

**Team Name**\_\_\_\_\_

## **MATHLETES CHALLENGE 2016**

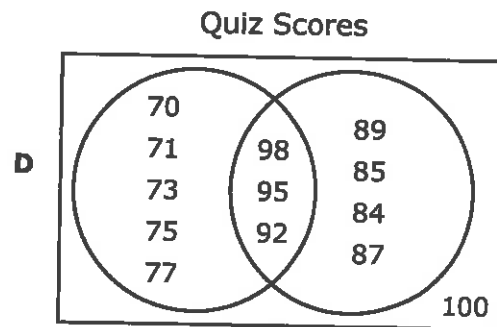
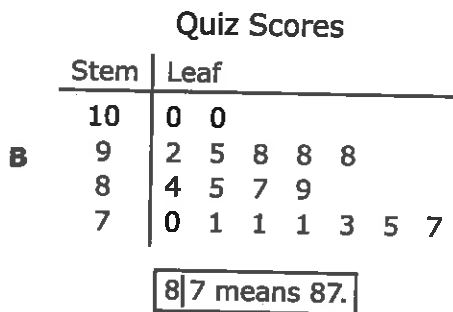
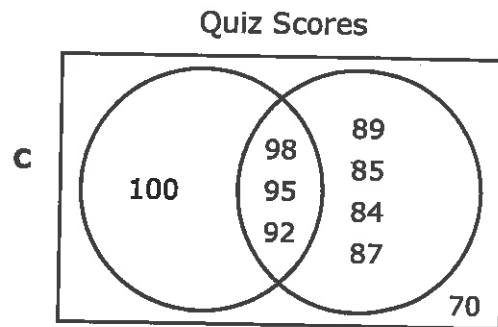
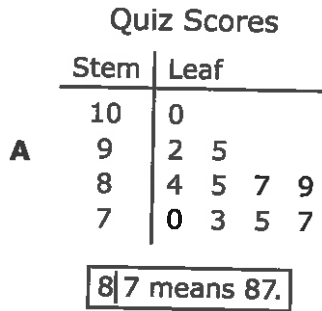
### **SUDDEN DEATH**

#### **TEST 1**

- 1 The quiz grades of the students in Mr. Flannigan's math class are listed below.

70, 71, 71, 71, 73, 75, 77, 84, 85, 87, 89, 92, 95, 98, 98, 98, 100, 100

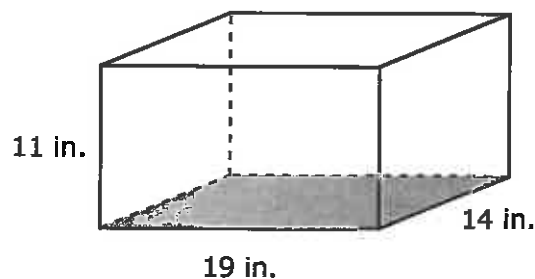
Which of the following best represents this information?



- 2 Mrs. Rodríguez will make name tags for each of the 45 choir members and 30 orchestra members. The materials for each name tag cost \$0.44. What is the total cost of the materials Mrs. Rodríguez will use to make these name tags?

**F** \$33.00  
**G** \$75.00  
**H** \$58.20  
**J** \$49.80

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- 3 A clear file box shaped like a rectangular prism is modeled below. The shaded part represents one base of the box.



A formula for finding the volume of a rectangular prism is  $V = Bh$ . Which equation can be used to find  $B$ , the area of the shaded base of the box in square inches?

- A**  $B = \frac{1}{2}(19)(14)$   
**B**  $B = 19 + 14$   
**C**  $B = (19)(14)$   
**D**  $B = 2(19) + 2(14)$

- 4 Matt has answered  $\frac{20}{25}$  of the questions on a test. What percentage of the test questions has Matt answered?

F 20%

G 45%

H 95%

J 80%

- 
- 5 The list below shows the number of weeks different songs stayed at the top of a music-ranking chart.

Music Ranking

Number of Weeks
5
10
9
9
2
5
5
3

What is the difference between the mode and the mean of these data?

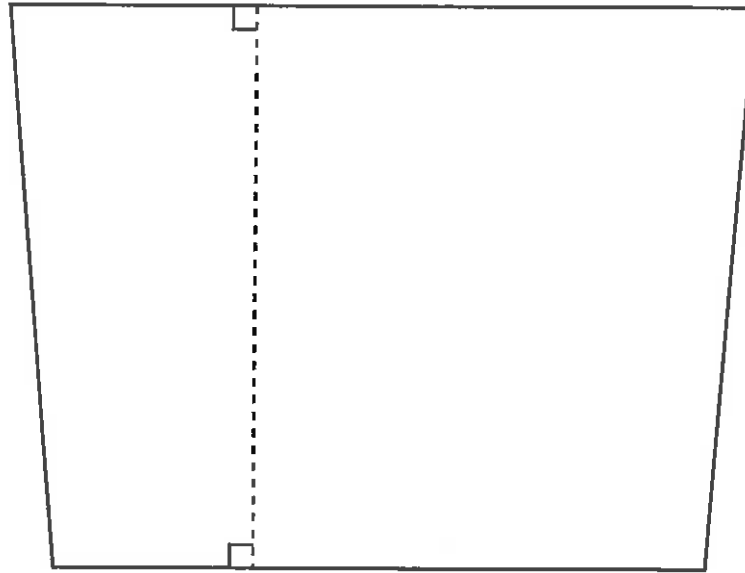
A 1

B 3

C 6

D 5

- 6 Use the ruler provided to measure the dimensions of the figure below to the nearest half inch.



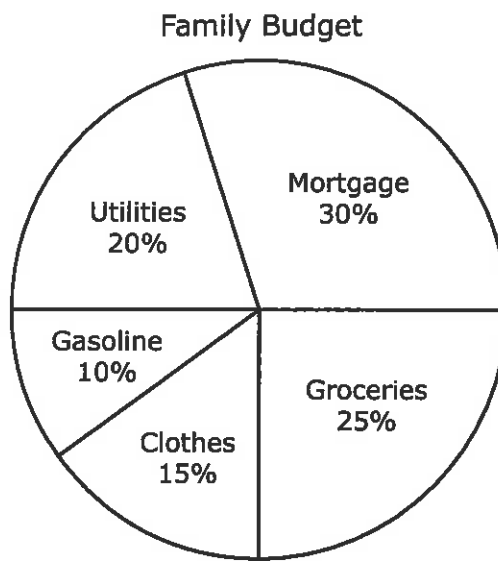
Which of the following is closest to the area of this figure in square inches?

- F 21 in.<sup>2</sup>
- G 22.50 in.<sup>2</sup>
- H 11.25 in.<sup>2</sup>
- J 42 in.<sup>2</sup>

- 
- 7 Abe is buying taco shells for a party. There will be 13 adults and 17 children attending the party. He plans to make 3 tacos for each adult and 1 taco for each child. There are 8 taco shells in each package. What is the least number of packages of taco shells Abe will need to buy in order to have enough tacos for the people attending the party?

- A 7, because  $(13 \times 3 + 17) \div 8 = 7$
- B 28, because  $(13 \times 17 + 3) \div 8 = 28$
- C 80, because  $(13 + 17) \times 8 \div 3 = 80$
- D 8, because  $(13 + 17 \times 3) \div 8 = 8$

- 8** The circle graph below shows the percentages of a family budget used for different monthly expenses.



Which statement is supported by the data in the graph?

- F** The amount of money budgeted for utilities and gasoline combined is less than the amount budgeted for the mortgage.
- G** The amount of money budgeted for the mortgage is half the amount budgeted for clothes.
- H** The amount of money budgeted for groceries and clothes combined is twice the amount budgeted for utilities.
- J** The amount of money budgeted for gasoline and clothes combined is greater than the amount budgeted for groceries.

- 9 Which table contains the first five terms of the arithmetic sequence represented by the expression  $5n + 6$ , where  $n$  represents the position of a term in the sequence?

**A**

Position	1	2	3	4	5
Value of Term	7	8	9	10	11

**C**

Position	1	2	3	4	5
Value of Term	11	12	13	14	15

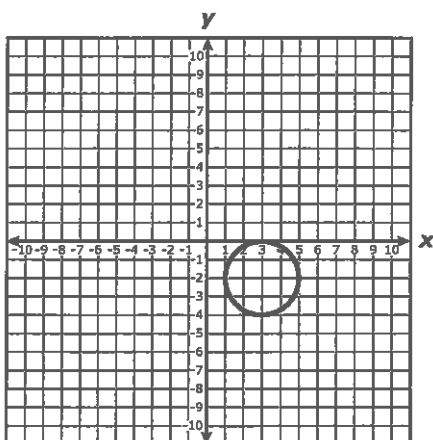
**B**

Position	1	2	3	4	5
Value of Term	5	10	15	20	25

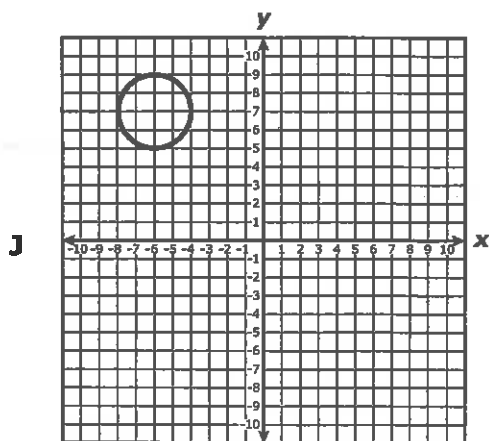
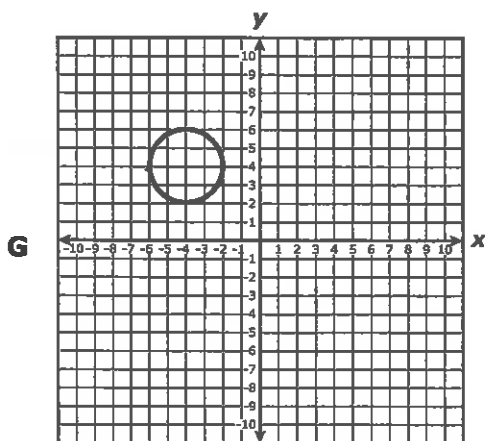
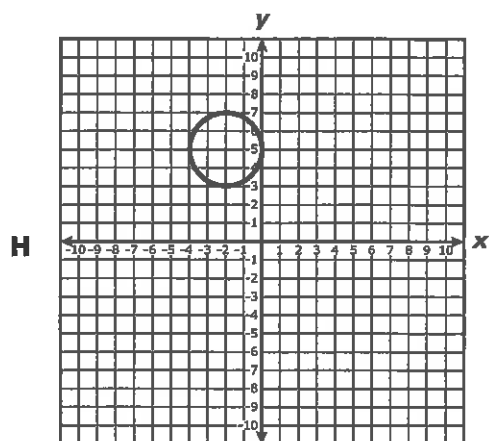
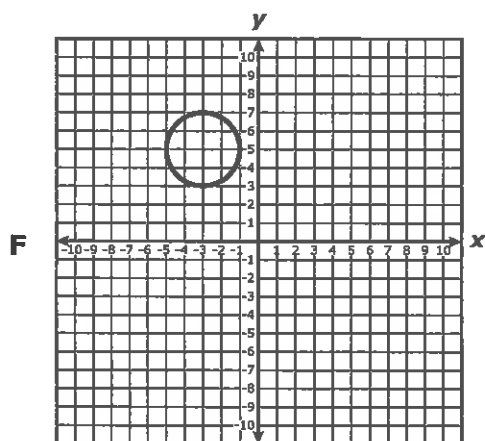
**D**

Position	1	2	3	4	5
Value of Term	11	16	21	26	31

10 Sal graphed a circle on the grid below.



Sal translated the circle 6 units to the left and 7 units up. Which grid shows the result of this translation?



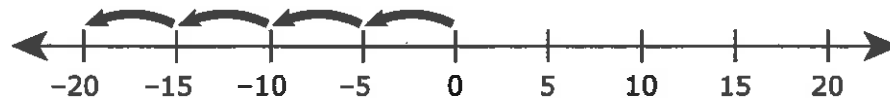


**11** Which situation is best represented by the equation below?

$$7 = 127 - 5b$$

- A** Of the 127 people attending a rugby game, 5 were at the concession stand,  $b$  were seated, and 7 were standing up and cheering. What is  $b$ , the number of attendees who were seated?
  - B** There were 7 players left over after 127 rugby players in a league were divided into 5 teams with  $b$  players on each team. What is  $b$ , the number of players on each team?
  - C** There were 5 players left over after 127 rugby players in a league were divided into 7 teams with  $b$  players on each team. What is  $b$ , the number of players on each team?
  - D** Of  $b$  people attending a rugby game, there were 7 people at the concession stand, 127 people who were seated, and 5 people who were standing up and cheering. What is  $b$ , the number of people attending the game?
- 

**12** Which expression is represented by the model below?



- F**  $-4 \cdot (-5)$
- G**  $4 \cdot (-5)$
- H**  $(-4) \cdot 5$
- J**  $4 \cdot 5$

## **MATHLETES 2016**

### **Sudden Death – Test 1 – Answer Key**

1. B
2. F
3. C
4. J
5. A
6. H
7. A
8. H
9. D
10. F
11. B
12. G

### **Sudden Death – Test 2 – Answer Key**

1. D
2. G
3. A
4. H
5. C
6. C
7. G
8. C
9. J
10. B
11. H
12. A

### **Sudden Death – Test 3 – Answer Key**

1. J
2. A
3. H
4. A
5. G
6. D
7. A
8. H
9. A
10. J
11. B
12. A

### **Sudden Death – Test 4 – Answer Key**

1. G
2. B
3. H
4. B
5. B
6. J
7. A
8. J
9. C
10. G
11. C
12. C