

* Solve $x^2 + 4x + 6 = 0$ ✖
cannot factor so we cannot solve

Need a new method

RADICALS → SQUARE ROOTS

Every positive number has 2 square roots

49 → sq roots are 7 and -7
because $(7)(7) = 49$

$$(-7)(-7) = 49$$

Square roots of 49 are (7) and (-7)
principal root negative root

$$\sqrt{49} = 7$$
$$-\sqrt{49} = -7$$

$$\sqrt{36} = 6$$

$$-\sqrt{25} = -5$$

$$\sqrt{0} = 0$$
$$0 \cdot 0 = 0$$

$\sqrt{-49} = ?$
No Real Answer

identical
 $(\sqrt{?})(\sqrt{?}) = -49$
Nothing works
(No Real Number)

$$-\sqrt{-49}$$

Radical acts as grouping

No Real Answer

$$-(-2) = [2]$$