

Group test. Work as a team. Each person must have all work on a sheet. Only one random sheet from the group will be graded, but they all will be collected. An individual test is to follow. This is an opportunity to work with peers and get a deeper understanding of the quadratic formula. One of the most important high school math formulas.

The quadratic formula:

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

Standard form:  $y = ax^2 + bx + c$

Example:

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

$$x = \frac{-2 \pm \sqrt{2^2 - [4(1)(-8)]}}{2(1)} = \frac{-2 \pm \sqrt{4 - [-32]}}{2}$$

$$= \frac{-2 \pm \sqrt{4 + 32}}{2} = \frac{-2 \pm \sqrt{36}}{2}$$

$$= \frac{-2 \pm 6}{2}$$

$$x = -4; \quad x = 2$$

Problems:

$$1) x^2 - 8x - 33 = 0$$

$$2) 9x^2 - 12x + 4 = 0$$

$$3) x^2 + 2x + 2 = 0$$

Challenge Problems

$$4) 0.5x^2 + x - 1.5 = 0$$

$$5) \frac{1}{2}x^2 - \frac{5}{2}x - \frac{5}{2} = 0$$

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