

Evaluating Expressions

To *evaluate* an algebraic expression, a value should be substituted for each variable and the order of operations used to simplify.

EXAMPLE

Evaluate the expression $z^2 - z - 1$ for $z = 1$ and -4 .

$$z^2 - z - 1 \text{ for } z = 1$$

$$(1)^2 - (1) - 1$$

$$1 - 1 - 1$$

$$-1$$

When $z = 1$, the value of the expression is -1 .

$$z^2 - z - 1 \text{ for } z = -4$$

$$(-4)^2 - (-4) - 1$$

$$16 + 4 - 1$$

$$19$$

When $z = -4$, the value of the expression is 19 .

PRACTICE

Evaluate each of the following expressions for $n = 2, 5$ and -10 .

1. $4n$

2. $3n - 5$

3. $8 - n$

4. $n(n + 1)$

5. $\frac{3n(n-1)}{2}$

6. $2n^2 - 4$