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## 1-2 Study Guide and Intervention

## Prime Factors

Factors are the numbers that are multiplied to get a product. A product is the answer to a multiplication problem. A prime number is a whole number that has only 2 factors, 1 and the number itself. A composite number is a number greater than 1 with more than two factors.

## Example 1 Tell whether each number is prime, composite, or neither.

| Number | Factors | Prime or Composite? |
| :---: | :---: | :---: |
| 15 | $1 \times 15$ <br> $3 \times 5$ | Composite |
| 17 | $1 \times 17$ | Prime |
| 1 | 1 | Neither |

## Example 2 <br> Find the prime factorization of 18.



18 is divisible by 2 , because the ones digit is divisible by 2 .
Circle the prime number, 2.
9 is divisible by 3 , because the sum of the digits is divisible by 3 .
Circle the prime numbers, 3 and 3 .
The prime factorization of 18 is $2 \times 3 \times 3$.

## Exercises

Tell whether each number is prime, composite, or neither.

1. 7
2. 12
3. 29
4. 81
5. 18
6. 23
7. 54
8. 28
9. 120
10. 243
11. 61
12. 114

Find the prime factorization of each number.
13. 125
14. 44

## 15. 11

16. 56
