

Evaluating Expressions



Objectives: I can evaluate expressions and solve problems by evaluating expressions.

We have learned that, in an algebraic expression, letters can stand for numbers. When we substitute a specific value for each variable, and then perform the operations, it's called evaluating the expression.

Evaluating a variable expression

Example 1

Evaluate $18 + 2g$, for $g = 3$.

$18 + 2g$ Replace the variable

$18 + 2 \cdot 3$ Use the order of operations to solve.

$18 + 6$
 24

Example 2

Evaluate $2ab - \frac{c}{3}$, for $a = 3, b = 4, c = 9$

$2ab - \frac{c}{3}$ Replace the variable

$2 \cdot 3 \cdot 4 - \frac{9}{3}$ Use the order of operations

$24 - 3$
 21

Remember that a number beside a variable is multiplied.
 $2a$ means $2 \cdot a$

Practice

Evaluate each expression.

1. $63 - 5x$, for $x = 7$

$63 - 5 \cdot 7$
 $63 - 35$
 28

2. $4(t + 3) + 1$, for $t = 8$

$4(8 + 3) + 1$
 $4(11) + 1$
 $44 + 1$
 45

3. $6(g + h)$, for $g = 8$ & $h = 7$

$6(8 + 7)$
 $6(15)$
 90

$3 \cdot 2 \cdot 15$

4. $2xy - z$, for $x = 4, y = 3$, and $z = 1$

$2 \cdot 4 \cdot 3 - 1$
 $24 - 1$
 23

5. $\frac{r+s}{2}$, for $r = 13$ and $s = 11$

$\frac{13 + 11}{2}$
 $\frac{24}{2} = 12$

6. Becky saves \$125 each year since her first birthday.

a. Write an expression for Becky's savings after 3 years. $125 \cdot 3$

b. Write an expression for Becky's savings after y years $125y$

c. Write an expression for when Becky is 14 years old, how much will she have saved? $125 \cdot 14$