

Reteach**Algebra: Variables and Expressions**

- A **variable** is a symbol, usually a letter, used to represent a number.
- In addition to the symbol \times , the other ways to show multiplication are $2 \cdot 3$, $5t$, and st .
- **Algebraic expressions** contain at least one variable and at least one operation.

Example 1 Evaluate $35 + x$ if $x = 6$.

$$\begin{aligned} 35 + x &= 35 + 6 && \text{Replace } x \text{ with } 6. \\ &= 41 && \text{Add } 35 \text{ and } 6. \end{aligned}$$

Example 2 Evaluate $y + x$ if $x = 21$ and $y = 35$.

$$\begin{aligned} y + x &= 35 + 21 && \text{Replace } x \text{ with } 21 \text{ and } y \text{ with } 35. \\ &= 56 && \text{Add } 35 \text{ and } 21. \end{aligned}$$

Example 3 Evaluate $4n + 3$ if $n = 2$.

$$\begin{aligned} 4n + 3 &= 4 \cdot 2 + 3 && \text{Replace } n \text{ with } 2. \\ &= 8 + 3 && \text{Find the product of } 4 \text{ and } 2. \\ &= 11 && \text{Add } 8 \text{ and } 3. \end{aligned}$$

Example 4 Evaluate $4n - 2$ if $n = 5$.

$$\begin{aligned} 4n - 2 &= 4 \cdot 5 - 2 && \text{Replace } n \text{ with } 5. \\ &= 20 - 2 && \text{Find the product of } 4 \text{ and } 5. \\ &= 18 && \text{Subtract } 2 \text{ from } 20. \end{aligned}$$

ExercisesEvaluate each expression if $y = 4$.

1. $3 + y$

2. $y + 8$

3. $4 \cdot y$

4. $9y$

5. $15y$

6. $300y$

7. y^2

8. $y^2 + 18$

9. $y^2 + 3 \cdot 7$

Evaluate each expression if $m = 3$ and $k = 10$.

10. $16 + m$

11. $4k$

12. $m \cdot k$

13. $m + k$

14. $7m + k$

15. $6k + m$

16. $3k - 4m$

17. $2mk$

18. $5k - 6m$

19. $20m \div k$

20. $m^3 + 2k^2$

21. $k^2 \div (2 + m)$