TOPIC: COMPLEX SOLUTIONS OF QUADRATIC EQUATIONS

Imaginary Solutions

◆ When using the square root property, you may get _____ (or complex) solutions. (e.g. $x = \pm\sqrt{-1} = \pm i$)

EXAMPLE   Solve the given quadratic equation using the square root property.

$2x^2 + 32 = 0$

Recall

If $x^2 = k$

then $x = \pm\sqrt{k}$

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PRACTICE Solve each quadratic equation. If roots are not real, use i.

(**A**)
$$2x^2 + 18 = 0$$

(**B**)
$$\frac{w^2}{4} + 8 = 0$$

(**C**)
$$(3z - 1)^2 + 5 = 0$$

EXAMPLE Solve each equation by completing the square.

$$x^2 - 2x + 3 = 0$$