

**Algebra Review – while 9<sup>th</sup> graders are at Club Getaway**

1-1 dist and mid pt  
cw. p. 4 (1,3,5,6,7,8,  
Hw p. 5 (1-10)

Plot the points (-1,9) (4,-3), estimate (put a dot) where you think the midpoint is

Find the distance and find the midpoint

Is the point (2,3) on the lines  
 $2x+3y=13$   
or  
 $2x+y=8$

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1-1 sketch using intercept form – solving simultaneous equations-  
p. 5 # 11,13,15,17,19,20,**25,27**

sketch the line  $3x+2y=6$

solve for x and y

$-3x+2y=6$                        $2x+5y=10$   
 $5x-2y=18$                        $3x+4y=12$

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1-2 compute slope-parallel and perp slope-

CW/HW p. 11 written 5-23 (even in class, odd for homework)

Find the slope between the points- write an equation of the line

a. (5,3) and (2,0)      b. (5,4)and (9,4)      c. (2,5) and (2,1)

Discuss HOY VUX

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Math Analysis Chapter 1

1-3 go over HW p.13 #21 and p. 6 #25,27

Finding equations of line

$y=mx+b$  and  $y-y_1=m(x-x_1)$  then convert to **standard (general) form**

cw p. 16 #12,14,16 HW- p. 16 1-17 odd

write an equation in standard form of the line that has:

y- intercept of 4 and x -intercept of 8

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1-5 Complex (REVIEW SIMPLIFYING RADICALS FROM SUMMER ASSIGNMENT)

cw class p. 28 1-8

Hw Written p. 28 1-18

$$\sqrt{200}$$

$$\sqrt{32}$$

$$\sqrt{18}$$

$$\sqrt{20}$$

$$\frac{\sqrt{50}}{\sqrt{25}}$$

$$\sqrt{-100}$$

$$\sqrt{-25}$$

$$\sqrt{-20}$$

$$2\sqrt{-25}$$

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1-5 no complex in denominator

Cw p. 28 #19-31(odd) HW review sheet

if the word math is written over and over again,

what letter will be in the 82<sup>nd</sup> spot?

What letter is in the 40<sup>th</sup> spot?

$$3^{-2}$$

$$\frac{8}{\sqrt{2}}$$

$$\frac{5}{3+\sqrt{2}}$$

$$i^{82}$$

$$i^{-20}$$

Math Analysis Chapter 1

test – sections 1.1-1.5

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1.6 Taking the square root cw-ws p. 35# 1-4 hw-ws A57 69-80

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Completing the square CW p. 35 # 5-10 A57 #83-86  
HW- worksheet- Kuta

$$x^2 - 3x = 0$$

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

$$x^2 - 36 = 0$$

$$x^2 - 8x + 16 = 0$$

$$6x^2 + 5x - 6 = 0$$

$$x^2 - 10x = 4$$

$$x^2 + 8x = 15$$

$$x^2 - 6x - 3 = 0$$

Math Analysis Chapter 1

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1.6 Quadratic formula p. 35 11-16 Hw Pre-calc book p. A57 # 93-99 odd

$$x^2 - 8x = -15$$

$$x^2 - 5x - 14 = 0$$

$$4x^2 - 4x + 3 = 0$$

$$x^2 - 6x - 3 = 0$$

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

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Gain and lose roots  
p. 35 17-25

solve for x

$$\frac{x+2}{x-2} + \frac{x-2}{x+2} = \frac{8-4x}{x^2-4}$$

$$4x(x-1) = 3(x-1)^2$$

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Go over HW (need time) Discriminant  
p. 35 26-30  
p. 36 #35 37-40

write the equation of a line that goes through (3,2) and (-5,6)  
leave in point slope form

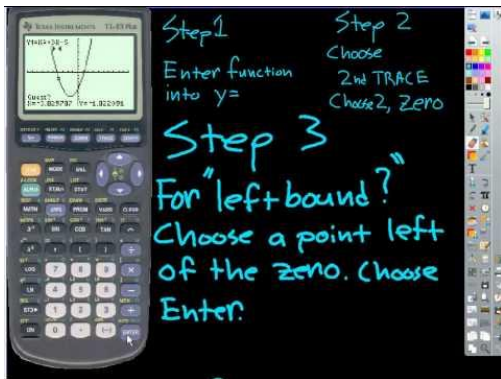
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CW- review sheet

HW- from pre-calc book- be sure to follow directions #55-64, 79,80 125-130

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Test- HW watch video



[How to find zeros of a function on the graphing calculator](#)

youtu.be

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### Using a **graphing calculator**

Max or min (vertex)

table

Discriminant

y-intercept

A

Find x-intercepts

Intersection of a line and parabola

Translations to the Parent function  $y=x^2$

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

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

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

$$f(x) = x^2 \text{ etc....}$$

## Math Analysis Chapter 1

Notes for students [http://www.clarkeconsult.com/alg2/chapter5/a2\\_ch05\\_01.pdf](http://www.clarkeconsult.com/alg2/chapter5/a2_ch05_01.pdf)

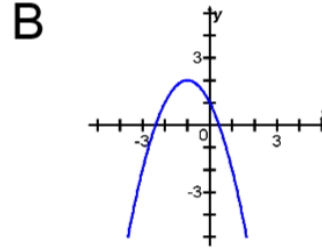
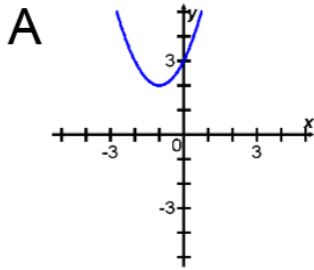
parent function- transformations of  $y=x^2$  HW- worksheet -  
must graph x and y intercept

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1.7 Graphing quadratic functions in general form  
 vertex, x and y intercept Cw/hw p. 41 1-8. 16,18

1 Writing equations of quadratics in vertex form-

$$y = a(x - h)^2 + k$$



2 Is the discriminant negative positive or zero

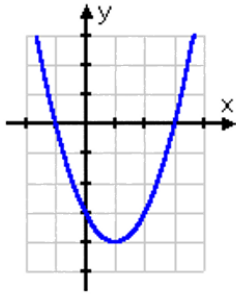


Fig A

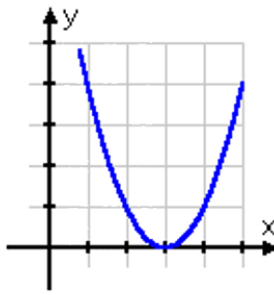


Fig B

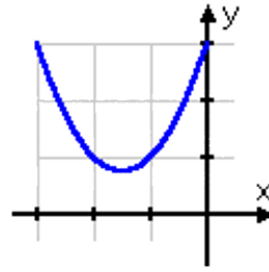


Fig C

4 Sketch using vertex form after finding

$$y = x^2 + 6x + 5$$

vertex-  
 x-intercepts (set  $y=0$  and solve for  $x$ )  
 y- intercept (set  $x=0$  and solve for  $y$ )

4 Sketch after finding

$$y = x^2 + 6x + 5$$

x-intercepts (set  $y=0$  and solve for  $x$ )  
 y- intercept (set  $x=0$  and solve for  $y$ )  
 vertex  $\left(\frac{-b}{2a}, \text{plug it in}\right)$

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Math Analysis Chapter 1

p.41 #15,17,19,20,25-28

sketch the graph - by whichever method is easier

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

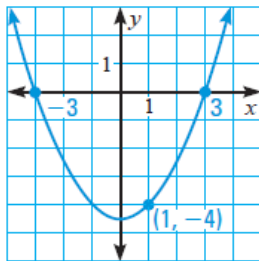
$$y = x^2 + 8x + 15$$

x- Intercept  
y- Intercept  
Vertex

x- intercept  
y-intercept  
Vertex

Write an equation of the parabolas below

a



b x-intercepts: 1, 4  
point: (3, 2)

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Intersection line and parabola,  
do **algebraically, graphically and with a calculator**

p. 41 9,10  
21-26 29-34

Find the intersection

$$y = x^2 - 4$$

$$y = \frac{1}{2}x - 1$$

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1.8 Quadratic model – open with the miles per hour, miles per gallon problem  
Write the equation- look at it on the calculator- window – find maximum MPG when  
does it happen- (handout- MPG)

Cw p 45 2,7

Hw ,4,8

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Do quadratic model using calculator- baseball height as a function of time

Hw p. 51 19,20,21



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<http://mathbits.com/MathBits/TISection/Statistics2/quadratic.html>

baseball 2 quadratic model

Review

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Test- chapter 1 2 day test 100 pts- graphing calc and no calc section

If the discriminant is positive, how many real roots are there?

If the discriminant is negative, how many real roots are there?

If the discriminant is 0, how many real roots are there?

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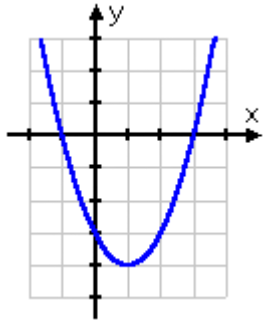


Fig A

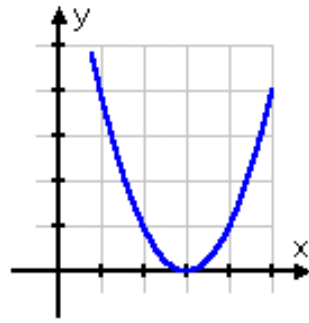


Fig B

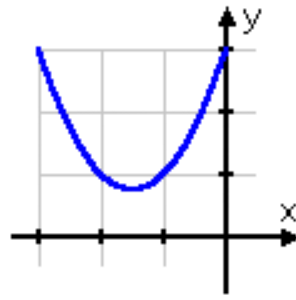


Fig C

How many real roots are there in Fig A \_\_\_\_\_ If any what are they \_\_\_\_\_

How many real roots are there in Fig B \_\_\_\_\_ If any what are they \_\_\_\_\_

How many real roots are there in Fig C \_\_\_\_\_ If any what are they \_\_\_\_\_

If the **a** in  $(ax^2+bx+c)$  is negative, what does that tell us about the parabola?

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Why do we use the quadratic formula