

$$3. \quad x^2 + 2x + 6 = 0 \quad a=1 \quad b=2 \quad c=6$$

$$x = \frac{-(-2) \pm \sqrt{(-2)^2 - 4(1)(6)}}{2(1)}$$

$$x = \frac{-2 \pm \sqrt{4-24}}{2}$$

$$x = \frac{-2 \pm \sqrt{-20}}{2}$$

$$x = \frac{-2 \pm i\sqrt{5 \cdot 4}}{2}$$

$$x = \frac{-2 \pm 2i\sqrt{5}}{2}$$

$$\therefore x = -1 \pm i\sqrt{5} \rightarrow \begin{aligned} x &= -1 + i\sqrt{5} \\ x &= -1 - i\sqrt{5} \end{aligned}$$