

## Video Coverage of Fall '14 Test :

<http://www.harryzaims.com/121-all/121-fall-15/videos/121-test-1-fall-14/>

Click on Link Test 1

$1 \pm \frac{2i\sqrt{5}}{5} = \frac{5}{5} \pm \frac{2i\sqrt{5}}{5}$

That should be  $\sqrt{5}^4$

I completed the square, when I didn't have to. If you want quadratic formula versions, ask. 😊

$= \frac{5 \pm 2i\sqrt{5}}{5}$

④ Redux  $1x^2 + bx + c$

$$5x^2 - 10x + 17 = 0$$

$$a=5, b=-10, c=17$$

$$b^2 - 4ac = (-10)^2 - 4(5)(17)$$

$$= 100 - 340$$

$$= -240 \rightarrow \sqrt{-240}$$

$$= i \cdot 2 \cdot 2 \sqrt{15} = 4i\sqrt{15}$$

$$2 \overline{) 240}$$

$$2 \overline{) 120}$$

$$2 \overline{) 60}$$

$$2 \overline{) 30}$$

$$3 \overline{) 15}$$

$$5$$

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

$$= \frac{10 \pm 4i\sqrt{15}}{2(5)}$$

$$= \frac{2(5 \pm 2i\sqrt{15})}{2(5)} = \frac{5 \pm 2i\sqrt{15}}{5}$$

$$5x^2 - 10x + 17 = 0$$

$$5(x^2 - 2x + 1^2) = -17$$

$$\frac{b}{2} = 1 \rightarrow 1^2$$

$$5(x-1)^2 = -12$$

$$= (\sqrt{5})^2 (x-1)^2$$

$$= (\sqrt{5}x - \sqrt{5})^2$$

+5 Completing the square

$$\left(x + \frac{b}{2}\right)^2 = x^2 + bx + \left(\frac{b}{2}\right)^2$$

$$\underline{(x+b)^2 = x^2 + 2bx + b^2}$$

Expanding Square

What's missing?

S 1.3 - Distance, Midpoint, Circles

S 1.4 - Graphing Lines

Not on Fall '14 test, but may

be on yours.

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Test will be one page. Format your work like a homework assignment, but don't fold it...

1-side, only.  
Margin.

PROBLEMS IN ORDER

Discriminant

$$x = \frac{-b \pm \sqrt{\text{discriminant}}}{2a}$$

$$3x^2 - 5x + 7 = 0$$

$$a=3, b=-5, c=7$$

$$b^2 - 4ac = (-5)^2 - 4(3)(7)$$

$$= 25 - 84 < 0$$

$$= -59 < 0 \rightarrow$$

~~No real sol'ns~~

Two nonreal sol'ns

How much 20% acid must be added to 70% acid to obtain 100 gallons of 57% sol'n?

let  $x$  = amt of 20% acid (in gal)  
 $y$  = " " 70% " " "

Then

$$\begin{aligned}x + y &= 100 \text{ and} \\ .2x + .7y &= (.57)(100)\end{aligned}$$

$$\rightarrow .2x + .7(100 - x) = 57$$