

Turn in the Quiz Corrections
and the O.T.L.

9.6. Solving Quadratic Equations by the Quadratic Formula

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Quadratic Equation: } Standard Form.
 } Curve Line

$$ax^2 + bx + c = 0$$

Quadratic Formula: the Solutions ≡
for a Quadratic Equation are...

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

When: $a \neq 0$: because 0 cannot be the Denom.

$(b^2 - 4ac) > 0$: because the Radicand cannot be Negative.

Solve: $x^2 + 9x + 14 = 0$

1st find $a = 1$
 $b = 9$
 $c = 14$

2nd Use Q.F.
 $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

$$x = \frac{-(9) \pm \sqrt{(9)^2 - 4(1)(14)}}{2(1)}$$

$$= \frac{-9 \pm \sqrt{81 - 56}}{2} = \frac{-9 \pm \sqrt{25}}{2} = \frac{-9 \pm 5}{2}$$

$$x = \frac{-9+5}{2} \quad \text{or} \quad x = \frac{-9-5}{2}$$
$$= \frac{-4}{2} \quad \quad \quad = \frac{-14}{2}$$

$$x = -2 \quad \text{or} \quad x = -7$$

Solve: $-2 + x^2 = -x$

1st: Get into Standard form

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

find $a = 1$
 $b = 1$
 $c = -2$

Then:

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$x = \frac{-(1) \pm \sqrt{(1)^2 - 4(1)(-2)}}{2(1)}$$

$$= \frac{-1 \pm \sqrt{1 + 8}}{2} = \frac{-1 \pm \sqrt{9}}{2} = \frac{-1 \pm 3}{2}$$

$$x = \frac{-1 + 3}{2} \quad \text{or} \quad x = \frac{-1 - 3}{2}$$

$$= \frac{2}{2} \quad \text{or} \quad = \frac{-4}{2}$$

$$x = 1 \quad \text{or} \quad x = -2$$

O.T.L.

① Ag 536-537

19-27(0); 28, 31, 34, 37,

40, 42, 48, 49, 53, 55