CSAP Grade 8
Mathematics

1 Jeff wants to wrap ribbon around a package, as shown below. He also needs 10 more inches of ribbon to tie a bow.

How much ribbon does he need to wrap the package and to tie the bow?

- ○ 34 inches
- ○ 48 inches
- ○ 50 inches
- ● 58 inches

2 Alice is looking at a map to see how far it is from her home to the state fair in Pueblo. The scale on the map is 1 inch = 125 miles. The distance between her home and the state fair is $1\frac{1}{2}$ inches on the map.

What is the actual distance between Alice's home and the state fair?

- ○ $83\frac{1}{2}$ miles
- ○ $175\frac{1}{2}$ miles
- ● $187\frac{1}{2}$ miles
- ○ 250 miles

CSAP Grade 8
Mathematics

3 Maria and her friends are playing a game. Each person begins with 2 points and the winner of each round gets 4 points. Maria ends the game with 26 points. How many rounds did she win?

- ● 6
- ○ 7
- ○ 12
- ○ 24

round—a period of play in a sport or contest

CSAP Grade 8
Mathematics

4 Sarah and Tom belong to a soccer league that has 8 teams. Each team will play all of the other teams twice. How many games will be played in all?

- ○ 16
- ○ 28
- ● 56
- ○ 64

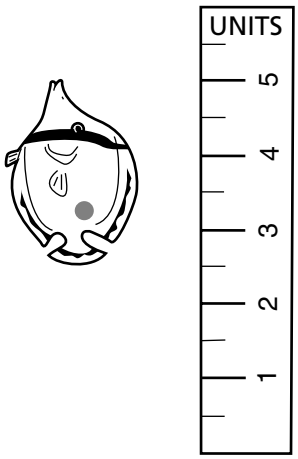
soccer—kind of football game played with a round ball

league—group of teams

5 Kim is making pizza for the school carnival. If the radius of the pizza is doubled, how will the area change?

- ○ The area will remain the same.
- ○ The area will be two times as large.
- ○ The area will be three times as large.
- ● The area will be four times as large.

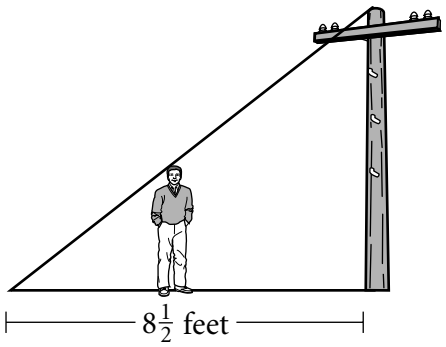
6 Study the drawing below.



Which of the following is closest to the length of the fish shown?

- ● $2\frac{1}{2}$ units
- ○ 3 units
- ○ $3\frac{1}{2}$ units
- ○ 5 units

7 Lloyd is standing near a telephone pole as shown in the figure below. When his head touches the support wire, he is $2\frac{1}{2}$ feet from where the wire meets the ground. If Lloyd is 5 feet tall, how tall is the telephone pole?



- ○ 15 feet
- ● 17 feet
- ○ 20 feet
- ○ 80 feet

8 Elaine is shopping for new office supplies. She has made a list of the items she will purchase.

Computer paper	**$29.25**
Hole punch	**$10.99**
Calculator	**$89.99**
Folders	**$14.49**

Estimate how much Elaine will spend. In the space below, explain or show your work and write your answer on the line.

Estimate $ _____

Rubric

Exemplary Response:

- Estimate $144

AND

- If the cost of an item ended in 50–99 cents, I rounded up to the nearest whole dollar amount. If the cost of an item ended in 0–49 cents, I rounded down to the nearest whole dollar amount.

Computer paper	$29.25	=	**$29.00**
Hole punch	$10.99	=	**$11.00**
Calculator	$89.99	=	**$90.00**
Folders	$14.49	=	**$14.00**

Then I added $29 + $11 + $90 + $14 = $144

OR

- Other valid response

Score Points:

Apply 2-point holistic rubric.

Standard: 6.4 Operation/Calculation

9 Each month, Jean's phone company charges her $10.00 for the first 30 minutes of phone calls and $0.25 for each additional minute.

Part A Use the information above to help you complete this table.

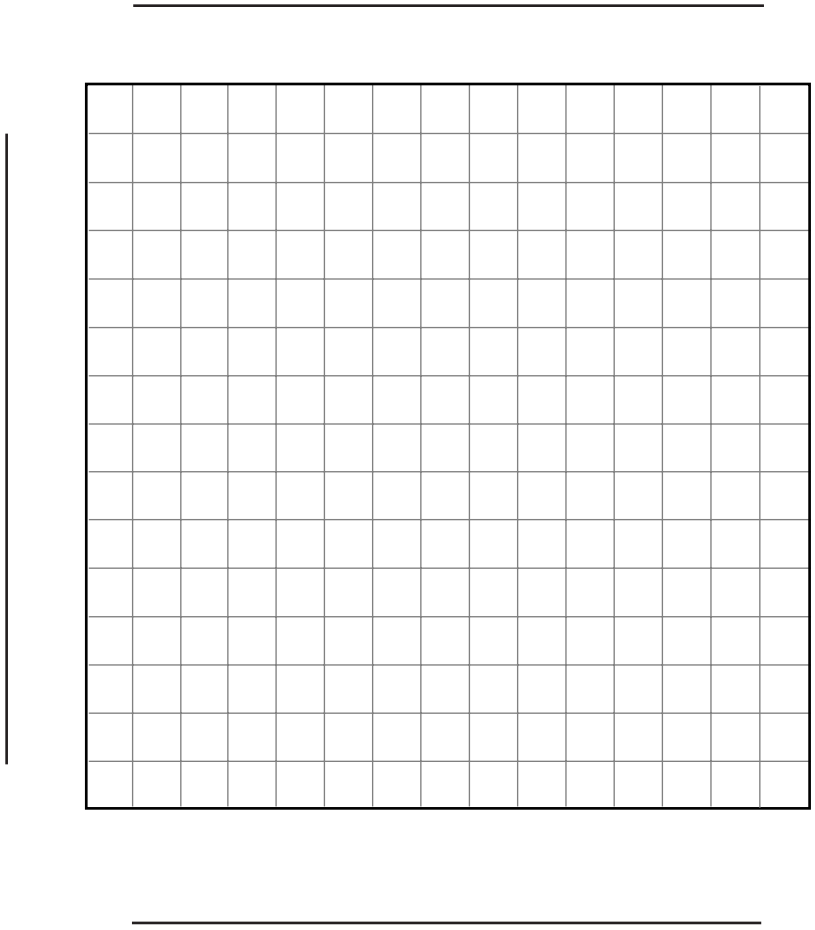
JEAN'S CALLS

Number of Minutes	30	35	40	45	50	55
Total Bill						

Part B On the grid below, construct a graph showing the cost of Jean's phone calls.

Be sure to

- title your graph
- label each axis



Part C What is Jean's phone bill if she uses her phone for 100 minutes? In the space below, explain or show how you found your answer and write your answer on the line.

$ _____

Part D In the space below, write a rule or equation showing how Jean can find her total bill each month.

Rubric

Exemplary Response:

Part A

•

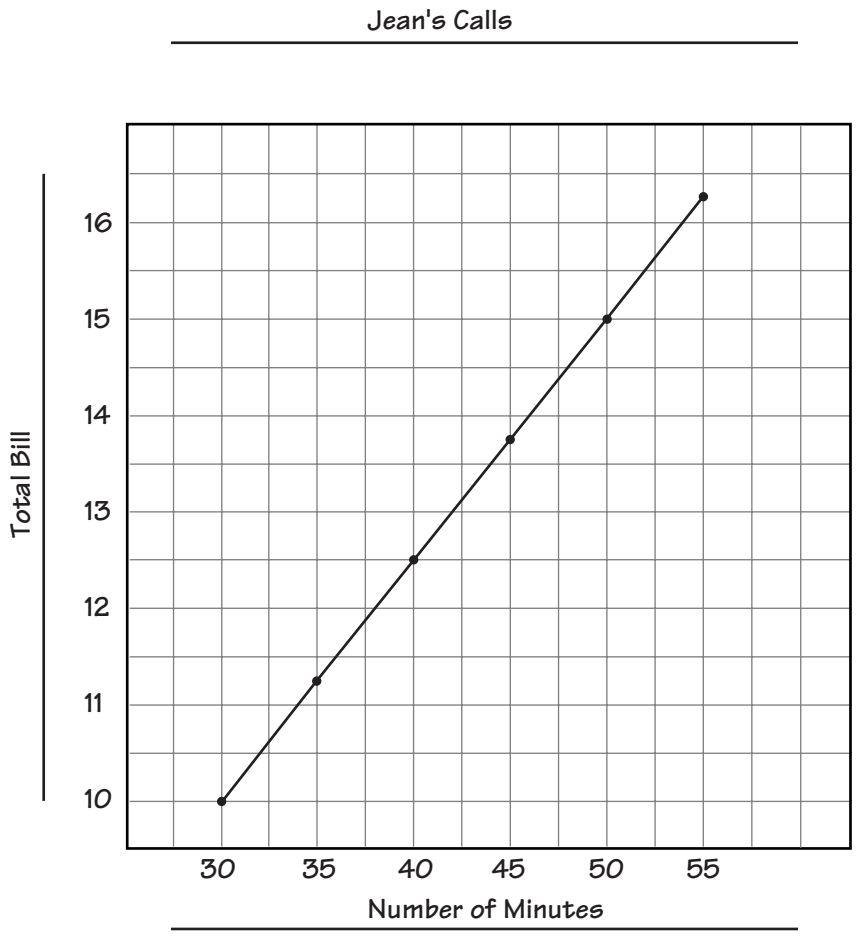
JEAN'S CALLS

Number of Minutes	30	35	40	45	50	55
Total Bill	$10.00	$11.25	$12.50	$13.75	$15.00	$16.25

AND

Part B

•



OR

- Other valid graph.

AND

Part C

- $27.50

AND

- 100 minutes − 30 minutes = 70 minutes
  $70 \times \$0.25 = \$17.50$
  $\$17.50 + \$10.00 = \$27.50$

OR

- Other valid process.

AND

Part D

- K = total number of minutes
  T = total bill
  $T = 10 + (K - 30)(0.25)$

OR

- Other valid explanation.

Score Points:

Apply 4-point holistic rubric.

Standard: 2.1 Patterns, Functions, and Algebra

10 Which of the following figures has 20% of the boxes shaded?

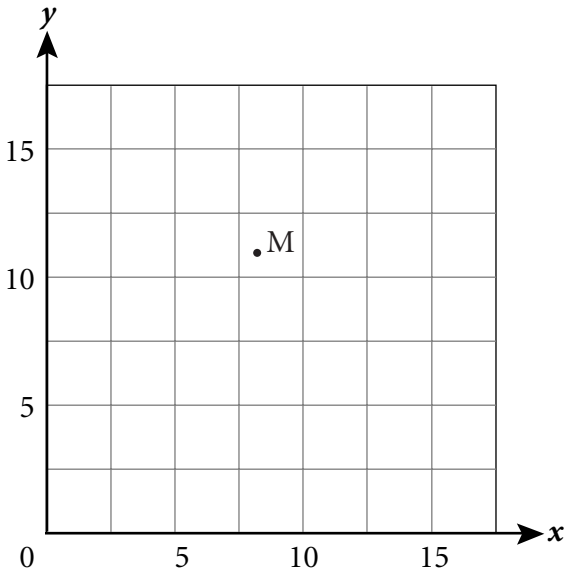
○ 

● 

○ 

○ 

11 Study the graph below.



Which coordinates are most likely Point M?

- ● (8, 11)
- ○ (8, 8)
- ○ (11, 8)
- ○ (11, 11)

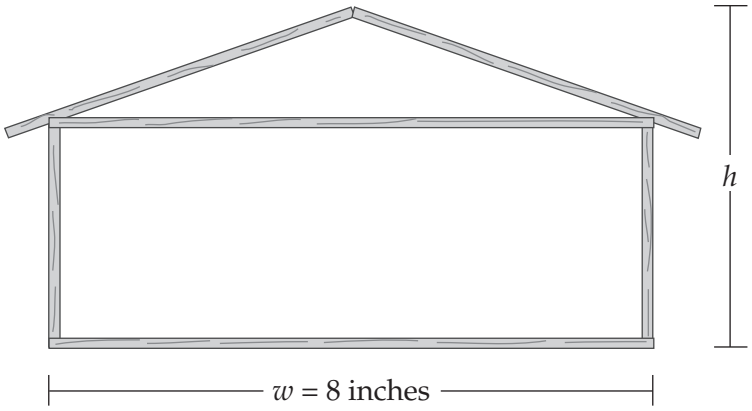
12 Keith uses this formula to calculate the monthly profit of his bicycle store.

$$P = 400n - 7{,}200$$

In the formula, P is the monthly profit and n is the number of bicycles sold in a month. How many bicycles must he sell to make a profit of exactly $2,000 in a month?

- ○ 13 bicycles
- ○ 17 bicycles
- ● 23 bicycles
- ○ 25 bicycles

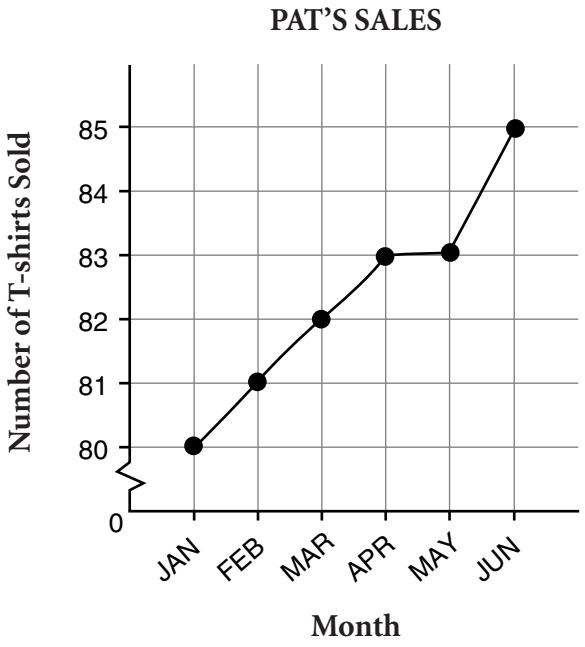
13 Derek made a model of his family home out of wooden sticks.



His home is 40 feet wide and $22\frac{1}{2}$ feet high. What is the height of Derek's model?

- ○ 4 inches
- ● $4\frac{1}{2}$ inches
- ○ 11 inches
- ○ $14\frac{1}{2}$ inches

14 Pat was planning to ask her boss for a raise. She made the graph below to show her boss the increase in her T-shirt sales.



Her boss said that the graph was misleading and that Pat's sales did not improve very much. On the lines below, explain how the graph is misleading.

misleading—giving the wrong idea

Rubric

Exemplary Response:

- The graph starts at 80, which makes the number of sales look as if they have increased a lot from January to June. Pat's sales went up only a little.
  (85 – 80 = 5)

OR

- Other valid explanation.

Score Points:

Apply 2-point holistic rubric.

Standard: 3.3 Data Analysis, Statistics, and Probability