

Algebra 2

WCRS

9-26-12

CLASS
NOTES

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(4) $h(x) = 3x^2 - 5x$

$ax^2 + bx + c$

$a = 3$

$b = -5$

$c = 0$

$b^2 - 4ac$

$(-5)^2 - 4(3)(0)$

$25 = d$

$x = \frac{-b \pm \sqrt{d}}{2a} = \frac{5 \pm 5}{6} = \left\{ \frac{5}{3}, 0 \right\}$

ck $3\left(\frac{5}{3}\right)^2 - 5\left(\frac{5}{3}\right) \stackrel{?}{=} 0$

$3\left(\frac{25}{9}\right) - \frac{25}{3} \stackrel{?}{=} 0 \checkmark$

FACTOR

$3x^2 - 5x = 0$

$x(3x - 5) = 0$

$x = \left\{ 0, \frac{5}{3} \right\}$

⑧

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

$$a = 2$$

$$b^2 - 4ac$$

$$b = -2$$

$$(-2)^2 - 4(2)(3)$$

$$c = 3$$

$$4 - 24 = -20 = d$$

$$x = \frac{-b \pm \sqrt{d}}{2a} = \frac{2 \pm 2i\sqrt{5}}{4}$$

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

$$\underline{\text{CK}} \quad 2 \left[\frac{1+i\sqrt{5}}{2} \right]^2 - 2 \left[\frac{1+i\sqrt{5}}{2} \right] + 3 \stackrel{?}{=} 0$$

$$\cancel{2} \left[\frac{1 + \cancel{2i\sqrt{5}} - 5}{4} \right] + \frac{-2 \cancel{(-2i\sqrt{5})}}{2} + 3 \stackrel{?}{=} 0$$

$$\frac{-6}{2} + 3 \stackrel{?}{=} 0 \quad \checkmark$$

⑩ $3x^2 + 4x + 3 = 0$

ps 105

$$a = 3$$

$$b^2 - 4ac$$

$$b = 4$$

$$(4)^2 - 4(3)(3)$$

$$c = 3$$

$$16 - 36 = -20 = d$$

$$x = \frac{-4 \pm 2i\sqrt{5}}{6} = \boxed{\frac{-2 \pm i\sqrt{5}}{3} = x}$$

$$\underline{\underline{ck}} \quad 3 \left[\frac{-2 + i\sqrt{5}}{3} \right]^2 + 4 \left[\frac{-2 + i\sqrt{5}}{3} \right] \stackrel{?}{=} -3$$

$$\cancel{3} \left[\frac{4 - 4i\sqrt{5} - 5}{9} \right] + \frac{-8 + 4i\sqrt{5}}{3} \stackrel{?}{=} -3$$

$$\frac{-9}{3} \stackrel{?}{=} -3 \quad \checkmark$$

(14)
PS105

$$4x^2 + 1 = 4x \quad \text{Type/number of zero}^4$$

$$4x^2 - 4x + 1 = 0$$

$$a = 4$$

$$b^2 - 4ac$$

$$b = -4$$

$$(-4)^2 - 4(4)(1)$$

$$c = 1$$

$$16 - 16 = 0 = d$$

one real solution
↓
rational = $-\frac{b}{2a}$

$$\textcircled{36} \quad -10p^2 - 11 = 11p$$

$$10p^2 + 11p + 11 = 0$$

$$a = 10$$

$$b^2 - 4ac$$

$$b = 11$$

$$(11)^2 - 4(10)(11)$$

$$c = 11$$

$$121 - 440 = \textcircled{-319} = d$$

$$\left. \begin{array}{r} 319 \\ 11 \\ \hline ?2 \end{array} \right\}$$

$$p = \frac{-11 \pm i\sqrt{319}}{20}$$

$$\text{CK} \quad -10 \left[\frac{-11 + i\sqrt{319}}{20} \right]^2 - 11 \stackrel{?}{=} 11 \left[\frac{-11 + i\sqrt{319}}{20} \right]$$

$$-10 \left[\frac{121 \pm 22i\sqrt{319} - 319}{400} \right] - 11 \stackrel{?}{=} \frac{-121 + 11i\sqrt{319}}{20}$$

$$\frac{+498 + 22i\sqrt{319}}{40} - 11 \stackrel{?}{=} \frac{-121 + 11i\sqrt{319}}{20}$$

$$\frac{991 + 11i\sqrt{319}}{20} - \frac{220}{20} \stackrel{?}{=} \frac{-121 + 11i\sqrt{319}}{20}$$

$$\frac{-121 + 11i\sqrt{319}}{20} \checkmark = \frac{-121 + 11i\sqrt{319}}{20}$$

$$\left. \begin{array}{r} 319 \\ 121 \\ \hline 198 \end{array} \right\}$$

$$\left. \begin{array}{r} 220 \\ 99 \\ \hline 121 \end{array} \right\}$$