

Student Activity Book

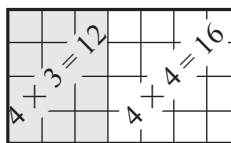
Exploring Break-Apart Products

Questions 1–9 (SAB pp. 53–57)

- 1.* 32 squares
2. **A.*** $1 \times 4 = 4$; $7 \times 4 = 28$;
 $8 \times 4 = 4 + 28 = 32$ squares
- B.*** $4 \times 4 = 16$; $4 \times 4 = 16$;
 $8 \times 4 = 16 + 16 = 32$ squares See Figure 1 in the lesson.
3. **A.*** $8 \times 1 = 8$; $8 \times 3 = 24$;
 $8 \times 4 = 8 + 24 = 32$ squares
- B.*** $8 \times 2 = 16$; $8 \times 2 = 16$;
 $8 \times 4 = 16 + 16 = 32$ squares See Figure 1 in the lesson.

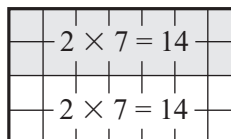
4.* Responses will vary. Possible responses include:

A.*



$4 \times 7 = 12 + 16 = 28$ squares

B.*



$4 \times 7 = 14 + 14 = 28$ squares

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Exploring Break-Apart Products

1. Find the number of squares in the 8×4 rectangle below.

2. The 8 rows of the rectangles below are broken into two parts. Write a number sentence on each part that shows the number of squares. Then add the two parts together to find the total number of squares in the large rectangle. The first one is an example.

Ex.

A.

B.

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3. The 4 columns of the rectangles below are broken into two parts.
 - Write a number sentence on each part that shows the number of squares.
 - Add the two parts together to find the total. Write this number sentence.

A.

B.

4. Break the 4×7 rectangles below into two parts in two different ways.
 - Choose numbers that will make multiplying 4×7 easier.
 - Write a number sentence on each part that shows the number of squares.
 - Write a number sentence that shows how you find the total number of squares in the large rectangle.

A.

B.

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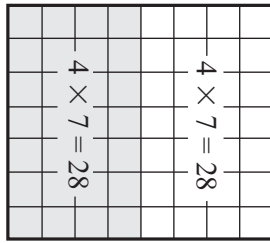
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*Answers and/or discussion are included in the lesson.

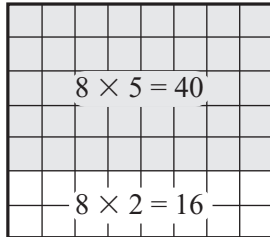
5.* Possible responses include:

A.*



$$8 \times 7 = 28 + 28 = 56$$

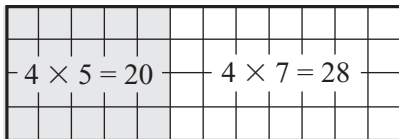
B.*



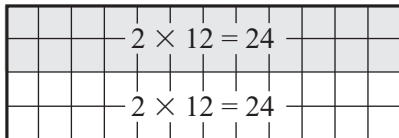
$$8 \times 7 = 40 + 16 = 56$$

See Figure 2 in the lesson.

6.* Possible responses include:

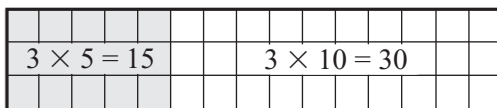


$$4 \times 12 = 20 + 28 = 48 \text{ squares}$$

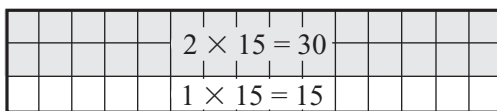


$$4 \times 12 = 24 + 24 = 48 \text{ squares}$$

7. Possible responses include:



$$3 \times 15 = 15 + 30 = 45 \text{ squares}$$



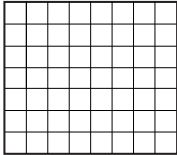
$$3 \times 15 = 30 + 15 = 45 \text{ squares}$$

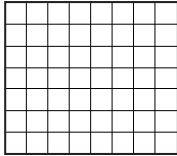
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5. Break apart the 7×8 rectangles in two different ways.

- Choose numbers that will make multiplying 7×8 easier.
- Write number sentences to show your work.

A. 

B. 

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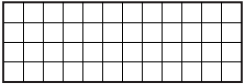
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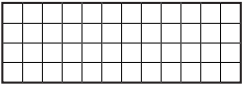
Larger Break-Apart Products

Each problem below shows the same rectangle twice. Find the number of small squares in each rectangle using the break-apart method.


- Break Rectangle A of each problem into two parts that make the multiplication easier.
- Write number sentences on the smaller rectangles to show the number of squares in each part.
- Write a number sentence to show how to find the total number of squares in the large rectangle.
- Solve the problem again using Rectangle B. This time break the rectangle into different parts.

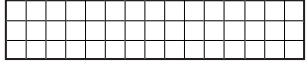
6. 4×12

A. 

B. 

7. 3×15

A. 

B. 

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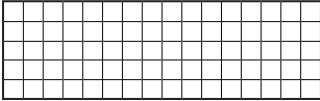
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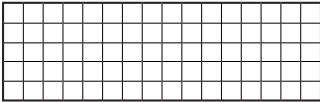
*Answers and/or discussion are included in the lesson.

Answer Key • Lesson 5: Break-Apart Products

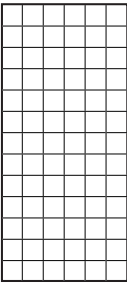
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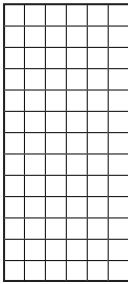
8. 5×16

A. 

B. 

9. 13×6

A.  Number Sentence: _____

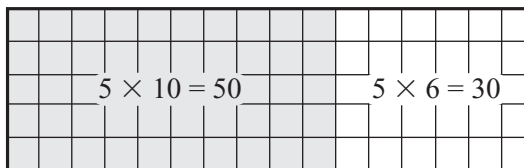
B.  Number Sentence: _____

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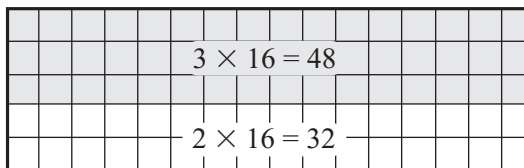
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8. Possible responses include:

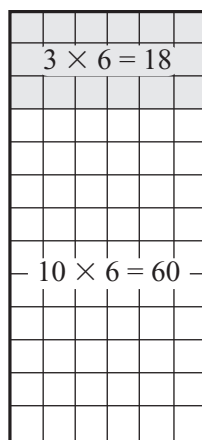


$$5 \times 16 = 50 + 30 = 80 \text{ squares}$$

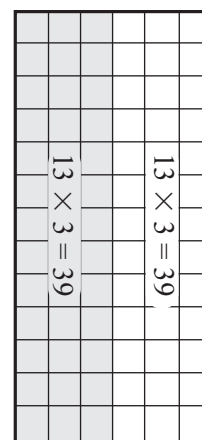


$$5 \times 16 = 48 + 32 = 80 \text{ squares}$$

9. Possible responses include:



$$13 \times 6 = 18 + 60 = 78$$



$$13 \times 6 = 39 + 39 = 78$$

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Writing Number Sentences for Break-Apart Products

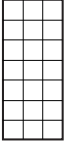
Questions 1–4 (SAB pp. 59–60)

1. **A.*** 7 rows, 3 columns
B.* $7 \times 3 = 21$
2. **A.*** $5 \times 3 = 15$
B.* $2 \times 3 = 6$
C.* $7 \times 3 = 15 + 6$; $7 \times 3 = 21$
3. **A.** $10 \times 4 = 40$
B. $3 \times 4 = 12$
C. $13 \times 4 = (10 \times 4) + (3 \times 4)$;
 $13 \times 4 = 40 + 12$; $13 \times 4 = 52$
4. **A.** $13 \times 2 = 26$
B. $13 \times 2 = 26$
C. $13 \times 4 = (13 \times 2) + (13 \times 2)$;
 $13 \times 4 = 26 + 26$; $13 \times 4 = 52$

Name _____ Date _____

Writing Number Sentences for Break-Apart Products

1. **A.** How many rows and columns does the rectangle to the right have?
 Rows: _____ Columns: _____
- B.** Write a number sentence for the total number of squares.



2. **A.** Write a number sentence on the shaded part of the rectangle at the right to show the number of shaded squares.
- B.** Write a number sentence on the unshaded part to show the number of unshaded squares.
- C.** Complete these number sentences using the rectangle for Question 2:
 $7 \times 3 = (5 \times 3) + (2 \times 3)$
 $7 \times 3 = \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$
 $7 \times 3 = \underline{\hspace{1cm}}$

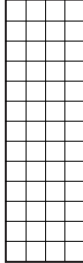
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3. **A.** Shade in the first 10 rows of the rectangle on the right. Write a number sentence on the shaded part to show the total number of shaded squares.
- B.** Write a number sentence on the unshaded part to show the total number of unshaded squares.
- C.** Complete the number sentences below to match the rectangle:
 $13 \times 4 = (\underline{\hspace{1cm}} \times 4) + (\underline{\hspace{1cm}} \times 4)$
 $13 \times 4 = \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$
 $13 \times 4 = \underline{\hspace{1cm}}$



4. **A.** The first two columns of the rectangle on the right are shaded. Write a number sentence to show the number of shaded squares.
- B.** Write a number sentence to show the number of unshaded squares.
- C.** Complete the following number sentences to match the rectangle.
 $13 \times 4 = (\underline{\hspace{1cm}} \times 2) + (\underline{\hspace{1cm}} \times \underline{\hspace{1cm}})$
 $13 \times 4 = \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$
 $13 \times 4 = \underline{\hspace{1cm}}$

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*Answers and/or discussion are included in the lesson.