

Name _____ Core ____ Date _____

1.4 Exercises



Vocabulary and Concept Check

1. **VOCABULARY** What is the prime factorization of a number?

2. **VOCABULARY** How can you use a factor tree to help you write the prime factorization of a number?

3. **WHICH ONE DOESN'T BELONG?** Which factor pair does not belong with the other three? Explain your reasoning.

2, 28

4, 14

6, 9

7, 8

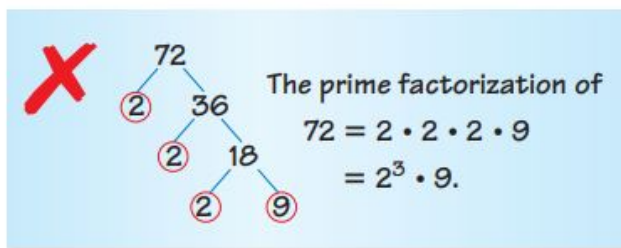
List the factor pairs of the number.

14. 59 _____

Write the prime factorization of the number.

16. 16 _____

18. 30 _____



The prime factorization of $72 = 2 \cdot 2 \cdot 2 \cdot 9 = 2^3 \cdot 9$.

24. **ERROR ANALYSIS** Describe and correct the error in writing the prime factorization.

Find the number represented by the prime factorization.

26. $2^2 \cdot 3^2 \cdot 5$ _____

28. $2^3 \cdot 11^2 \cdot 13$ _____

33. **CRITICAL THINKING** Is 2 the only even prime number? Explain.

35. **SCAVENGER HUNT** A teacher divides 36 students into equal groups for a scavenger hunt. Each group should have at least 4 students but no more than 8 students. What are the possible group sizes?

