

Cornell Notes

Name Rachel Monahan

Date 10-31-2011

Topic Alg II Completing the Square

Class/Subject Asberry Per 3

10:10

Warm-Up

Quadratic Word Problems
Completing the Square
HW

Quadratic Exit Ticket Handout

Turn In ¹ Review Worksheet

² Complete the Square

$$h(t) = -16t^2 + 64t + 190$$

$$\text{Use } t = \frac{-b}{2a}$$

Answers: ~~4~~ seconds until it hits the ground
254 feet is the maximum.

$$2c) = 4 \text{ sec} \quad 2d) = 250 \text{ ft}$$

$$2b) = 1 \text{ sec} \text{ \& } 7 \text{ sec}$$

10:35

$$4) x^2 - 7x = 18 \quad \left(-\frac{7}{2}\right) \rightarrow \left(-\frac{7}{2}\right)^2 = \frac{49}{4}$$

$$x^2 - 7x + \frac{49}{4} = 18 + \frac{49}{4}$$

$$\left(x - \frac{7}{2}\right)^2 = \frac{18}{1} + \frac{49}{4} \rightarrow \frac{72}{4} + \frac{49}{4} = \frac{121}{4}$$

$$\sqrt{\left(x - \frac{7}{2}\right)^2} = \sqrt{\frac{121}{4}} = x - \frac{7}{2} = \pm \frac{11}{2}$$

$$x = \frac{7}{2} \pm \frac{11}{2}$$

$$x = 9, -2$$

$$6) x^2 + 3x = 40 \quad \left(\frac{3}{2}\right) \rightarrow \left(\frac{3}{2}\right)^2 = \frac{9}{4}$$

$$x^2 + 3x + \frac{9}{4} = 40 + \frac{9}{4}$$

$$\left(x + \frac{3}{2}\right)^2 = \frac{160}{4} + \frac{9}{4} \Rightarrow \sqrt{\left(x + \frac{3}{2}\right)^2} = \pm \sqrt{\frac{169}{4}}$$

$$x + \frac{3}{2} = \pm \frac{13}{2}$$

$$x = -\frac{3}{2} \pm \frac{13}{2}$$

$$x = 5, -8$$

HOMEWORK: Assignment #20 p153-154

Cornell Notes

Name Rachel Moulton

Date 10-31-2011

Topic Alg II Incomplete Quadratics

Class/Subject Asberry Per 3

Packet
P151

#1

$ax^2 + c = 0$ incomplete quadratics

a) $x^2 - 16 = 0$ $x^2 - 16 = 0$
 $(x+4)(x-4) = 0$ OR $\sqrt{x^2} = \sqrt{16}$
 $x = -4, 4$ $x = \pm 4$

b) $2x^2 = 50$ c) $x = \pm 2$
 $\sqrt{x^2} = \sqrt{25}$
 $x = \pm 5$

d) $\frac{2}{3}x^2 + 7 = 1$
 $\frac{2}{3}(\frac{3}{2}x^2) = -6(\frac{3}{2})$
 $x^2 = -9 \rightarrow$ No REAL solution

e) $4x^2 - 7 = -6$ f) $x = -4 \pm 4\sqrt{2}$
 $4x^2 = 1$
 $\sqrt{x^2} = \sqrt{\frac{1}{4}}$
 $x = \pm \sqrt{\frac{1}{2}}$

a) $3x^2 - 5 = 19$ b) $10x^2 + 1 = 6$
 $3x^2 = 24$ $10x^2 = 5$
 $x^2 = 8$ $x^2 = \frac{1}{2}$
 $x = \pm\sqrt{8}$ $x = \pm\sqrt{\frac{1}{2}}$
 $x = \pm 2\sqrt{2}$ $x = \pm \frac{1}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}}$
 $x = \pm \frac{\sqrt{2}}{2}$

c) $4x^2 + 5 = 8$
 $4x^2 = 3$
 $x^2 = \frac{3}{4}$
 $x = \pm\sqrt{\frac{3}{4}}$ $x = \pm \frac{\sqrt{3}}{2}$

11:00

#2

Name: _____

Date: _____ Period: _____

Quadratic Formula Word Problems

1. Jason jumped off of a cliff into the ocean in Acapulco while vacationing with some friends. His height as a function of time could be modeled by the function $h(t) = -16t^2 + 16t + 480$, where t is the time in seconds and h is the height in feet.
 - a. How long did it take for Jason to reach his maximum height?

 - b. What was the highest point that Jason reached?

 - c. Jason hit the water after how many seconds?

2. If a toy rocket is launched vertically upward from ground level with an initial velocity of 128 feet per second, then its height h after t seconds is given by the equation $h(t) = -16t^2 + 128t$ (if air resistance is neglected).
 - a. How long will it take for the rocket to return to the ground?

 - b. After how many seconds will the rocket be 112 feet above the ground?

 - c. How long will it take the rocket to hit its maximum height?

 - d. What is the maximum height?

Name: _____

Date: _____

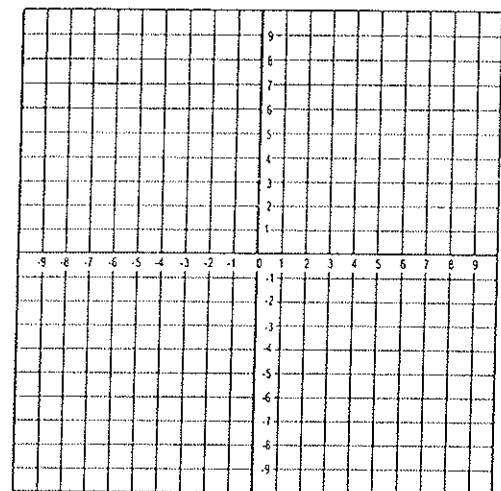
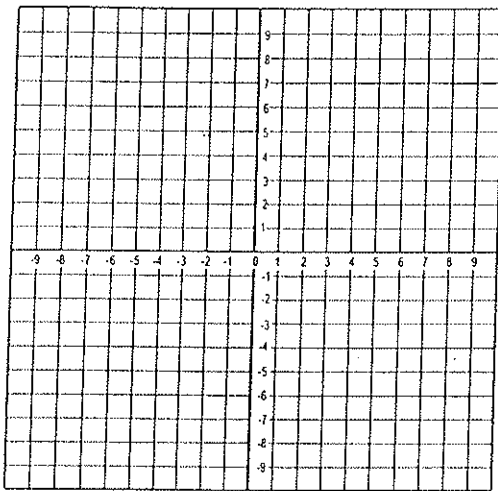
Period: _____

Review Worksheet

I. Solve each quadratic equation by graphing. (Label your AOS on the graph.)

a. $x^2 + x = 6$

b. $x^2 + 3 = 0$



II. Solve each quadratic equation by factoring.

a. $2x^2 = -6x$

b. $x^2 - 9 = 0$

c. $x^2 + 11x - 12 = 0$

d. $2x^2 + 3x - 1 = -2$

e. $x^2 - 11x + 24 = 0$

f. $x^2 - 10 = 3x$