

## WARM UP

1. Solve by graphing  $y = -(x + 2)^2 + 3$
2. Write the equation for the parabola in vertex form:  $y = -2x^2 - 12x + 5$
3. Find the vertex and determine whether it's a max or min  $y = -3x^2 + 12x + 4$
4. Write the polynomial in standard form with the following zeros  $x = 1, 3, 5$

1

2

3

4

5

6

7

8

9

10

# Objectives

- Review Quadratic and Polynomial Function Content

# Homework

- Released test questions packet
  - Section I: 1, 5, 8, 13, 18, 25
  - Section II: none
  - Section III: 2, 3, 5, 6
- Any unfinished classwork problems

## Schedule this week

- Monday – Quadratics and Polynomials
- Tuesday – Logs/Exponents and Statistics
- Wednesday – Rational Functions
- Thursday – Geometry
- Friday – Trigonometry

Due today (as in right now)

Completed Skills Review Packet.

Do not give it to me if it is incomplete. You will receive a 0.

Each day late is a 10 point deduction.

This packet counts as  $\frac{1}{2}$  a unit test grade.

## Due Friday

Math III Formula Book	10%
All warm-ups from this week	10%
All classwork from this week.	40%
Released test questions packet.	40%

**Incomplete** items result in a **zero** for that portion of this grade.

Will count as one unit test grade.

# After School Blitz sessions this week

Monday	Logarithms	Davis Schmutz	2:30 – 3:30	Complete Logarithms assignment Add 7 points to Logarithms Unit Test
Tuesday	Statistics	Dixon Davis	2:30 – 3:30	Complete Statistics assignment Add 7 points to Statistics Unit Test
Wednesday	Rational Expressions	Dixon Schmutz	2:30 – 3:30	Replace lowest quiz grade with 100
Thursday	Geometry	Dixon Schmutz Davis	2:30 – 3:30	Complete Geometry assignment Add 7 points to Geometry Unit Test
Friday	Trig with the Unit Circle	Dixon Schmutz Davis	2:30 – 3:30	Complete Trigonometry assignment Add 7 points to Trigonometry Unit Test

## Look at your progress report



### GRADING SCALE

(Middle & High School Only)

A	100-93
B	92-85
C	84-77
D	76-70
F	Below 70, Failing

F1 is where you stand right now.

I will accept missing work until this Friday. **Max score of 84.**

Your final will count as **20%** of your final grade.

```
Plot1 Plot2 Plot3
√Y1 = (.2X) + (.8*84)
√
√Y2 =
```

**For example:** F1=84

X	Y1
84	84
85	84.2
86	84.4
87	84.6
88	84.8
89	85
90	85.2

X=84

**Which means:** You must score 89 on the final to increase your grade in this class to 85.

## Look at your progress report

To see how your score on the final will effect your final grade in this class put the following in your calculator.

$$y = (.2x) + (.8 * F1)$$

Replace F1 with the grade on your progress report.

Now look at the table. The x value is your score on the final, y is your final grade in the class.



Standard Form:  $f(x) = ax^2 + bx + c$

Find vertex by completing the square

move  $c$  to other side  
add  $(\frac{b}{2a})^2$  to both sides then factor perfect square

Or short cut

Vertex  $(\frac{-b}{2a}, f(\frac{-b}{2a}))$

Vertex Form:  $f(x) = a(x - h)^2 + k$

Vertex:

$(h, k)$

Opens up if:

$a$  is positive

The key is on my website

Make sure the Quadratics page of your formula book has the following items completed.

Always put in standard form first

Factoring

find factors of  $a$  times  $c$  that add up to  $b$ .  
remember to "swing" if  $a \neq 1$

Quadratic Formula

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

Graphing

and trace zero to find where graph crosses  $x$  axis



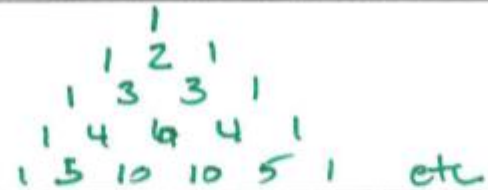
Focus  $\rightarrow$  point  $\leftarrow$  DIRECTRIX  $\rightarrow$  line

remember  $a = \frac{1}{4p}$

$p$  is distance from vertex to focus  $\rightarrow$  vertex to directrix

Will have  
n+1 terms

Pascal's Triangle



Binomial Expansion

$$(a+b)^n = P_0 a^n b^0 + P_1 a^{n-1} b^1 + P_2 a^{n-2} b^2 + \dots + P_{n-1} a^1 b^{n-1} + P_n a^0 b^n$$

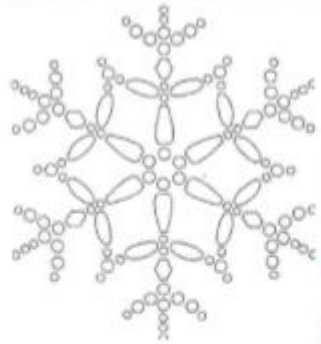
Complex Numbers

$$i = \sqrt{-1}$$
$$i^2 = -1$$

format of complex #  
 $a+bi$

Steps to find all roots

- 1 graph on calculator & identify real roots
- 2 use synthetic division to factor out real roots
- 3 use quadratic formula to find complex roots



special cases

$$\text{diff of squares } (a^2 - b^2) = (a+b)(a-b)$$

sum and difference of cubes

$$(a^3 + b^3) = (a+b)(a^2 - ab + b^2)$$

$$(a^3 - b^3) = (a-b)(a^2 + ab + b^2)$$



End behavior

if n is odd, opposite directions

if n is positive, same directions

Make sure the Polynomials page of your formula book has the following items completed.

Clear Memory	$2^{nd} + 7 1 2$
Convert Decimal Values To Fraction	MATH 1 ENTER
Find Max and Min	$2^{nd}$ TRACE 4 $\rightarrow$ $2^{nd}$ TRACE 3
Find x intercepts	$2^{nd}$ TRACE 2
Find y intercepts	FIND $x=0$ IN TABLE $2^{nd}$ GRAPH
Reset graph viewing window	ZOOM 6 STANDARD
Find appropriate viewing window	WINDOW THEN SET $x \rightarrow y$ MIN, MAX $\rightarrow$ SC

Make sure the Calculator page of your formula book has the following items completed.