

2021 Mathletes Challenge Round 2 Test

You will have 20 minutes to complete this 20 question test. Good luck!

* Required

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

Round 2 Test

2. Question 1 *

1 point

Fred bought a shirt and a wallet for a total of \$34.26 before tax. The price of the wallet was \$15 less than the price of the shirt. What was the price of the shirt?

Mark only one oval.

☐ \$19.25

☐ \$19.83

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3. Question 2 *

1 point

Regina has 3 bags of marbles. There are 25 marbles in each bag. She wants to put an equal number of marbles into 5 bags. Which expression would show how many marbles can go in each bag?

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☐ $3 \div 25 \times 5$

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4. Question 3 *

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There are 4 trucks for every 5 cars in a parking lot. How many trucks and cars could be in the parking lot?

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- ☐ 64 trucks and 80 cars
- ☐ 72 trucks and 73 cars
- ☐ 84 trucks and 100 cars
- ☐ 96 trucks and 110 cars

5. Question 4 *

1 point

Jamal scored 62, 75, 76, and 90 on four tests. What does he need to score on the fifth test in order to have a mean of exactly 80?

Mark only one oval.

- ☐ 80
- ☐ 100
- ☐ 93
- ☐ 97

6. Question 5 - Seventy-five 5th grade students chose to watch a movie on the last day of school. This is 25% of the 5th grade class. How many total students are in the 5th grade? *

1 point

Mark only one oval.

- ☐ 100
- ☐ 200
- ☐ 300
- ☐ 400

7. Question 6 - A restaurant orders corn tortillas and flour tortillas. The ratio of the number of corn tortillas to the number of flour tortillas is 2 : 3. What is the ratio of the number of flour tortillas to the total number of tortillas? * 1 point

Mark only one oval.

- ☐ 3 : 8
- ☐ 3 : 5
- ☐ 2 : 8
- ☐ 2 : 5

8. Question 7 * 1 point

A set of stickers contains 4 hearts for every 6 stars. Which choice contains an equivalent ratio of hearts to stars?

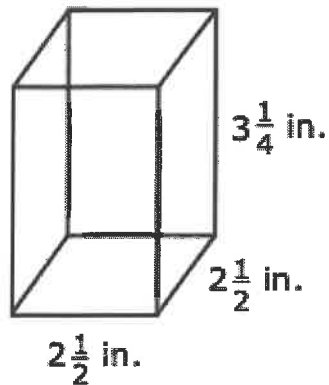
Mark only one oval.

- ☐ 6 hearts to 9 stars
- ☐ 2 hearts to 4 stars
- ☐ 1 heart to 3 stars
- ☐ 8 hearts to 10 stars

9. Question 8 *

1 point

A right rectangular prism is shown.



What is the volume of the prism?

Mark only one oval.

$$8\frac{1}{4} \text{ in.}^3$$

☐ A

$$13\frac{1}{4} \text{ in.}^3$$

☐ B

$$16\frac{1}{4} \text{ in.}^3$$

☐ C

$$20\frac{5}{16} \text{ in.}^3$$

☐ D

10. Question 9 *

1 point

A motorcycle can go 50 miles using one gallon of gas. **About** how many gallons of gas will be used to go 150 kilometers?

(Note: 1 mile is approximately 1.6 kilometers.)

Mark only one oval.

☐ 5 gallons

☐ 3 gallons

☐ 2 gallons

☐ 1 gallon

11. Question 10 *

1 point

This table shows the relationship between x and y .

x	y
3	163.5
6	327
11	599.5

Which equation models this relationship?

Mark only one oval.

☐ $y = 53x$

☐ $y = 53.5x$

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12. Question 11 *

1 point

Kevin is paid \$8.80 per hour. He worked 7 hours. He gave his mother $\frac{1}{4}$ of his earnings. How much did Kevin have left?

(Note: Express the answer as dollars.cents.)

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Four friends each flipped a coin different numbers of times.

- Alice got heads 75% of the time.
- Mary got heads 8 out of 10 times.
- Sarah got heads 17 out of 20 times.
- Ellen got heads $\frac{3}{5}$ of the time.

Who had the greatest percentage of heads?

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- ☐ Alice
- ☐ Mary
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- ☐ Ellen

14. Question 13 *

1 point

Paul has a spinner with 4 colors: green, yellow, blue, and orange. He spins the spinner 60 times and records each color it stops on. The results are shown in this table.

Color	green	yellow	blue	orange
Frequency	12	19	14	15

Paul will spin the spinner an additional 450 times. How many times should he expect the spinner to stop on blue?

Mark only one oval.

☐ 140☐ 124☐ 113☐ 105

15. Question 14 *

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Jamal, Gary, Charlie, and Brian are going to stand in a line, one behind the other. In how many different ways can they stand in the line?

Mark only one oval.

☐ 24☐ 16☐ 10☐ 4

16. Question 15 *

1 point

The test scores for the students in Mr. Miller's math class are shown here.

52, 61, 69, 76, 82, 84, 85, 90, 94

What is the range of the test scores?

Mark only one oval.

☐ 82.0

☐ 77.0

☐ 42.0

☐ 22.5

17. Question 16 *

1 point

The probability that a person in a certain town has brown eyes is 2 out of 5. A survey of 450 people from that same town was taken. How many people would be expected to have brown eyes?

Mark only one oval.

☐ 45

☐ 90

☐ 180

☐ 225

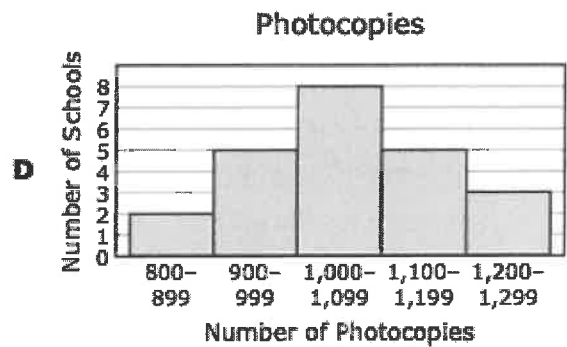
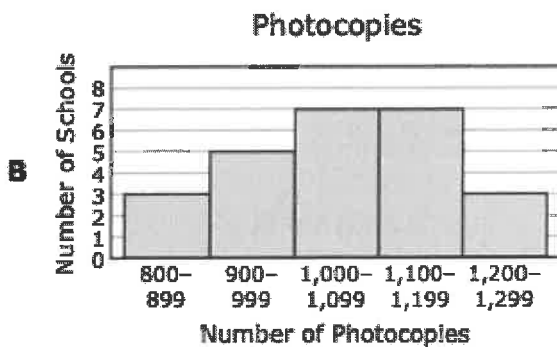
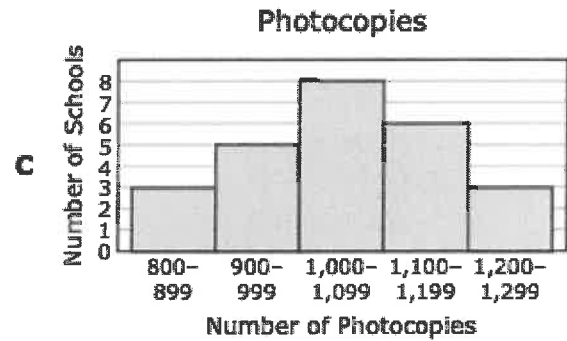
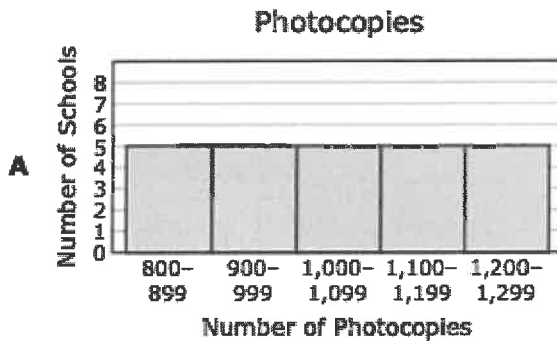
18. Question 17 *

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The table shows the number of photocopies made during one day at each of the 25 schools in a school district.

Photocopies				
805	805	872	910	919
923	950	989	1,004	1,010
1,020	1,051	1,056	1,085	1,094
1,098	1,108	1,128	1,133	1,150
1,150	1,187	1,209	1,220	1,298

Which histogram displays all the data in the table correctly?



Mark only one oval.

☐ A

☐ B

☐ C

☐ D

19. Question 18 *

1 point

The tables show the relationships between x and y for two data sets.

Data Set I		Data Set II	
x	y	x	y
1	5.5	1	5
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4	22.0	4	20
5	27.5	5	25

Which statements describe the relationships between x and y in Data Set I and Data Set II?

- A** Both data sets show additive relationships.
In Data Set I, y is 5.5 more than x , and in Data Set II, y is 5 more than x .
- B** Data Set I shows a multiplicative relationship in which y is 5.5 times x .
Data Set II shows an additive relationship in which y is 20 more than x .
- C** Both data sets show multiplicative relationships.
In Data Set I, y is 5.5 times x , and in Data Set II, y is 5 times x .
- D** Data Set I shows an additive relationship in which y is 4.5 more than x .
Data Set II shows a multiplicative relationship in which y is 5 times x .

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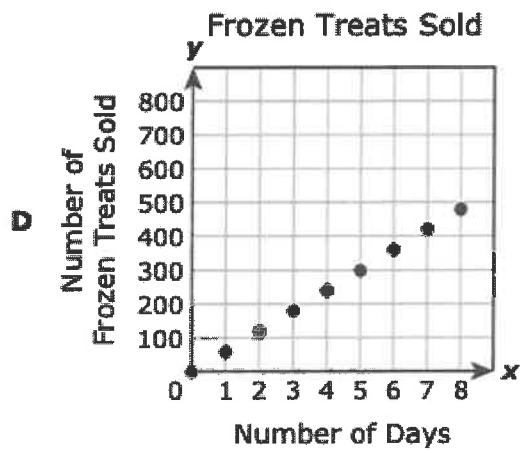
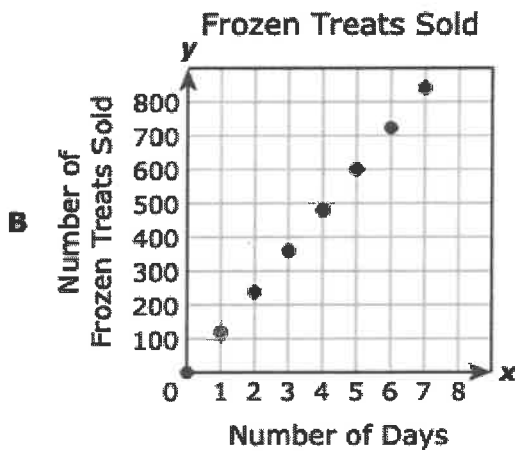
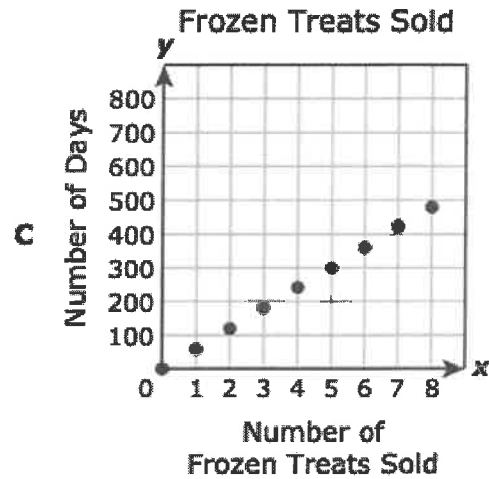
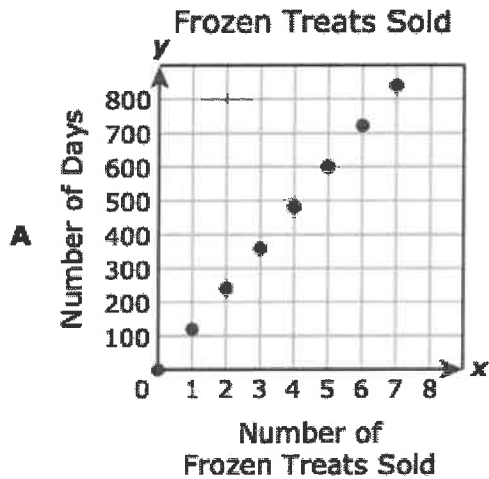
- ☐ A
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20. Question 19 *

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The owner of a food cart sells an average of 120 frozen treats per day during the summer.

Which graph best shows this relationship between the number of days and the number of frozen treats sold?



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21. Question 20 *

1 point

The area of a rectangle is 45.5 square inches. The base of the rectangle is 7 inches.

What is the height of the rectangle in inches?

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☐ 318.5 inches

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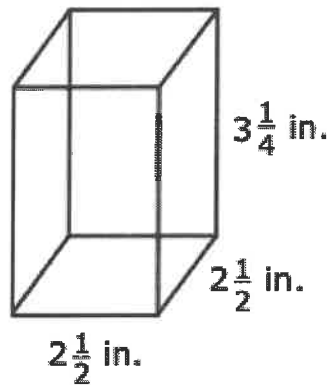
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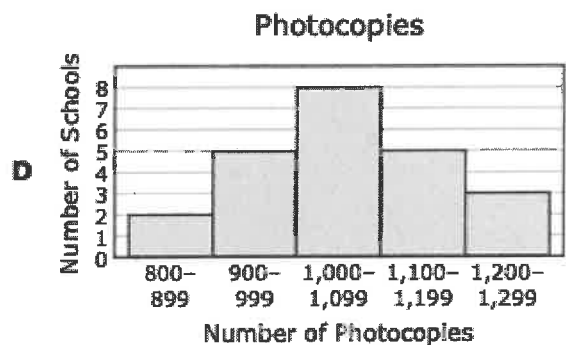
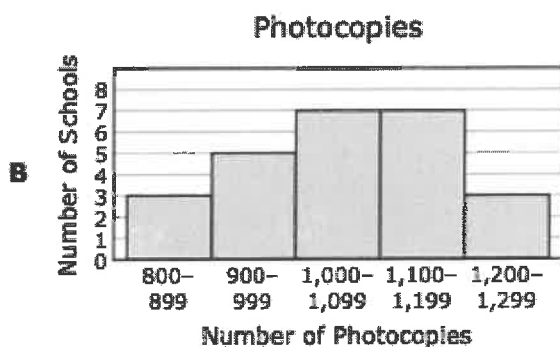
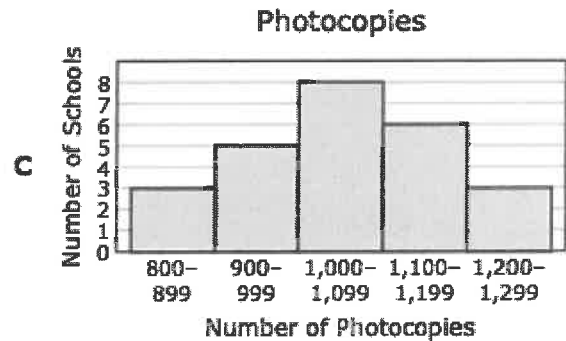
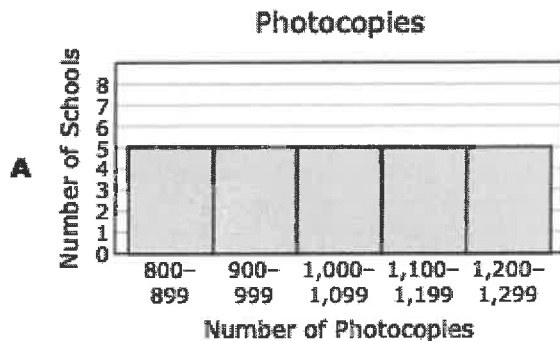
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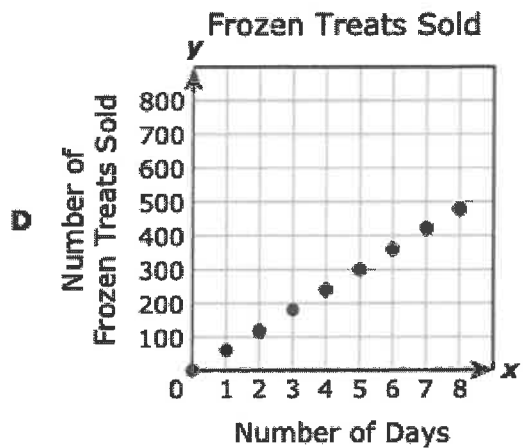
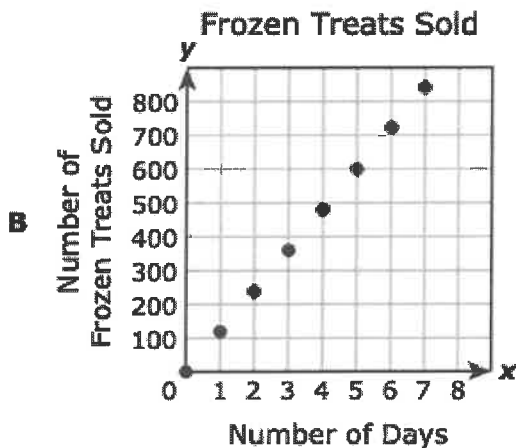
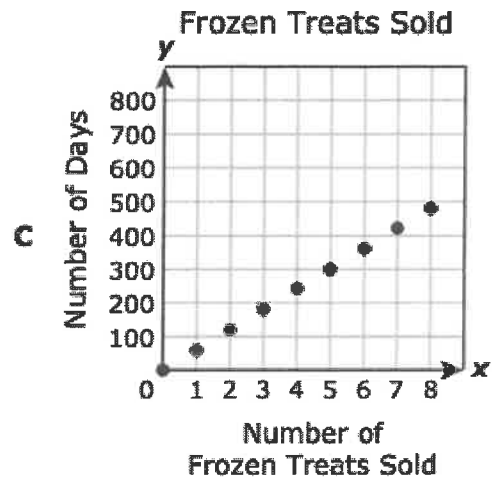
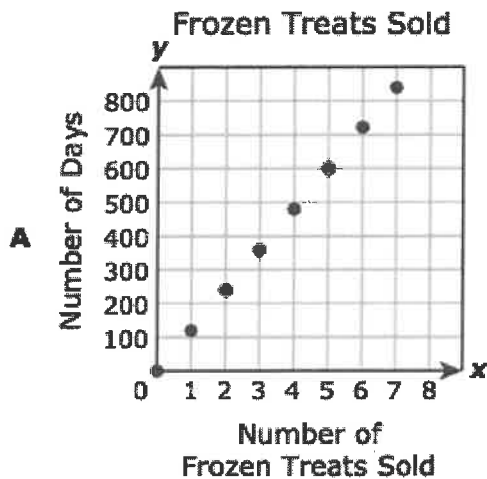
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