TOPIC: COMPLETING THE SQUARE

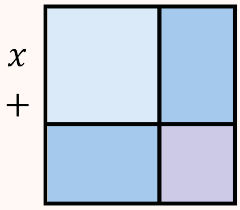
Complete the Square

◆ If a quadratic isn't in the form $(x + h)^2 = k$, you can _____ put it in that form by **completing the square**.

New **Completing the Square**

$x^2 + 6x + 12$

x +



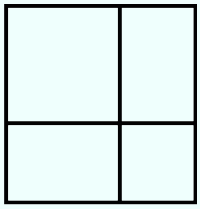
x +

$(\quad + \quad)^2 \qquad = x^2 + 2x + \_\_\_\_$

◆ Once you complete the square you can use the _____ property to solve the quadratic.

EXAMPLE Solve the quadratic equation by completing the square.

$x^2 + 6x - 7 = 0$



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PRACTICE Determine the value we need to add to the equation to make it a perfect square trinomial, then factor it.

(***A***) $x^2 + 8x + \_\_$

(***B***) $y^2 - 10y + \_\_$

EXAMPLE Solve the quadratic equation by completing the square.

(***A***) $2x^2 - 4x - 1 = 0$

(***B***) $z^2 - 3z = 4$

PRACTICE Solve for x.

$8x^2 - 20x + 12 = 4$

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EXAMPLE Solve the quadratic equation by completing the square.

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