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Module 2 Writing and Simplifying Algebraic Expressions
Lesson 5 Evaluating Expressions



guided
practice

1. Evaluate $\frac{x^2y}{xy^2}$ for $x = -2$ and $y = 3$.

$$\begin{aligned}\frac{x^2y}{xy^2} &= \frac{(-2)^2(3)}{(-2)(3)^2} \\ &= \frac{(4)(3)}{(-2)(9)} \\ &= \frac{12}{-18} \\ &= -\frac{2}{3}\end{aligned}$$

2. Evaluate prt for $p = 100$, $r = 0.05$, $t = 3$.

$$\begin{aligned}prt &= (100)(0.05)(3) \\ &= 5(3) \\ &= 15\end{aligned}$$

3. Evaluate $x^2 + 8x + 16$ for $x = 3$.

$$\begin{aligned}x^2 + 8x + 16 &= (3)^2 + 8(3) + 16 \\ &= 9 + 24 + 16 \\ &= 49\end{aligned}$$

4. Evaluate $(x + 4)(x + 4)$ for $x = 5$.

$$\begin{aligned}(x + 4)(x + 4) &= (5 + 4)(5 + 4) \\ &= (9)(9) \\ &= 81\end{aligned}$$

5. Evaluate $|5 - x^3|$ for $x = -3$.

$$\begin{aligned}|5 - x^3| &= |5 - (-3)^3| \\ &= |5 - (-27)| \\ &= |5 + 27| \\ &= |32| \\ &= 32\end{aligned}$$

6. Evaluate $\sqrt{b^2 - 4ac}$ for $a = 1$, $b = 6$, and $c = 9$.

$$\begin{aligned}\sqrt{b^2 - 4ac} &= \sqrt{6^2 - 4(1)(9)} \\ &= \sqrt{36 - 36} \\ &= 0\end{aligned}$$

