

Solving Quadratics by Factoring

$$3x + \overset{-7}{7} = \overset{-7}{22}$$

$$\frac{3x}{3} = \frac{15}{3}$$

$$\boxed{x = 5}$$

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

$$(x + 4)(x - 2) = 0$$

Set each factor equal to zero:

$$x + 4 = 0$$

$$\boxed{x = -4}$$

$$x - 2 = 0$$

$$\boxed{x = 2}$$

$$\{-4, 2\}$$

$$2x^2 + 9x + 4 = 0$$

$$(2x^2 + 8x) + (1x + 4) = 0$$

$$2x(\underline{x+4}) + 1(\underline{x+4}) = 0$$

$$(x+4)(2x+1) = 0$$

Set each factor equal to zero:

$$x + 4 = 0$$

$$\boxed{x = -4}$$

$$2x + 1 = 0$$

$$2x = -1$$

$$\boxed{x = -\frac{1}{2}}$$

$$\{-4, -\frac{1}{2}\}$$