

Two SPECIAL CASES WHEN

SOLVING EQUATIONS:

CASE 1

$$\begin{array}{rcl} \cancel{3x} + 6 & = & \cancel{3x} - 2 \\ -\cancel{3x} & & -\cancel{3x} \end{array}$$

$$6 = -2 \text{ False}$$

NO SOLUTION

CASE 2

$$\begin{array}{rcl} \cancel{5x} - 6 & = & \cancel{5x} - 6 \\ -\cancel{5x} & & -\cancel{5x} \end{array}$$

$$-6 = -6 \text{ TRUE}$$

ALL REALS or ALL Real Numbers

$$\begin{array}{rcl}
 \textcircled{5} & 28 - 0.3y & = 0.7y - 12 \\
 & +0.3y & +0.3y \\
 & & \downarrow \\
 & & = 1.0y - 12 \\
 & 28 & \\
 +12 & & +12 \\
 40 & & = 1.0y \\
 & \boxed{1.0y = 40} &
 \end{array}$$

$$\underline{\underline{OK}} \quad 28 - 0.3(40) \stackrel{?}{=} 0.7(40) - 12$$

$$28 - 12.0 \stackrel{?}{=} 28.0 - 12 \quad \checkmark$$

$$\textcircled{7} \quad 3c - 4c + 1 = 5c + 2 + 3$$

$$\begin{array}{rcl}
 -1c & +1 & = 5c + 5 \\
 +1c & & +1c
 \end{array}$$

$$\begin{array}{rcl}
 1 & = & 6c + 5 \\
 -5 & & -5
 \end{array}$$

$$\frac{-4}{6} = \frac{6c}{6}$$

$$\boxed{c = -\frac{2}{3}}$$