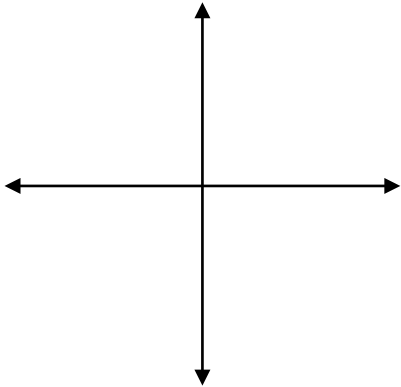


1. On the graph below, sketch a parabola that will have the follow characteristics:
  - The value of the discriminant is zero.
  - The value of "A" in  $Ax^2 + Bx + C = y$  is negative.



2. The quadratic equation  $5x^2 + 17x - 12 = y$  has two x-intercepts. Using your knowledge of finding x-intercepts using FACTORING and the QUADRATIC FORMULA, reveal the x-intercepts using BOTH methods.

- FACTORING

- QUADRATIC FORMULA

3. Create an example of the **Difference of Two Squares**. Then factor it. Then FOIL your factored result to show you get the original example you wrote.

4. Given the equation  $2x^2 - 12x + 22 = y$ , use COMPLETING THE SQUARE to put it in VERTEX FORM. Then, using any method - logic included - state why this parabola has no x-intercepts.

5. Locate the error and give the CORRECT solution to the following three

$x^2 - x - 4 = y \rightarrow \frac{-B \pm \sqrt{B^2 - 4AC}}{2A}$

$A=1 \quad B=-1 \quad C=-4$

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

$\frac{1 \pm \sqrt{17}}{2} \rightarrow \frac{1 \pm 17}{2}$

9      -8

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$$-2x^2 - 5x + 3 = y$$

$$A = -2 \quad B = -5 \quad C = 3$$

$$\frac{-B \pm \sqrt{B^2 - 4AC}}{2A}$$

$$\frac{-(-5) \pm \sqrt{(-5)^2 - 4(-2)(3)}}{2(-2)}$$

$$\frac{5 \pm \sqrt{25 - 24}}{-4}$$

$$\frac{5 \pm 1}{-4}$$

↓

$$\frac{-3}{2} \quad -1$$

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Solve by taking the square root of each side

$$\begin{array}{r} -3x^2 + 10 = -80 \\ -10 \quad -10 \\ \hline \end{array}$$

$$\begin{array}{r} -3x^2 = -90 \\ -3 \quad -3 \\ \hline \end{array}$$

$$\sqrt{x^2} = \sqrt{30}$$

$$x = \sqrt{30}$$

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