

November 30, 2015

Test #4

$$b^2 - 4ac = (-2)^2 - 4(-1)(3)$$

$$= 4 + 12$$

$$= 16 > 0 \rightarrow 2 \text{ Real Sol's}$$

#3) $f(x) = -x^2 - 2x + 3$

Vertex: $\left(-\frac{b}{2a}, f\left(-\frac{b}{2a}\right)\right)$

$$x = -\frac{-2}{2(-1)} = -\frac{-2}{-2} = -1$$

$$f(-1) = -(-1)^2 - 2(-1) + 3$$

$$= -1 + 2 + 3$$

$$= 1 + 3$$

$$= 4$$

Vertex: $(-1, 4)$

A.S.: $x = -1$

Range: $(-\infty, 4]$

Nov 30-11:01 AM

Final Exam: Monday

* Review all prior quizzes

December 7 @ 10:20 am

* College Algebra

Final

December 11 @ 10:20 am

Nov 30-11:18 AM

$$4x^2 - 2x + 5 = 0$$

ways to solve

- Ⓐ Factor (if possible)
- Ⓑ Completing the Square
- Ⓒ Quadratic Formula

Discriminate: $b^2 - 4ac$

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

Ⓐ If $b^2 - 4ac > 0$, then we have 2 Real Solutions

Ⓑ If $b^2 - 4ac = 0$, then 1 Real Solution

Ⓒ If $b^2 - 4ac < 0$, then 2 Complex Solutions

$$b^2 - 4ac = (-2)^2 - 4(4)(5)$$

$$= 4 - 80$$

$$= -76 < 0 \rightarrow 2 \text{ Complex Sol's}$$

Nov 30-11:30 AM

$$4x^2 - 2x + 5 = 0$$

$$\frac{4x^2 - 2x}{4} = \frac{-5}{4}$$

$$x^2 - \frac{1}{2}x = -\frac{5}{4}$$

Ⓐ $\left(-\frac{1}{2}\right) \cdot \frac{1}{2} = -\frac{1}{4}$

Ⓑ $\left(-\frac{1}{4}\right)^2 = \frac{1}{16}$ add to both sides

$$x^2 - \frac{1}{2}x + \frac{1}{16} = -\frac{5}{4} + \frac{1}{16}$$

$$\left(x - \frac{1}{4}\right)^2 = \frac{-20 + 1}{16} = -\frac{19}{16}$$

$$\sqrt{\left(x - \frac{1}{4}\right)^2} = \pm \sqrt{-\frac{19}{16}}$$

$$x - \frac{1}{4} = \pm \frac{\sqrt{19}}{4}$$

$$x = \frac{1}{4} \pm \frac{\sqrt{19}}{4}$$

$$= \frac{1 \pm \sqrt{19}}{4}$$

Nov 30-11:43 AM