

4.4 Algebraic Expressions

Variable: a symbol, usually a letter, used to represent a number.

Order of Operations: Order that you simplify an expression. PEMDAS

To evaluate an expression, you replace the variable with a number and then simplify.

1. Evaluate: $7p$ if $p=2$

$$\begin{aligned} 7p \\ 7 \cdot (2) \\ \boxed{14} \end{aligned}$$

2. Evaluate: $5y - 8$ for $y=7$

$$\begin{aligned} 5 \cdot (7) - 8 & \quad \begin{array}{r} 2 \times 5 \\ - 8 \\ \hline 27 \end{array} \\ \sqrt{} \\ 35 - 8 \\ \boxed{27} \end{aligned}$$

3. $6(x - y)^2$ when $x=7$ and $y=4$

$$\begin{aligned} 6(7-4)^2 \\ 6 \cdot (3)^2 \\ \quad \quad \quad 3 \cdot 3 \\ 6 \cdot 9 \\ \boxed{54} \end{aligned}$$

4. $5n + 2$ when $n=6$

$$\begin{aligned} 5 \cdot (6) + 2 \\ \sqrt{} \\ 30 + 2 \\ \boxed{32} \end{aligned}$$

Ex: $\frac{z}{3} - 1$ $z=10$

$$\frac{10}{3} - \left(\frac{1}{1}\right) \cdot 3$$

$$\frac{10}{3} - \frac{3}{3} = \boxed{\frac{7}{3}}$$