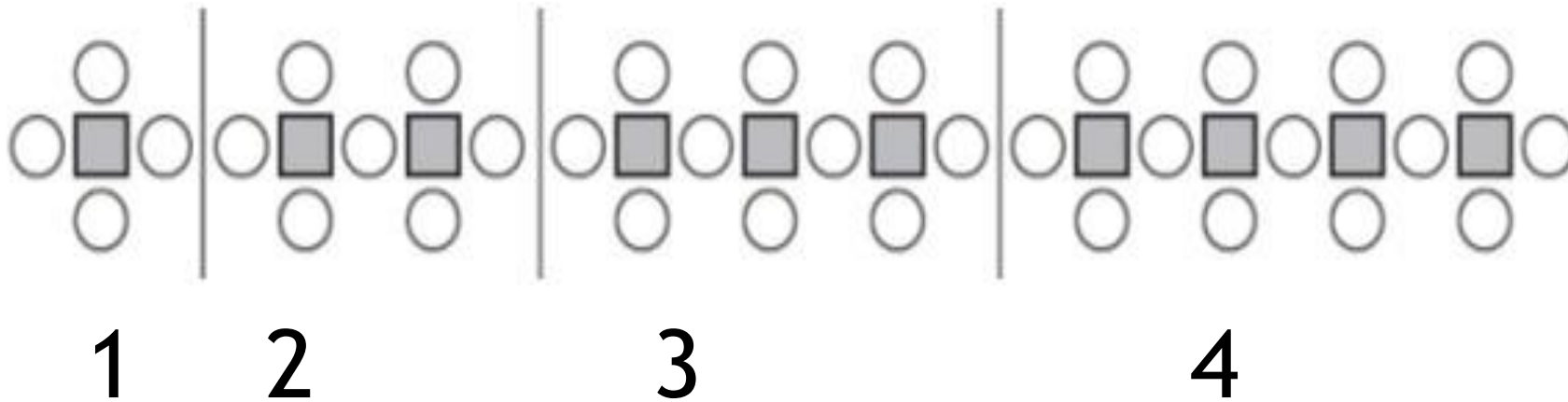


What do you notice?



How many circles would be  
in the 10<sup>th</sup> pattern?

The 43<sup>rd</sup>?

Due today

- Nada

Homework tonight:

- 1-1
- Honor code calc agreement

Upcoming Dates

- 1/27
  - Unit 1 Quiz 1
- 2/1
  - Unit 1 Quiz 2
- 2/3
  - Unit 1 Test

# Introduction

- ▶ [www.mradambryant.Weebly.com](http://www.mradambryant.Weebly.com)
- ▶ Remind101
  - ▶ Text @mrbryant1 to 81010
- ▶ Please allow 48 hours to respond to email.
  - ▶ If you email me, it must be from a wake county email address.
- ▶ Course Requirements and Expectations
- ▶ SIGN AND RETURN:
  - ▶ Calculator Usage Agreement Form
  - ▶ Husky Honor Code
- ▶ Use your wcpss email for schedule changes. Send to [heritagehs-schedule-change@wcpss.net](mailto:heritagehs-schedule-change@wcpss.net)

# Introduction

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# Introduction

- ▶ [www.mradambryant.Weebly.com](http://www.mradambryant.Weebly.com)
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# Information Survey!

- ▶ <https://goo.gl/forms/3AxRAKMSZQY204mf1>
- ▶ You must log in with your Wake County username and password (select student)
- ▶ Two sections (parent/guardian then student), then submit
- ▶ Please be appropriate, your email address will be attached to your responses.

# Supplies

- ▶ 1 Subject Spiral Notebook for homework
- ▶ Notes and homework packet
- ▶ 3 ring binder
- ▶ Dividers
- ▶ Loose leaf Notebook paper and Graph paper
- ▶ Pencils with erasers
- ▶ TI-83 or TI-84

# BYOD.

- ▶ We are using the stop light to signify what stage of BYOD we are in.
- ▶ Red - no electronics whatsoever
- ▶ Yellow - can be on desk but face down. Ask permission to use
- ▶ Green - free use of electronics (instructional purposes)
- ▶ If caught using electronic outside of allowed time or purpose:

# Daily expectations

1. Pick up assigned calculator and sharpen your pencil as you walk in the door.
2. Take care of going to the bathroom before class starts.
3. A warm-up will be given everyday. Please begin working on it immediately.
4. I will assign homework nightly. Bring it completed the next day and face up on desk.
5. Do not be disruptive. This includes while entering and exiting!
6. Do not ask to go to the bathroom during teaching.
7. You are tardy when the bell rings and you aren't in the door.



# Grading Policy

Major 60%    Minor 30%    HW 10%

There will be a State Final Exam!!



# Late/Make-Up Work



- ▶ Homework counts!
- ▶ Late work will be penalized BUT you will still get credit. (Turning in SOMETHING is better than NOTHING!!)
- ▶ It is up to the STUDENT to work out make-up work with the teachers if you are absent!
- ▶ Make-up work deadlines: no assignments will be accepted after the posted deadlines!!
- ▶ REMEMBER: YOU ARE RESPONSIBLE FOR ALL WORK YOU MISS WHEN YOU ARE ABSENT!!!!

# Re-Test Policy (Heritage HS-wide policy):

Students may be re-assessed on any and all tests throughout an academic quarter.

The re-assessment may not be in the same form as the original test. The highest possible grade for a retake is a 90%.

In order to qualify for a re-assessment, each student must...

1. Have every homework assignment for the given unit completed by the re-test date.
2. Complete the re-test on the date chosen by the teacher (within a week of having the test returned to the student).
3. Remediate with the teacher on the material prior to the re-test.

## Quiz Replacement Policy (Math Dept. policy):

It is the philosophy here at Heritage HS that assessments are given in an attempt to see where each student is at in their learning, and make adjustments to further their education. Therefore, if a student performs better on a unit test than they did on a quiz within this unit, they may replace their lowest quiz grade with the better unit test grade.

Only **original** test scores may replace quiz scores, not re-test scores.

# Husky Help 2.0

Husky Help (version 2.0) will run Monday– Thursday. Each student in the class that have **a D or an F** in the course on that given day (according to their weekly progress report), will be **mandated to attend** this remediation session (built in to the school day). All students who have ANY ZEROS also stay!!

Monday – 1<sup>st</sup> Period      Tuesday – 2<sup>nd</sup> period  
Wednesday – 3<sup>rd</sup> Period      Thursday – 4<sup>th</sup> period

All other students will have the opportunity to participate in intramural sports, attend career or college sessions, work individually or with groups on assignments in the Media Center or the Commons, or meet with Student Service counselors for academic planning.

# Quick Review of Monomials

What is a monomial?

one term algebraic expression

What is  $2(2x^2)$ ?

$$4x^2$$

$x(x)$ ?

$$x^2$$

$x(x + 1)$ ?

$$x^2 + x$$

# Factors

- ▶ Recall: When 2 or more numbers are multiplied to form a product, each number is a “factor” of the product.

▶ Factors of 12: 6,2 | 4,3 | 12,1



MPT: If you want all the factors of a number, use your calculator’s table.

Type the number divided by x as your equation, and its factors will be the whole number ordered pairs.

# Factoring Polynomials

ALWAYS factor out the Greatest Common Factor (GCF) FIRST!!!

A polynomial that cannot be factored is prime.

A polynomial is considered to be completely factored when it is expressed as the product of prime polynomials.



## Factoring out the GCF:

$$16m^2n + 12mn^2$$

$$7xy + 2ab$$

Prime

$$\rightarrow 4mn(4m + 3n)$$

$$14a^3b^3c - 21a^2b^4c + 7a^2b^3c$$

$$12p^5r^9 + 18p^3r^2 - 6p^6r^3$$

$$6p^3r^2(2p^2r^7 + 3 - p^3r)$$

$$\rightarrow 7a^2b^3c(2a - 3b + 1)$$

## Factor by grouping— for polynomials with 4 or more terms

$$a^2x + b^2x + a^2y + b^2y$$

$$20ab - 35b - 63 + 36a$$

5

$$3x^3 + 2xy - 15x^2 - 10y$$

# Difference of “Two Squares”

Rule: If two perfect squares are subtracted, then multiply their summed and subtracted binomials.

$$x^2 - 25$$

$$6x^2 - 600y^2$$

$$16x^4 - z^4$$

# Unit 1 Day 2



Three shall be the number thou shalt count, and the number of the counting shall be three. Four shalt thou not count, neither count thou two, excepting that thou then proceed to three. Five is right out.  
– friar, Monty Python and the Holy Grail

## What do you notice?



Please have your homework out for  
How many triangles would be  
in the 10<sup>th</sup> pattern?  
in the 10<sup>th</sup> pattern?

The 43<sup>rd</sup>?

Due today

- 1-1 / Worksheet

Homework tonight:

- 1-2

Upcoming Dates

- 1/31

- Unit 1 Quiz 1

- 2/1

- Unit 1 Quiz 2

- 2/3

- Unit 1 Test

# Homework



## How would I factor...?

$$4x^2 + 7x + 3$$

- ▶ What if I told you  $7x$  is equal to  $4x + 3x$ ?
- ▶ Look like something we saw yesterday?
- ▶ This method is known (around here, anyway) as “Bustin’the B”

## How did I know?

$$4x^2 + 7x + 3$$

- ▶ But how did I know to use 4 and 3?
- ▶ You can always find out in a few easy steps.
  1. Multiply A and C
  2. What two numbers have a sum of 3 and a product of 12?
  3. If you're stuck, the calculator can help!



Factoring trinomials into the product of two binomials - when leading coefficient is NOT one.

$$3x^2 - 6x - 24$$
$$20a^2 - 21a - 5$$

$$6n^2 + 25n + 14$$
$$4x^2 + 7x + 3$$

Factoring trinomials into the product of two binomials - When leading coefficient is one.

$$x^2 + 5x + 4$$

$$x^2 - 2x - 63$$

$$x^2 + 5x + 6$$

$$x^2 + 6x - 16$$

$$a^2 - 9a + 20$$

Foldable!

# U1 Day 3



# Warm Up

$$16x^2 - 1$$

$$4x^3 - 16x^2 + 3x - 12$$

$$5x^2 - 7x + 2$$

$$b^2 + 6b - 27$$

Due today

- 1-2

Homework tonight:

- 1-4

Upcoming Dates

- 2/1
  - Unit 1 Quiz 2
- 2/3
  - Unit 1 Test

# Homework Answers

1)  $(x - 10)(x - 8)$

2)  $(x^2 + 1)(5y - 1)$

3)  $3(y - 2)(y - 3)$

4)  $(a^2 + b^2)(a - b)$

5)  $x^2(x - 8)(x - 7)$

6)  $(k - 4)(k - 4)$  or  $(k - 4)^2$

7)  $2(z - 3)(z - 3)$  or  $2(z - 3)^2$

8)  $(c^3 - 12)(c + 1)$

9)  $25(y - 2)(y + 2)$

# Classwork - Review Sheet



# Kahoot

- ▶ Please take out your device and go to [Kahoot.it](https://kahoot.it)
- ▶ A pin for you to enter will be displayed shortly.



# U3 Day 4



# Warm Up

$$2x^2 - 8$$

$$ab^2 + ab + b + 1$$

$$7x^2 - 19x - 6$$

$$a^2b^2 - 4ab$$

Due today

- 1-4

Homework tonight:

- 1-5

Upcoming Dates

- 2/1
  - Unit 1 Quiz 2
- 2/3
  - Unit 1 Test

# Homework



# Quiz



# Zero Product Property:

- ▶ Let A and B be real numbers or algebraic expressions. If  $A \cdot B = 0$ , then  $A = 0$  or  $B = 0$ .
- ▶ This means that If the product of 2 factors is zero, then at least one of the 2 factors had to be zero itself!
- ▶ For example, yesterday we factored  $x^2 + 5x + 4$  into
- ▶  $(x + 1)(x + 4)$
- ▶ For this expression to equal zero, either  $x + 1 = 0$  or  $x + 4 = 0$ .

# Finding the zeros of a polynomial equation.

- ▶ The zeros of an equation are the x-intercepts, or roots.
- ▶ First, change  $y$  to a zero.
- ▶ Now, solve for the variable by factoring
- ▶ The solutions will be the zeros of the equation.

# Practice

$$x^2 + 3x - 18 = 0$$

$$3x - 6 = x^2 - 10$$

$$2t^2 - 17t + 45 = 3t - 5$$

$$y = x^2 - x - 6$$

You Try!

$$16x^2 = 8x$$

$$2x^2 + 15 = 13x$$



## In Words

- ▶ An engineer comes to fix the heat in HHS. On a cold day, he finds that the change in temperature of a room can be modeled by  $c = 2v^2 + 4v - 3$  for  $v > 0$ .  $C$  is the overall change in temperature and  $v$  is the volume of warm air pumped into a room in cubic meters. How much warm air needs to be pumped into a room to keep the temperature from changing?

# U1 Day 5



# Warm Up

$$9x^2 - 16 = 0$$

$$y = x^2 - 6x - 7$$

$$y = 2x^2 + 7x - 15$$

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

Due today

- 1-5

Homework tonight:

- activity

Upcoming Dates

- 2/3
  - Unit 1 Test

# Homework



# Review Day



# Warm Up

Solve or factor the following. Have your homework out.

$$y = 8x^2 - 32$$

$$ab^2 - 3a^2b^2 + 2a^2b - 6a^3b$$

$$y = 5x^2 - 18x + 9$$

$$x^2y^2 - 16xy$$

Due today

- activity

Homework tonight:

- Review

Upcoming Dates

- 2/3

- Unit 1 Test

# Homework

2.  $\{8\}$

8.  $\{-3, -5\}$

14.  $\{-3/8, 3/8\}$

4.  $\{0, 9/10\}$

10.  $\{3/4, 2\}$

6.  $\{-9, 11\}$

12.  $\{-5/6, 0, 3/2\}$

Kahoot





# Review

- ▶ Omit #8, 10
- ▶ Stop at number 18.
- ▶ Answers will be posted on my website:  
[www.mradambryant.weebly.com](http://www.mradambryant.weebly.com).