

1.4 Evaluating Algebraic Expressions

** Substitute the numbers for the variables

Ex: 1. $-2x - 3$ for $x = -3$

$$\begin{aligned} & -2(-3) - 3 \\ & 6 - 3 \\ & 3 \end{aligned}$$

2. $50 - 3x$ for $x = 7$

$$\begin{aligned} & 50 - 3(7) \\ & 50 - 21 \\ & 29 \end{aligned}$$

3. $4a - 3b$ for $a = -5$ and $b = 2$

$$\begin{aligned} & 4(-5) - 3(2) \\ & -20 - 3(2) \\ & -20 - 6 \\ & -26 \end{aligned}$$

4. $2x^2 - 5x + 4$ for $x = -7$

$$\begin{aligned} & 2(-7)^2 - 5(-7) + 4 \\ & 2(49) - 5(-7) + 4 \\ & 98 - 5(-7) + 4 \\ & 98 + 35 + 4 \\ & 133 + 4 \\ & 137 \end{aligned}$$

5. $-7r + 6u - 5t$ for $r = 3$, $u = -3$ and $t = -2$

$$\begin{aligned} & -7(3) + 6(-3) - 5(-2) \\ & -21 + 6(-3) - 5(-2) \\ & -21 - 18 - 5(-2) \\ & -21 - 18 + 10 \\ & -39 + 10 \\ & -29 \end{aligned}$$

Practice:

6. $2a - 6b - 7c$ for $a = -5$, $b = 2$ and $c = 4$

$$\begin{aligned} & 2(-5) - 6(2) - 7(4) \\ & -10 - 6(2) - 7(4) \\ & -10 - 12 - 7(4) \\ & -10 - 12 - 28 \\ & -22 - 28 \\ & -50 \end{aligned}$$

7. $\frac{3}{4}(8x + 4) + \frac{1}{2}z$ for $x = -3$ and $z = 8$

$$\begin{aligned} & \frac{3}{4}(8(-3) + 4) + \frac{1}{2}(8) \\ & \frac{3}{4}(-24 + 4) + \frac{1}{2}(8) \\ & \frac{3}{4}(-20) + \frac{1}{2}(8) \\ & -15 + \frac{1}{2}(8) \\ & -15 + 4 \\ & -11 \end{aligned}$$

HOMEWORK

Worksheet

HW 1.4 Evaluating Expressions