

April 17, 2015

$$\frac{-3x^2 - 5x + 10}{-3} = 0$$

$$x^2 + \frac{5}{3}x - \frac{10}{3} = 0$$

$$x^2 + \frac{5}{3}x = \frac{10}{3}$$

a)  $\frac{5}{3} \cdot \frac{1}{2} = \frac{5}{6}$   
 b)  $(\frac{5}{6})^2 = \frac{25}{36}$

$$x^2 + \frac{5}{3}x + \frac{25}{36} = \frac{10}{3} + \frac{25}{36}$$

$$(x + \frac{5}{6})^2 = \frac{100 + 25}{36}$$

$$(x + \frac{5}{6})^2 = \frac{125}{36}$$

$$x + \frac{5}{6} = \pm \sqrt{\frac{125}{36}}$$

$$x = -\frac{5}{6} \pm \frac{\sqrt{125}}{6}$$

$$x = \frac{-5 \pm \sqrt{125}}{6}$$

Apr 17-9:53 AM

Ok  $x = \frac{-5 - \sqrt{125}}{6}$

$$-3x^2 - 5x + 10 = 0$$

$$-3\left(\frac{-5 - \sqrt{125}}{6}\right)^2 - 5\left(\frac{-5 - \sqrt{125}}{6}\right) + 10 = 0$$

$$-3\left(\frac{25 + 10\sqrt{125} + 125}{36}\right) + \frac{25}{6} + \frac{5\sqrt{125}}{6} + 10 = 0$$

$$-3\left(\frac{170 + 10\sqrt{125}}{36}\right) + \frac{25}{6} + \frac{5\sqrt{125}}{6} + 10 = 0$$

$$-\left(\frac{170}{12} + \frac{10\sqrt{125}}{12}\right) + \frac{25}{6} + \frac{5\sqrt{125}}{6} + 10 = 0$$

$$-\frac{170}{12} - \frac{10\sqrt{125}}{12} + \frac{50}{12} + \frac{10\sqrt{125}}{12} + 10 = 0$$

$$\frac{-170 + 50}{12} + 10 = 0$$

$$-\frac{120}{12} + 10 = 0$$

$$-10 + 10 = 0$$

$$0 = 0 \checkmark$$

Apr 17-10:03 AM

#1)  $(2x - 3)^2 + 25 = 0$

Apr 17-10:01 AM

- \* Exam #3 - Wednesday
- \* Solving Quadratics
  - Square Root Property
  - Completing the Square
  - Quadratic Formula
- \* Complex Numbers
- \* Finding equations to lines.
- \* Final - Friday, May 1  
@ 10:20 am in this room.

Apr 17-10:11 AM

$$\left(\frac{-7 - \sqrt{33}}{2}\right)^2 + 7\left(\frac{-7 - \sqrt{33}}{2}\right) + 4 = 0$$

$$\frac{49 + 14\sqrt{33} + 33}{4} - \frac{49}{2} - \frac{7\sqrt{33}}{2} + 4 = 0$$

$$\frac{82}{4} + \frac{14\sqrt{33}}{4} - \frac{98}{4} - \frac{14\sqrt{33}}{4} + 4 = 0$$

$$\frac{82 - 98}{4} + 4 = 0$$

$$-\frac{16}{4} + 4 = 0$$

$$-4 + 4 = 0$$

$$0 = 0$$

Apr 17-10:23 AM

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

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

↓  
Quadratic Formula

Apr 17-10:28 AM

$$\rightarrow x^2 - 5x + 10 = 0$$
 Using the Quadratic Formula  
 ① State  $a, b, c$   
 $a = -3, b = -5, c = 10$   
 ② Plug in values  

$$x = \frac{-(-5) \pm \sqrt{(-5)^2 - 4(-3)(10)}}{2(-3)}$$

$$= \frac{5 \pm \sqrt{25 + 120}}{-6}$$

$$= \frac{5 \pm \sqrt{145}}{-6}$$

$$x = -\frac{5 \pm \sqrt{145}}{6}$$

Apr 17-10:34 AM

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \rightarrow \text{Discriminant}$$
Types of Solutions  
 ① If  $b^2 - 4ac > 0$ , then two Real Solutions  
 ② If  $b^2 - 4ac = 0$ , then "one" Real Solution  
 ③ If  $b^2 - 4ac < 0$ , then two Complex Solutions

Apr 17-10:41 AM

11.2  
 #11)  $x^2 + 4x = -2$   
 $a x^2 + b x + c = 0$   
 $a = 1, b = 4, c = 2$   
 $b^2 - 4ac = (4)^2 - 4(1)(2)$   
 $= 16 - 8$   
 $= 8 > 0, 2 \text{ real Solutions}$

Apr 17-10:48 AM

Do 11.2  $\neq$  Discriminant

Apr 17-10:50 AM