



Name _____ Date _____

Variables and Expressions

Algebra is a language of symbols. In algebra, letters, called **variables**, are used to represent unknown quantities. A combination of one or more variables, numbers, and at least one operation is called an **algebraic expression**.

$x - 9$ means x minus 9.

$7m$ means 7 times m .

ab means a times b .

$\frac{h}{4}$ means h divided by 4.

To **evaluate** an algebraic expression, replace the variable or variables with known values and then use the order of operations.

EXAMPLE

Evaluate $2c - 7 + d$ if $c = 8$ and $d = 5$.

$$\begin{aligned} 2c - 7 + d &= 2(8) - 7 + 5 && \text{Replace } c \text{ with } 8 \text{ and } d \text{ with } 5. \\ &= 16 - 7 + 5 && \text{Multiply.} \\ &= 9 - 5 && \text{Subtract.} \\ &= 14 && \text{Add.} \end{aligned}$$

EXERCISES

Evaluate each expression if $x = 9$, $y = 5$, and $z = 2$.

1. $x + 6$

2. $y - 3$

3. $z + 11$

4. $23 - x$

5. $6z$

6. $14 + y$

7. $4z + 5$

8. $24 - 2x$

9. $3y - 7$

10. $\frac{x}{3}$

11. $\frac{14}{z}$

12. $\frac{xy}{15}$