

Unit 1 - Quadratics
Solving One-Variable Equations

Example 1

$$\begin{array}{r|l} -9x + \cancel{1} = -80 & \\ \hline -9x = -81 & \\ \hline \frac{-9x}{-9} = \frac{-81}{-9} & \end{array}$$

$$x = 9$$

Example 2

$$\begin{array}{r} 5x - 4 = 21 \\ +4 \quad +4 \\ \hline 5x = 25 \\ \hline \frac{5x}{5} = \frac{25}{5} \end{array}$$

$$x = 5$$

Example 3

$$6(2x + 3) = -18$$

$$\begin{array}{r} 12x + \cancel{18} = -18 \\ -18 \quad -18 \\ \hline \end{array}$$

$$\begin{array}{r} 12x = -36 \\ \hline 12 \quad 12 \end{array}$$

$$x = -3$$

Example 4

$$2(4x - 7) = -30$$

$$\begin{array}{r} 8x - \cancel{14} = -30 \\ +14 \quad +14 \\ \hline \end{array}$$

$$\begin{array}{r} 8x = -16 \\ \hline 8 \quad 8 \end{array}$$

$$x = -2$$

Example 5 $5(x - 3) + 4x = -6$

$$5x - 15 + 4x = -6$$

$$\begin{array}{r} 9x - 15 = -6 \\ +15 \quad +15 \\ \hline \end{array}$$

$$\frac{9x}{9} = \frac{9}{9}$$

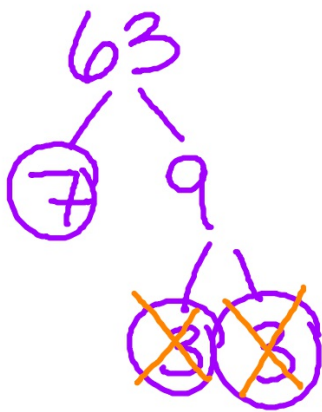
$$\boxed{x = 1}$$

Simplifying Radicals



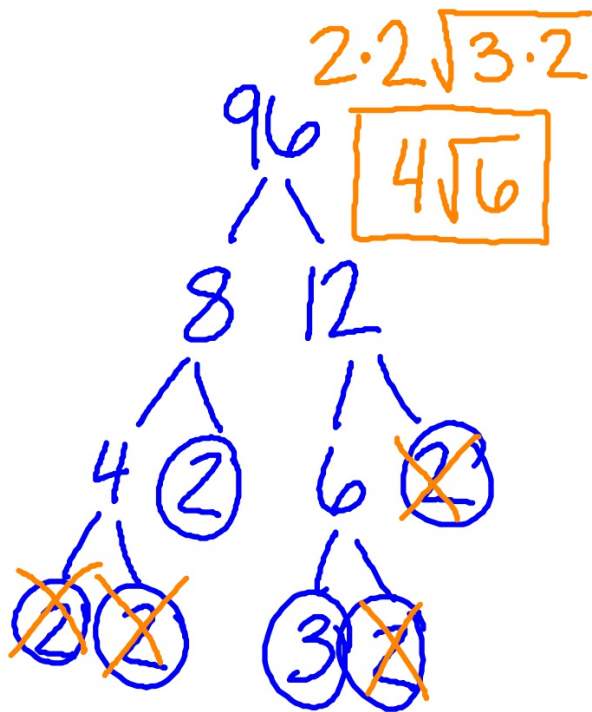
Example 1 $\sqrt{63} = 3\sqrt{7}$

$$\begin{aligned} &\sqrt{63} \\ &\sqrt{7 \cdot 9} \\ &\sqrt{7} \sqrt{9} \\ &\sqrt{7} \cdot 3 \\ &3\sqrt{7} \end{aligned}$$



- ① Look for primes
- ② Single primes go under $\sqrt{\quad}$
- ③ Cross out pairs and write one on outside of $\sqrt{\quad}$

Example 2 $\sqrt{96}$



Example 3 $\sqrt{360}$

