

# Set = 0! Example

Solve:

$$\begin{array}{r} 15a^2 = 24a - 9 \\ -24a \quad -24a \\ \hline \end{array}$$

$$\begin{array}{r} 15a^2 - 24a = -9 \\ +9 \quad +9 \\ \hline \end{array}$$

$$15a^2 - 24a + 9 = 0$$

FACTORING

$$3(5a^2 - 8a + 3) = 0$$

$$\begin{array}{r} \phantom{5}a^2 \phantom{-5}a \phantom{-3}a \phantom{+3} \\ \phantom{5}a^2 - 5a - 3a + 3 = 0 \\ \phantom{5}a^2 - 5a - 3a + 3 = 0 \end{array}$$

$$\downarrow 5a(a-1) - 3(a-1) = 0$$

$$3(a-1)(5a-3) = 0$$

$$\begin{array}{r} a-1=0 \quad 5a-3=0 \\ a=1 \quad \phantom{a=1} \end{array}$$

$$\frac{5a}{5} = \frac{3}{5}$$

$$a = \frac{3}{5}$$



Quad. Formula

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$\begin{array}{c} a \quad b \quad c \\ 15a^2 - 24a + 9 = 0 \end{array}$$

$$= \frac{24 \pm \sqrt{(-24)^2 - 4(15)(9)}}{2(15)}$$

$$= \frac{24 \pm \sqrt{36}}{30}$$

$$= \frac{24 \pm 6}{30}$$

$$\frac{24+6}{30}, \frac{24-6}{30}$$

$$\left( \frac{1}{1}, \frac{3}{5} \right)$$