

Solve.

$$x^2 - 9 = 0$$

$$x^2 = 9$$

$$x = \pm 3$$

$$(x-4)^2 = 9$$

$$x-4 = \pm 3$$

$$x = 4 \pm 3 = \begin{cases} 7 \\ 1 \end{cases}$$

$$(x-4)^2 - 1 = 3$$

$$(x-4)^2 = 4$$

$$x-4 = \pm 2$$

$$x = 4 \pm 2 = \begin{cases} 6 \\ 2 \end{cases}$$

Solve by completing the square

$$x^2 + 8x + 7 = 0$$

$$\begin{array}{r} x^2 + 8x = -7 \\ +16 \quad +16 \\ \hline \end{array}$$

$$\left(\frac{8}{2}\right)^2 = 16$$

$$x^2 + 8x + 16 = 9$$

$$(x+4)^2 = 9$$

$$x+4 = \pm 3$$

$$x = -4 \pm 3$$

$$x = \begin{cases} -1 \\ -7 \end{cases}$$