

# QUADRATIC FORMULA

$$\text{FORM: } ax^2 + bx + c = 0$$

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

$$1. \quad x^2 - 8x + 3 = 0$$

$$a = 1 \quad b = -8 \quad c = 3$$

$$x = \frac{-(-8) \pm \sqrt{(-8)^2 - 4(1)(3)}}{2(1)}$$

$$\text{ex: } \begin{array}{c} 0 \\ 0 \\ 0 \end{array} \quad \frac{5 \pm \sqrt{7}}{10}$$

$$\text{ex: } \begin{array}{c} 0 \\ 0 \\ 0 \end{array} \quad \frac{6 \pm i\sqrt{2}}{3}$$

$$= \frac{8 \pm \sqrt{64 - 12}}{2}$$

$$= \frac{8 \pm \sqrt{52}}{2}$$

$$\text{ex: } \begin{array}{c} 0 \\ 0 \\ 0 \end{array} \quad \frac{5 \pm 1}{10}$$

$$\frac{6}{3} \pm \frac{\sqrt{2}}{3}i$$

$$= \frac{8 \pm \sqrt{2 \cdot 2 \cdot 13}}{2}$$

$$= \frac{8 \pm 2\sqrt{13}}{2}$$

$$= \frac{4 \pm 1\sqrt{13}}{1}$$

$$= \boxed{4 \pm \sqrt{13}}$$

$$\begin{array}{cc} \frac{5+1}{10} & \frac{5-1}{10} \\ \frac{6}{10} & \frac{4}{10} \\ \frac{3}{5} & \frac{2}{5} \end{array}$$