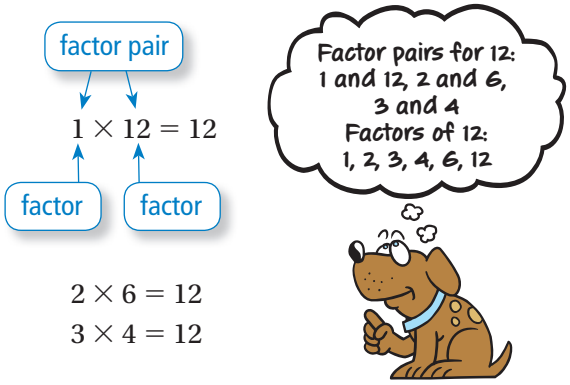
REVIEW: Factors of Whole Numbers

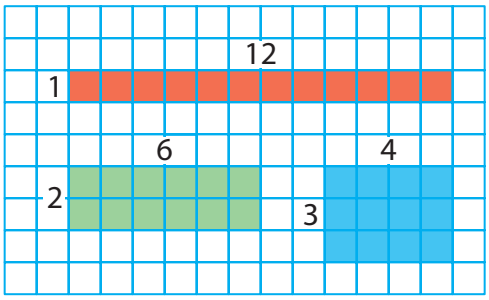
Name _____

Key Concept and Vocabulary



Visual Model

The side lengths of rectangles with an area of 12 square units represent the factor pairs for 12.



A 1×12 rectangle and a 12×1 rectangle both give the factor pair 1 and 12.

Skill Examples

1. Factors of 1: 1
2. Factors of 8: 1, 2, 4, 8
3. Factors of 7: 1, 7
4. Factors of 15: 1, 3, 5, 15
5. Factors of 29: 1, 29

Application Example

6. A car show director wants to organize 24 cars into a rectangular array. How many different arrays can he make?

   There are 4 factor pairs for 24.

   You can use each factor pair to make 2 arrays.

   $4 \times 2 = 8$

   ∴ He can make 8 different arrays.

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Check your answers at BigIdeasMath.com.

7. Draw rectangles to find the factor pairs for 16.

Find the factor pairs for the number.

8. 6 _____
9. 11 _____
10. 30 _____

List the factors of the number.

11. 9 _____
12. 20 _____
13. 18 _____

14. **STEPPING STONE** You want to organize 10 pebbles into a rectangular array on a stepping stone. How many different arrays can you make? _____

15. **POSTERS** You have 40 posters to hang in a rectangular array on a wall. You do not have room for more than 8 posters in each row or column. What are the possible numbers of posters you can hang in each row? Explain. _____