

Name _____ Date _____

Rectangular Arrays

A.

B.

C.

D.

Break-Part Products with Larger Numbers SAB • Grade 3 • Unit 13 • Lesson 1 511

Student Activity Book

Rectangular Arrays (SAB p. 511) Questions A–D

Possible answers:

$5 \times 4 = 20$
 $2 \times 4 = 8$
 $7 \times 4 = 5 \times 4 + 2 \times 4$
 $= 20 + 8$
 $= 28$

$2 \times 8 = 16$
 $2 \times 8 = 16$
 $4 \times 8 = 2 \times 8 + 2 \times 8$
 $= 16 + 16$
 $= 32$

$10 \times 9 = 90$
 $2 \times 9 = 18$
 $12 \times 9 = 10 \times 9 + 2 \times 9$
 $= 90 + 18$
 $= 108$

$10 \times 3 = 30$
 $7 \times 3 = 21$
 $17 \times 3 = 10 \times 3 + 7 \times 3$
 $= 30 + 21$
 $= 51$

Student Activity Book - Page 511

Name _____ Date _____

Break Apart and Multiply

Use the rectangles to break apart each problem into simpler products. Use colored pencils or crayons to lightly color in the smaller rectangles. Write number sentences on each rectangle. Then complete the number sentence to show your solution.

- Use the method of breaking the product into tens and ones to solve each problem.

A.

$3 \times 12 = \underline{\quad} \times \underline{\quad} + \underline{\quad} \times \underline{\quad}$
 $= \underline{\quad} + \underline{\quad}$
 $= \underline{\quad}$

B.

$4 \times 15 = \underline{\quad} \times \underline{\quad} + \underline{\quad} \times \underline{\quad}$
 $= \underline{\quad} + \underline{\quad}$
 $= \underline{\quad}$

Break-Part Products with Larger Numbers SAB • Grade 3 • Unit 13 • Lesson 1 513

Break-Part and Multiply (SAB pp. 513–517) Questions 1–5

I. A.

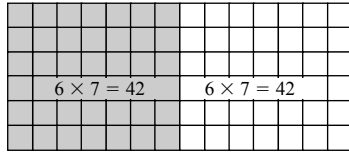
$3 \times 12 = 3 \times 10 + 3 \times 2$
 $3 \times 12 = 30 + 6$
 $= 36$

B.

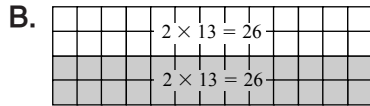
$4 \times 15 = 4 \times 10 + 4 \times 5$
 $4 \times 15 = 40 + 20$
 $= 60$

Student Activity Book - Page 513

2. A. Possible solution:

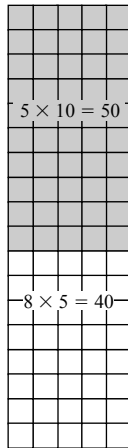


$$\begin{aligned} 6 \times 14 &= 6 \times 7 + 6 \times 7 \\ &= 42 + 42 \\ &= 84 \end{aligned}$$



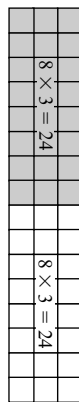
$$\begin{aligned} 4 \times 13 &= 2 \times 13 + 2 \times 13 \\ &= 26 + 26 \\ &= 52 \end{aligned}$$

3. A. Possible response:



$$\begin{aligned} 18 \times 5 &= 10 \times 5 + 8 \times 5 \\ &= 50 + 40 \\ &= 90 \end{aligned}$$

B. Possible response:

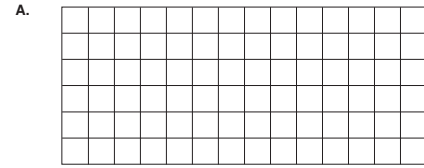


$$\begin{aligned} 16 \times 3 &= 8 \times 3 + 8 \times 3 \\ &= 24 + 24 \\ &= 48 \end{aligned}$$

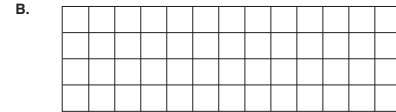
Copyright © Kendall Hunt Publishing Company

Name _____ Date _____

2. Use the method of breaking the rectangle in half to solve each problem.



$$\begin{aligned} 6 \times 14 &= \underline{\quad} \times \underline{\quad} + \underline{\quad} \times \underline{\quad} \\ &= \underline{\quad} + \underline{\quad} \\ &= \underline{\quad} \end{aligned}$$

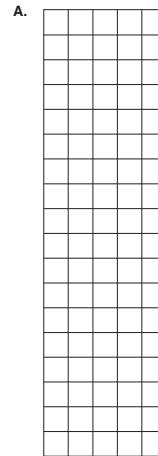


$$\begin{aligned} 4 \times 13 &= \underline{\quad} \times \underline{\quad} + \underline{\quad} \times \underline{\quad} \\ &= \underline{\quad} + \underline{\quad} \\ &= \underline{\quad} \end{aligned}$$

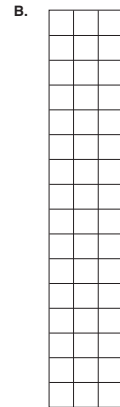
Copyright © Kendall Hunt Publishing Company

Name _____ Date _____

3. Solve each problem by breaking apart a rectangle. Remember to color the rectangle and to label it with number sentences. Complete the number sentences to show your solutions.



$$\begin{aligned} 18 \times 5 &= \underline{\quad} \times \underline{\quad} + \underline{\quad} \times \underline{\quad} \\ &= \underline{\quad} + \underline{\quad} \\ &= \underline{\quad} \end{aligned}$$



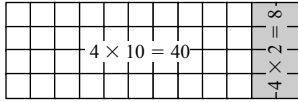
$$\begin{aligned} 16 \times 3 &= \underline{\quad} \times \underline{\quad} + \underline{\quad} \times \underline{\quad} \\ &= \underline{\quad} + \underline{\quad} \\ &= \underline{\quad} \end{aligned}$$

Copyright © Kendall Hunt Publishing Company

Break Apart (SAB pp. 519–522)
Homework
Questions 1–15

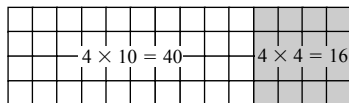
Solution strategies may vary.

1. Possible solution:

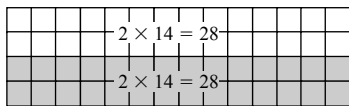


$$\begin{aligned} 4 \times 12 &= 4 \times 10 + 4 \times 2 \\ 4 \times 12 &= 40 + 8 \\ &= 48 \end{aligned}$$

2. Answers may vary. Possible solutions:



$$\begin{aligned} 4 \times 14 &= 4 \times 10 + 4 \times 4 \\ 4 \times 14 &= 40 + 16 \\ &= 56 \end{aligned}$$



$$\begin{aligned} 4 \times 14 &= 2 \times 14 + 2 \times 14 \\ &= 28 + 28 \\ &= 56 \end{aligned}$$

Copyright © Kendall Hunt Publishing Company

Name _____ Date _____

Break Apart

Rosa broke a rectangle apart to find 4×12 . Her solution is shown below.

$4 \times 8 = 32$ white squares and $4 \times 4 = 16$ gray squares.
 Altogether, there are $4 \times 12 = 4 \times 8 + 4 \times 4$
 $= 32 + 16$
 $= 48$.

1. Solve the problem by breaking the rectangle apart differently than Rosa. Include number sentences on your rectangles. Complete the number sentence to show your solution.

$4 \times 12 = \underline{\quad} \times \underline{\quad} + \underline{\quad} \times \underline{\quad}$
 $= \underline{\quad} + \underline{\quad}$
 $= \underline{\quad}$

Copyright © Kendall Hunt Publishing Company

Break-Apart Products with Larger Numbers SAB • Grade 3 • Unit 13 • Lesson 1 519

Student Activity Book - Page 519

Name _____ Date _____

2. Find 4×14 by breaking the rectangles apart. Show two different methods. Include number sentences on your rectangles. Complete the number sentences under the rectangles to show your solutions.

A.

$4 \times 14 = \underline{\quad} \times \underline{\quad} + \underline{\quad} \times \underline{\quad}$
 $= \underline{\quad} + \underline{\quad}$
 $= \underline{\quad}$

B.

$4 \times 14 = \underline{\quad} \times \underline{\quad} + \underline{\quad} \times \underline{\quad}$
 $= \underline{\quad} + \underline{\quad}$
 $= \underline{\quad}$

Copyright © Kendall Hunt Publishing Company

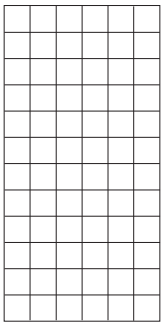
520 SAB • Grade 3 • Unit 13 • Lesson 1 Break-Apart Products with Larger Numbers


Student Activity Book - Page 520

Answer Key • Lesson 1: Break-Part Products with Larger Numbers

Name _____ Date _____

3. Find the following products by breaking them apart into simpler products. Complete the number sentences to show your solutions.

A.  $12 \times 6 = \underline{\quad} \times \underline{\quad} + \underline{\quad} \times \underline{\quad}$
 $= \underline{\quad} + \underline{\quad}$
 $= \underline{\quad}$

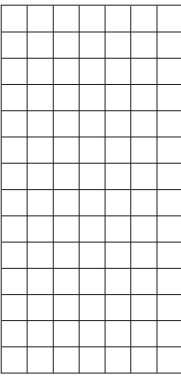
B.  $3 \times 13 = \underline{\quad} \times \underline{\quad} + \underline{\quad} \times \underline{\quad}$
 $= \underline{\quad} + \underline{\quad}$
 $= \underline{\quad}$

Copyright © Kendall Hunt Publishing Company

Break-Part Products with Larger Numbers SAB • Grade 3 • Unit 13 • Lesson 1 521

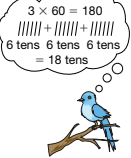
Student Activity Book - Page 521

Name _____ Date _____

C.  $14 \times 7 = \underline{\quad} \times \underline{\quad} + \underline{\quad} \times \underline{\quad}$
 $= \underline{\quad} + \underline{\quad}$
 $= \underline{\quad}$

Multiply by Tens
 Use any strategy to find the following products. Use the *Multiplication Table* in the *Student Guide Reference* section.

4. $10 \times 4 =$ 5. $7 \times 20 =$
 6. $3 \times 60 =$ 7. $5 \times 70 =$
 8. $9 \times 30 =$ 9. $8 \times 20 =$
 10. $4 \times 40 =$ 11. $6 \times 80 =$
 12. $7 \times 90 =$ 13. $5 \times 80 =$
 14. $9 \times 40 =$ 15. $3 \times 50 =$

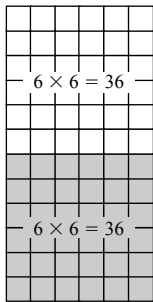


Copyright © Kendall Hunt Publishing Company

522 SAB • Grade 3 • Unit 13 • Lesson 1 Break-Part Products with Larger Numbers

Student Activity Book - Page 522

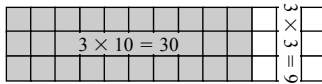
3. Answers will vary. Possible solutions:

A. 

$$12 \times 6 = 6 \times 6 + 6 \times 6$$

$$= 36 + 36$$

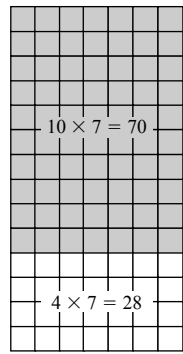
$$= 72$$

B. 

$$3 \times 13 = 3 \times 10 + 3 \times 3$$

$$= 30 + 9$$

$$= 39$$

C. 

$$14 \times 7 = 10 \times 7 + 4 \times 7$$

$$= 70 + 28$$

$$= 98$$

- | | |
|---------|---------|
| 4. 40 | 5. 140 |
| 6. 180 | 7. 350 |
| 8. 270 | 9. 160 |
| 10. 160 | 11. 480 |
| 12. 630 | 13. 400 |
| 14. 360 | 15. 150 |

Copyright © Kendall Hunt Publishing Company