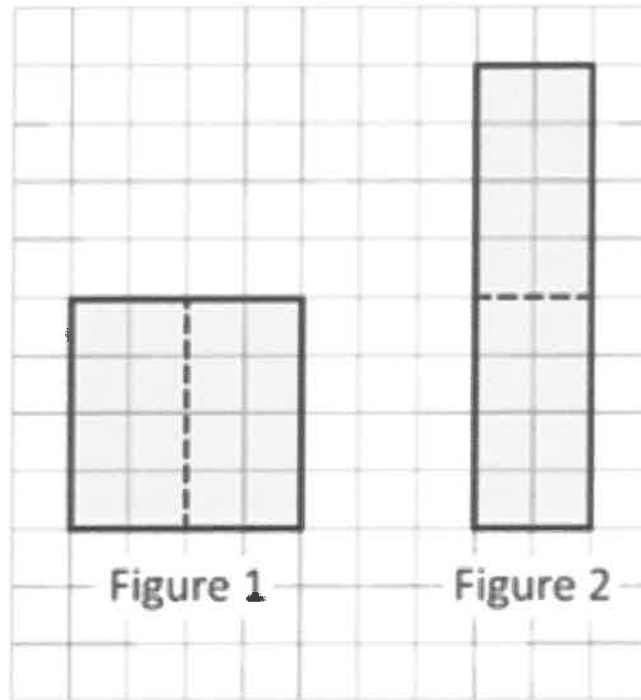minute? *

Four students jumped rope for 3 minutes.

The table shows the total number of jumps each student completed after 1 minute, 2 minutes, and 3 minutes.

	JUMPING ROPE		
Student	Total Number of Jumps Completed after 1 Minute	Total Number of Jumps Completed after 2 Minutes	Total Number of Jumps Completed after 3 Minutes
Chris	50	100	125
Erin	40	80	120
Liam	30	60	120
Veronica	60	90	105

Mark only one oval.

◯ Chris

◯ Erin

◯ Liam

◯ Veronica

12. Question 11 - Which of the following statements about the areas and perimeters 1 point
    of Figure 1 and Figure 2 is true? *

Emily cuts Figure 1 along the dotted line so that she ends up
with two rectangles.

She uses the two rectangles to make Figure 2.

Mark only one oval.

⬭ The areas are different, and the perimeters are different.

⬭ The areas are different, but the perimeters are the same.

⬭ The areas are the same, but the perimeters are different.

⬭ The areas are the same, and the perimeters are the same.

13.   Question 12 *

<div align="right">1 point</div>

The first number in the pattern is 2.

After 2, each number in the pattern is determined by following the same rule.

$$2, 6, 18, 54, \ldots$$

Which of the following rules can be used to determine the numbers shown after the first number?

Mark only one oval.

◯ Add 4

◯ Add 12

◯ Multiply by 3

◯ Multiply by 9

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ANSWER KEY

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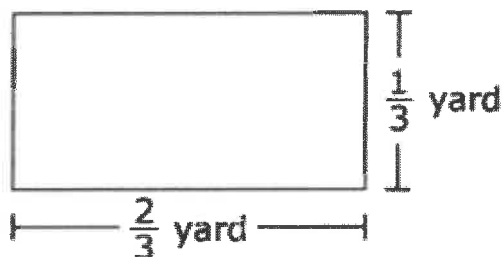Select the **two** correct statements.

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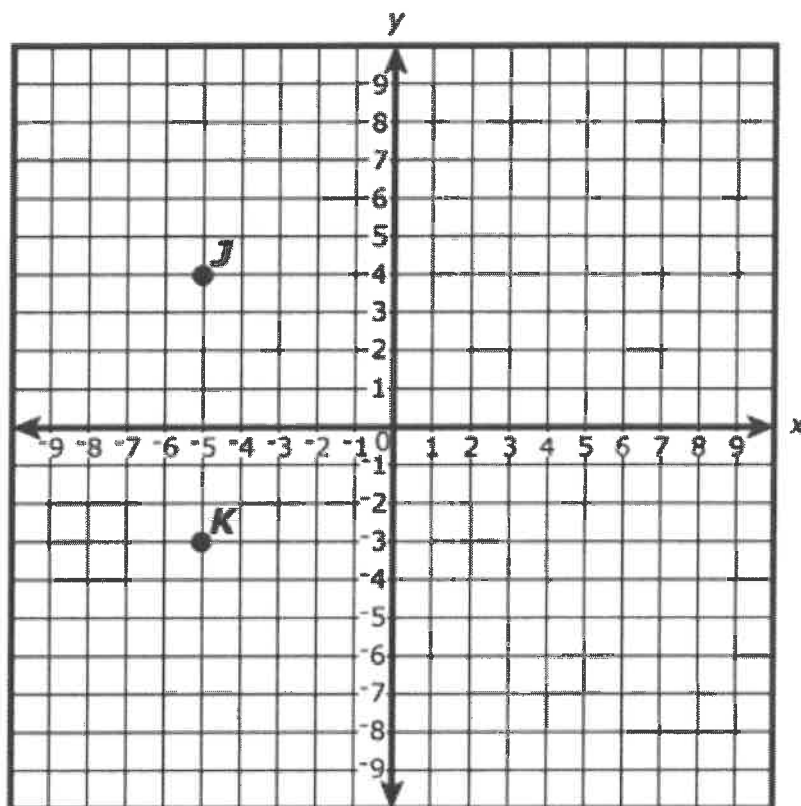▨ 4 feet

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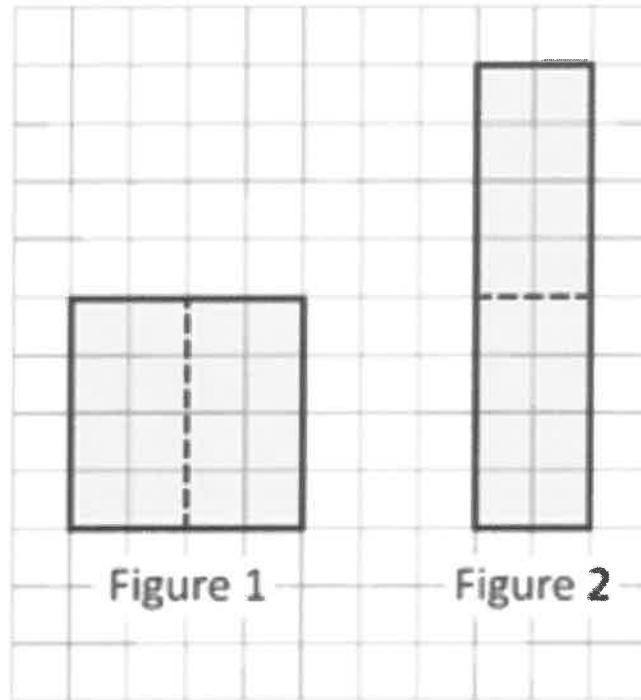   minute? *

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