**Quadratic** (2nd degree polynomial)

**Quadratic Equation:** *ax*2 + *bx* + *c* = 0, *a* ≠ 0, where *a*, *b*, and *c* are real numbers.

**Quadratic Function:**  *f* (*x*) = *ax*2 + *bx* + *c*, *a* ≠ 0, where *a*, *b*, and *c* are real numbers.

Both can have real-number or imaginary-number solutions.

***Zeros:*** *Solutions* of *ax*2 + *bx* + *c* = 0.

**Square-Root Method: Always produces two solutions:**

*If x2 = k, then x = or x =*

**Example 1:** Solve

**Example 2:** Solve

**Example 3:** Solve *2x2 − 10 = 0*

**Example 4:** Solve *(x - 5)2= 24*

**Example 5**: 3(7m + 2)2 + 4 = 40

**Example 6**:

**Example 7**: (hint: rationalize denominator)

**Example 8**:

**Example 9**:

**Example 10**:

**Example 11**: (hint: perfect square trinomial)

**Example 12**: (hint: perfect square trinomial)