

# Errors in Equation Solving Warm-Up

Name \_\_\_\_\_

$$\begin{array}{rcl} \textcircled{1} & 57 & = -3(4x - 3) \\ & 57 & = -12x - 9 \\ & +9 & \qquad \qquad +9 \\ \hline & \frac{66}{12} & = \frac{-12x}{12} \\ & 5.5 & = x \end{array}$$

Where are the mistakes?  
Explain.

Solve Correctly

Check:

$$57 = -3(4x - 3)$$

$$\textcircled{2} \quad -3(4x+3) + 4(6x+1) = 43$$

$$\boxed{-12x} - 9 + \boxed{24x} + 1 = 43$$

$$36x - 9 + 1 = 43$$

$$\begin{array}{r} \phantom{36x} - 9 \phantom{+ 1} \\ \phantom{36x} - 1 \phantom{- 9} \phantom{+ 1} \\ \hline \end{array}$$

$$36x - 9 = 42$$

$$\phantom{36x} + 9 \phantom{= 42}$$

$$\begin{array}{r} \phantom{36x} + 9 \\ \hline 36x = 33 \\ \hline 36 \phantom{=} \phantom{33} \\ \hline \end{array}$$

$$x = \frac{33}{36}$$

Where are the mistakes?  
Explain.

Solve Correctly

Check on Calculator

$$-3(4x+3) + 4(6x+1) = 43$$

# Errors in Equation

Name Key

## Solving Warm-Up

$$\begin{array}{r} \textcircled{1} \quad 57 = -3(4x - 3) \\ 57 = -12x - 9 \\ +9 \qquad \qquad +9 \\ \hline 66 = -12x \\ \frac{66}{-12} = \frac{-12x}{-12} \\ -5.5 = x \end{array}$$

Where are the mistakes?  
Explain.

Should be +9  
after you distribute

should be  $\div$  by  
-12

Solve Correctly

$$\begin{array}{r} 57 = -3(4x - 3) \\ 57 = -12x + 9 \\ -9 \qquad \qquad -9 \\ \hline 48 = -12x \\ \frac{48}{-12} = \frac{-12x}{-12} \\ -4 = x \end{array}$$

$$\boxed{-4 = x}$$

Check:

$$\begin{array}{l} F \quad 57 = -3(4x - 3) \\ \quad 57 = -3(4(-4) - 3) \\ \quad \quad \quad -16 - 3 \end{array}$$

S:

$$57 = -3(-19)$$

S:

$$57 = 57 \checkmark$$

$$\textcircled{2} \quad -3(4x+3) + 4(6x+1) = 43$$

$$\boxed{-12x} - 9 + \boxed{24x} + 1 = 43$$

$$12x \rightarrow 36x - 9 + 1 = 43$$

$$\begin{array}{r} -1 \quad -1 \\ \hline \end{array}$$

$$\begin{array}{r} 36x - 9 = 43 \\ +9 \quad +9 \end{array}$$

$$\begin{array}{r} \hline 36x = 33 \\ \hline 36 \quad 36 \end{array}$$

$$x = \frac{33}{36}$$

Where are the mistakes?  
Explain.

Solve Correctly

Check on Calculator

$$-3(4x+3) + 4(6x+1) = 43$$

$$-12x - 9 + 24x + 4 = 43$$

$$\begin{array}{r} 12x - 9 + 4 = 43 \\ \hline \end{array}$$

$$\begin{array}{r} 12x - 5 = 43 \\ +5 \quad +5 \end{array}$$

$$\begin{array}{r} \hline 12x = 48 \\ \hline 12 \quad 12 \\ \hline \boxed{x = 4} \end{array}$$