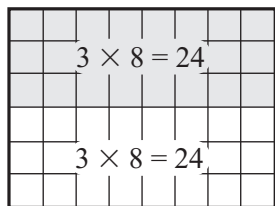


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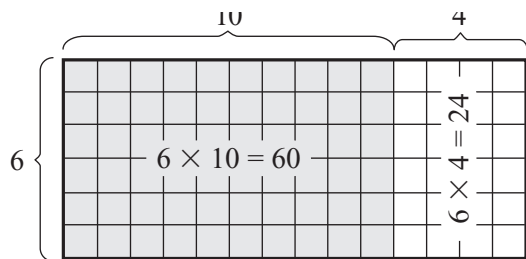
Questions 1–5 (SG pp. 86–87)

1. **A.** The number of rows in the full rectangle.
 - B.** The number of columns in the full rectangle.
 - C.** 6 is the number of rows in the shaded rectangle, 5 is the number of columns in the shaded rectangle, 30 is the product, or the number of squares in the shaded rectangle.
 - D.** 6 is the number of rows in the unshaded rectangle, 3 is the number of columns in the unshaded rectangle, 18 is the product, or the number of squares in the unshaded rectangle.
 - E.** She added $30 + 18$.
 - F.** Because 6×5 and 6×3 are easier products to do than 6×8 .
2. Responses will vary. Possible response:



$$6 \times 8 = 24 + 24 = 48$$

3. He broke 14 into $7 + 7$.
4. $6 \times 14 = 42 + 42$
 $6 \times 14 = 84$
- 5.



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Break-Apart Products

Mrs. Dewey's class was working on multiplication problems. "One way to solve a multiplication problem is to break it into smaller problems that are easier to solve," said Mrs. Dewey. "Does anyone use that method?"

"I use the break-apart method to help me with multiplication facts that are hard for me to remember," said Grace. "Here is an example: To solve 6×8 , I break the 8 into $5 + 3$. I know 6×5 is 30 and 6×3 is 18. I add them together to get $6 \times 8 = 48$. Here is a picture."

Grace

Discuss

Check-In: Questions 1-5

1. Look at the rectangle and the number sentences above. Answer the questions to connect the picture with the number sentences.
 - A. What does the 6 represent?
 - B. What does the 8 represent?
 - C. What does each number in the number sentence $6 \times 5 = 30$ represent?
 - D. What does each number in the number sentence $6 \times 3 = 18$ represent?
 - E. How did Grace find the total number of squares in the large rectangle?
 - F. Why do you think Grace decided to break 8 into $5 + 3$?
2. Work with a partner. Find a different way to break 6×8 into parts. Make a sketch to show how you break the rectangle into parts. Write number sentences that match your rectangles. Follow the example above.

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Using Break-Apart Products for Larger Numbers

"What if I already know most of the multiplication facts?" asked Jerome. "Why should I bother with the break-apart method when I already know the answers?"

"You might know the answers to most of the facts problems," said Mrs. Dewey. "But you probably don't know the answers to problems with larger numbers. The break-apart method can help you with a problem like 6×14 ."

Jerome found 6×14 by breaking apart 14. He used a rectangle like this.

Jerome

3. How did Jerome break apart 14?
4. Help Jerome complete number sentences for his rectangle. Copy the number sentences. Then fill in the blanks.

$$6 \times 14 = (6 \times 7) + (6 \times 7)$$

$$6 \times 14 = 42 + \underline{\hspace{2cm}}$$

$$6 \times 14 = \underline{\hspace{2cm}}$$
5. Ming found 6×14 by breaking 14 into two different parts. He wrote this number sentence.

$$6 \times 14 = 60 + 24 = 84$$

On a separate sheet of paper, sketch a rectangle that shows how Ming solved the problem. Label the parts.

Ming

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