

Factor Completely

$$x^2 - 12x + 35$$

$$4x^2 - 20x + 21$$

$$6x^2 + 33x - 63$$

Solve by factoring

$$x^2 - 4x - 96 = 0$$

$$3x^2 - x - 10 = 0$$

Find the value of the discriminant. Find the number of real or imaginary solutions. If the solutions are real classify them as rational or irrational.

$$6x^2 + 2x + 1 = 0$$

$$3x^2 + 11x + 4 = 0$$

Solve using the quadratic formula. Classify each solution as rational, irrational, or complex. When possible make sure you simplify your radicals.

$$x^2 - 16x + 4 = 0$$

$$x^2 - 6x + 13 = 0$$

Perform the indicated operation:

$$-4 + 8i - (-2 - i) - 15i$$

$$(2 - 6i)(3 + 2i)$$

Marsha hits a tennis ball upward from a top a 90 foot cliff with an initial upward velocity of 16 feet per second. Find the time it will take for the ball to hit the ground.