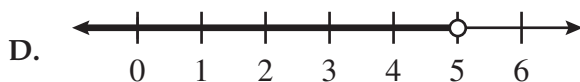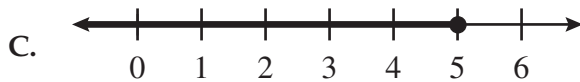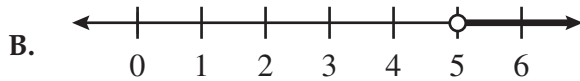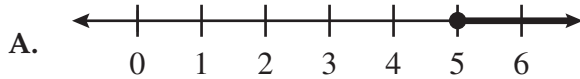**1** Which number line correctly represents the solution to the inequality $3x < 15$?

A.

B.

C.

D.

2 The steps below show a method for finding the value of the following expression.

$$(12.35 + 1.59) + 20.65$$

Step 1	$(12.35 + 1.59) + 20.65$
Step 2	$(1.59 + 12.35) + 20.65$
Step 3	$1.59 + (12.35 + 20.65)$
Step 4	$1.59 + (33.00)$
Step 5	34.59

Which property is used to show that Step 1 and Step 2 are equivalent expressions?

F. associative property

G. commutative property

H. distributive property

I. identity property

3 After eating lunch, Samantha compared the number of calories in each food item she ate to the total number of calories in her lunch. The picture below shows an approximate portion of the total calories for each food item she ate.
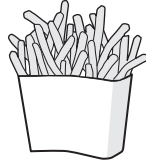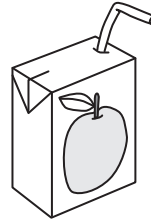
Samantha's Lunch
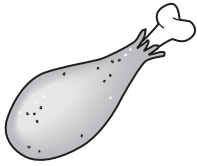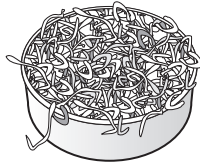
Chicken	Cole slaw	French fries	Juice	Oatmeal cookie
0.29	0.2	$\frac{1}{4}$	$\frac{1}{10}$	16%

Which of the following lists shows the numbers in order from least to greatest?

A. $\frac{1}{10}$, 16%, 0.2, $\frac{1}{4}$, 0.29

B. 16%, $\frac{1}{4}$, $\frac{1}{10}$, 0.2, 0.29

C. 0.29, 0.2, $\frac{1}{10}$, 16%, $\frac{1}{4}$

D. 0.2, $\frac{1}{4}$, 16%, $\frac{1}{10}$, 0.29

4 A television show announcer asked viewers to vote online for their favorite commercial. The viewers could choose from one of three commercials. The results of their votes are shown below.

- A total of 1,000 votes were cast.
- The first commercial received 25% of the votes.
- The second commercial received $\frac{2}{5}$ of the votes.

The third commercial received the remaining votes. What was the total number of votes for the third commercial?

5 Tim's workbench is in the shape of a trapezoid. A drawing of his workbench, with some of the dimensions, is shown below.

Tim's Workbench

?
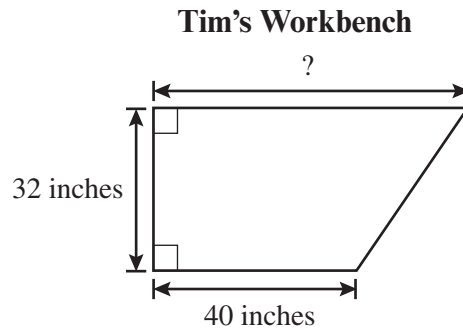
32 inches

40 inches

not to scale

If the area of Tim's trapezoidal workbench has a total of 1,440 square inches, what is the total length, **in inches**, of the longest side of his workbench?

6 Xander is on a bowling team. He needs a mean score of 235 in 6 games to remain in first place on his team. His scores are listed below.

XANDER'S BOWLING SCORES

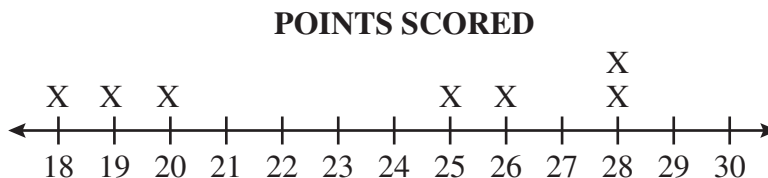| Game Number	Score
1	220
2	245
3	210
4	260
5	210
6	?

What score must Xander get in game 6 so that he has a mean score of 235 for all 6 games?

F. 220

G. 229

H. 235

I. 265

7 Hinsley kept a record of the number of points scored by some basketball players at school. The points scored by each player are represented by the line plot below.

POINTS SCORED

Which value is the median of the number of points scored by these basketball players?

A. 23

B. 25

C. 26

D. 28

8 The table below shows the numbers of calories a 100-pound person burns while swimming different numbers of hours.

CALORIES BURNED BY A 100-POUND PERSON

Number of Hours Swimming (x)	Number of Calories Burned (y)
0.5	90
1	180
1.5	270
2	360

Which of the following expressions could be used to find the number of calories a 100-pound person burns after swimming x hours?

F. $90x$

G. $180x$

H. $x \div 90$

I. $x \div 180$

9 Jim is repainting a *free-throw key* of a basketball court. The free-throw key is made by combining a rectangle and a semicircle, as shown below.

Free-Throw Key

12 feet

19 feet
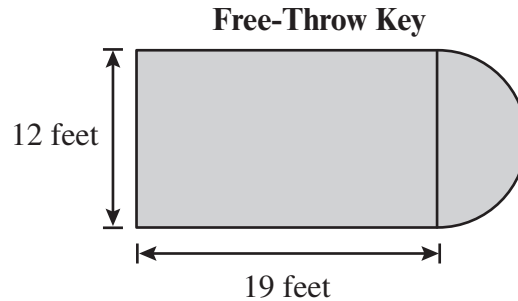
In order to know how much paint to purchase, Jim will determine the area of the free-throw key. What is the total area, **to the nearest whole square foot**, of the free-throw key shown in the diagram?

10 Mr. Nichols wants to store $25\frac{1}{2}$ cups of stew in containers. Each container holds a maximum of $1\frac{1}{2}$ cups of stew. What is the minimum number of containers Mr. Nichols needs to hold all the stew?

A.   9
B.   17
C.   25
D.   51

11 Camera World rents video cameras by the day. The store charges $6.00 per day and a one-time cleaning fee of $2.50. If x represents a number of days, which expression can be used to determine the total charge, in dollars, to rent a video camera for x days?

F. $6(x + 2.50)$
G. $2.50x + 6$
H. $6x + 2.50$
I. $8.50x$

12 Karla and Becky were practicing free throws. Karla attempted 24 free throws and was successful 8 times. Becky attempted 20 free throws and was successful 5 times. At these rates, how many more successful free throws would Karla make than Becky if they each attempted 180 free throws?

A. 15
B. 23
C. 27
D. 51

13 Mr. Gerard purchased different types of halogen light bulbs for the apartment building where he works. The information about the bulbs he purchased is shown in the table below.

HALOGEN LIGHT BULBS PURCHASED

Type of Light Bulb	Number Purchased	Total Cost
10-Watt Clear	9	$ 14.85
13-Watt Warm White	60	$119.40
20-Watt Capsule Bulb	6	$ 10.74
34-Watt Cool White	90	$147.60

Which type of light bulb costs the **least amount** per light bulb?

F. 10-Watt Clear
G. 13-Watt Warm White
H. 20-Watt Capsule Bulb
I. 34-Watt Cool White

14 In a regulation wrestling match, wrestlers compete within a circular zone 9 meters in diameter.

Wrestling Mat
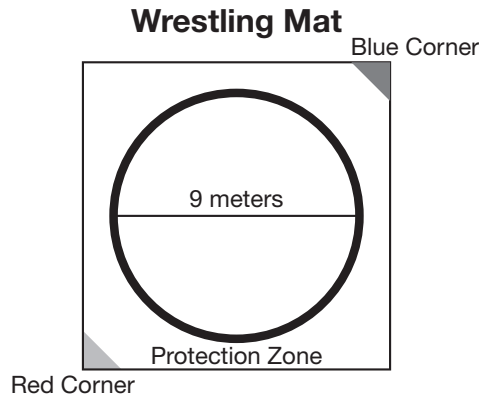
Which of the following is closest to the area of the circular zone?

A. 28.3 square meters

B. 56.5 square meters

C. 63.6 square meters

D. 254.3 square meters

15 Mr. Madsen worked 49 hours last week at his job. He spent $\frac{1}{5}$ of this time in meetings and $\frac{1}{3}$ of this time talking to customers on the phone. Which method would provide the most reasonable estimate of the total number of hours Mr. Madsen spent in meetings and talking to customers on the phone at his job last week?

F. multiply $\frac{1}{4}$ by 50

G. multiply $\frac{1}{2}$ by 50

H. multiply $\frac{1}{5}$ by 50 and add $\frac{1}{3}$ to the product

I. multiply $\frac{1}{5}$ by $\frac{1}{3}$ and multiply the product by 50

16 The diagram below represents Akeem's chocolate bar.

Akeem's Chocolate Bar
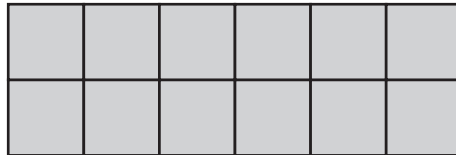
Akeem gave $\frac{1}{4}$ of his chocolate bar to his sister and saved the rest for himself. After dinner, he ate $\frac{1}{3}$ of the part he saved for himself. Which of the following represents the part of Akeem's chocolate bar that he had left?

A.

B.

C.

D.