

Introduction to i .

$$x^2 = -4. \leftarrow \text{Has no real solutions.}$$

$$x^2 = -1 \Rightarrow x = \pm i \quad (i = \sqrt{-1}).$$

Ex. So $x^2 = -4 \Rightarrow x = \pm \sqrt{-4} = \pm i2.$

Ex. $x^2 = -27 \Rightarrow x = \pm \sqrt{-27} = \pm \sqrt{-3^2 \cdot 3} = \pm i \cdot 3\sqrt{3}.$
