

ALGEBRA 2 Summer 2023 Assignment

Welcome to Algebra 2! Next year we will build on the concepts and skills you encountered in Algebra 1 and Geometry to explore more complex function families. These will include quadratic, polynomial, exponential, logarithmic, and trigonometric. It will be taught by Mr. Moore and Mr. Longino.

You have two tasks to complete over the summer. They are to be completed by September 7.

TASK 1: ABOUT YOU

Write a letter in a google doc and share the doc with Mr. Moore at jmoore@sof.edu.

Give it a filename as follows: LastName_FirstName_MathBio2023

For example: Moore_Jim_MathBio2023

Try to address most of these topics in the letter. It's a long list but it will help a lot. Take your time and be thoughtful.

The Basics

- What name do you prefer that we call you in class? What about with your parents/guardians?
- What gender pronouns do you use for yourself?
he/him/his she/her/hers they/them/theirs other (please specify)

Math

- What do you like the most about math?
- What are your biggest struggles with math?
- How do you study, or manage your time?
- What are some goals you have for yourself this year in math class?
- In your opinion, what makes an effective math teacher?
- Anything you are excited about for Algebra 2? Anything you're concerned about?

Anything else you want to share? (optional)

- family, annoying siblings, pets (photos are a bonus!)
- something awesome about you
- your heritage
- questions that you have for us

TASK 2: ABOUT NUMBERS

As mathematical problems get progressively more complicated, we need new types of numbers to represent and understand them. Numbers are grouped into sets defined by their characteristics. Since each new number type builds on the previous ones, simpler sets are "nested" inside more complicated sets.

Page 2 includes a list of names, descriptions, and examples of several number sets we will be working with this year. You have probably encountered all of them already, but you may not remember their names, or how they relate.

Page 3 includes an incomplete diagram that represents how the different number sets relate. Your second task is to cut out the labels from page 2, and try placing them in the diagram on page 3 in such a way that the result is a system of progressively more complicated sets. If you prefer, you can make your own diagram on loose leaf.

Try making the diagram based only on your prior knowledge and your reasoning as you compare the descriptions.



Have an enjoyable summer! We look forward to teaching you next year.

Mr. Moore and Mr. Longino



THE NUMBER SETS

Types of numbers are grouped into sets defined by their characteristics. Simpler sets are “nested” inside more complicated sets. The sets represented on this sheet are some of those used in Algebra 2.

Cut out the different **names**, **descriptions**, and **examples** of number types below and paste them into the nested boxes on the next page to create a system of progressively more complicated sets. (Or make your own diagram on loose leaf.)

BONUS! The diagram includes two dashed boxes with question marks. We will learn about those later in the year. But for now, do some research to see if you can fill in their name, description, and examples.

NUMBER SETS

\mathbb{Q} RATIONAL

\mathbb{P} IRRATIONAL

\mathbb{Z} INTEGERS

\mathbb{N} NATURAL

\mathbb{W} WHOLE

\mathbb{R} REAL

DESCRIPTIONS

no fractional or decimal part, and no negatives

fractions of integers; decimals that either terminate or repeat; square roots of perfect squares

no fractional or decimal part

the “counting numbers”

decimals that neither repeat nor terminate; square root of non-perfect squares

EXAMPLES

$\frac{3}{4}$ $\frac{(-9)}{7}$ 0.75 $0.\bar{3}$ $0.\overline{12}$ $\sqrt{16}$

$\sqrt{2}$ π 3.14159 ...

$\{\dots - 4, -3, -2, -1, 0, 1, 2, 3, 4, \dots\}$

$\{0, 1, 2, 3, 4, \dots\}$

$\{1, 2, 3, 4, \dots\}$

THE NUMBER SETS

???

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NUMBER SET

examples

description

NUMBER SET

examples

description

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NUMBER SET