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

$$a=1$$

$$b=6$$

$$c=-7$$

$$\frac{b}{2} = \frac{6}{2} = 3$$

$$3^2 = 9$$

x-method or $x^2 + 6x + 9 = 7 + 9$
 $x^2 + 6x + 9 = 16$
 $\sqrt{(x+3)^2} = \sqrt{16}$

$$x+3 = \pm 4$$

$$x+3 = 4$$

$$x = 1$$

$$x+3 = -4$$

$$x = -7$$

$$(x+3)(x+3) = (x+3)^2$$

$$\begin{array}{c} 9 \\ 3 \times 3 \\ 6 \end{array}$$

special cases.

$$(a+b)^2 = a^2 + 2ab + b^2$$

$$(a-b)^2 = a^2 - 2ab + b^2$$

$$a^2 - b^2 = (a-b)(a+b)$$