

Lesson 8 Reteach

Factor Linear Expressions

A **linear expression** is in factored form when it is expressed as the product of its factors.

Example 1

Factor $5x + 10$.

Use the GCF to factor the linear expression.

$$5x = \underbrace{5}_{\text{GCF}} \cdot x \quad \text{Write the prime factorization of } 5x \text{ and } 10.$$

$$10 = \underbrace{5}_{\text{GCF}} \cdot 2 \quad \text{Circle the common factors.}$$

The GCF of $5x$ and 10 is 5 . Write each term as a product of the GCF and its remaining factors.

$$\begin{aligned} 5x + 10 &= 5(x) + 5(2) \\ &= 5(x + 2) \quad \text{Distributive Property} \end{aligned}$$

$$\text{So, } 5x + 10 = 5(x + 2).$$

Example 2

Factor $3x + 8$.

$$3x = 3 \cdot x$$

$$8 = 2 \cdot 2 \cdot 2$$

There are no common factors, so $3x + 8$ *cannot be factored*.

Exercises

Factor each expression. If the expression cannot be factored, write *cannot be factored*.

1. $15x + 10$

2. $7x - 3$

3. $6x + 9$

4. $30x - 25$

5. $13x + 14$

6. $50x - 75$

7. $24x - 18$

8. $18x + 13$

9. $16x - 12$

10. $36x + 45$