

## 6.3 Expressions and Variables

***Objective: To recognize and evaluate variable expressions***



# Variables

**Variable** - a symbol or letter that represents an unknown.

$$9 + \underline{\hspace{2cm}}$$

$$6 \cdot x$$

$$y - x$$

These are all **variables**

**Algebraic Expression** – contains at least one variable and at least one operation

$$5 \cdot x$$

$$5(x)$$

$$5x$$

These are all mean five times x

# Evaluate (solve) the algebraic expression when $x=3$

1)  $x + 4$

$$3 + 4 = 7$$

2)  $4x$

$$4 \cdot 3 = 12$$

3)  $\frac{24}{x}$

$$\frac{24}{3} = 8$$

4)  $x - 1$

$$3 - 1 = 2$$

# Evaluate the variable expression if $x=2$ , $y=4$ , and $z=6$

1)  $x + y + 20$

$$2 + 4 + 20$$

$$26$$

2)  $xz$

$$2 \cdot 6$$

$$12$$

3)  $x + y + z$

$$2 + 4 + 6$$

$$12$$

4)  $xyz$

$$2 \cdot 4 \cdot 6$$

$$48$$

5)  $x^y$

$$2^4$$

$$16$$