CHAPTER 1 ,LESSON 3

Solving Quadratic Equations by Completing the Square

complete the square

$x^2 + bx = d$

Add $(\frac{b}{2})^2$ on both sides

$x^2 + bx + (\frac{b}{2})^2 = d + (\frac{b}{2})^2$

$(x + \frac{b}{2})^2 = d + (\frac{b}{2})^2$

Square Root Property

If $x^2 = d$

$X = \pm\sqrt{d}$

Find the value of c that makes each trinomial a perfect square.

1) $x^2 + 26x + c$

$C = (\frac{b}{2})^2 = (\quad)^2 =$

$x^2 + 26x + \qquad = (\quad + \quad)^2$

2) $x^2 - 13x + c$

$C = (\quad)^2 =$

$x^2 - 13x + \qquad = (\qquad\qquad)^2$

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3) Solve the equation by completing the square $x^2 + 6x - 16 = 0$

$x^2 + 6x - 16 \quad = \quad 0$

$\qquad\quad + \qquad\qquad +$

$x^2 + 6x \qquad =$

$x^2 + 6x + \qquad = \; 16 \; +$

$(\qquad + \qquad)^2 =$

$\qquad + \qquad\quad = \quad \pm\sqrt{}$

$\qquad \mathbf{+} \qquad\quad = \pm$

X $= \pm \qquad -$

The Solutions are and

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