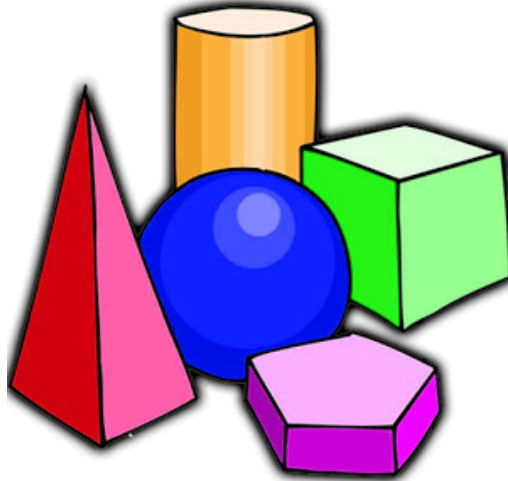


# Introduction to Geometry Syllabus

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<http://www.thefreshstockton.com/Math>



## Introduction

In this course, we will be looking at questions of shape, size, relative position of figures, and the properties of shape. Geometry has different subfields, but we are going to focus on **Euclidean geometry**. Euclid was a Greek mathematician who is referred to as the *father of geometry*. **Euclidean geometry** is the classical sense of geometry which essentially studies the fundamentals of points, lines, angles, shapes, *etc.* In Figure 1, one can see that there are points and a line. Think about the following two questions:

1. How long is the line?
2. What is the size of the points?

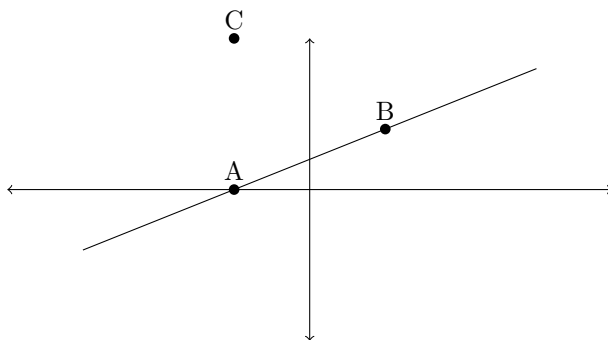


Figure 1

It may be surprising that the line has length infinity and the points have no size. A point is shown by a dot which is **C** in our example. A line is defined by two points. In our example, the line should be written as  $\overleftrightarrow{AB}$ . However, if it is finite, then it is called a **segment**. For example, if we are only interested in the section between **A** and **B**, then it is called segment **AB** which can be denoted by  $\overline{AB}$ .

If you are a visual learner, then geometry must be fun! Guess what? You will see how useful geometry is in terms of applications in real life.

## Course Format

Since this is not a physical course, I expect you to read all the handouts given on the course website. (The URL is on the first page of this syllabus.) Each handout will introduce a geometry topic that a normal high school geometry class covers.

There will be two kinds of assignments for each handout.

The first kind is mostly computational which I will develop macOS applications for you to use. To show me you have done the homework, you will have to tell me the *magic number* shown at the end of the homework assignment. In other words, you will need to pass the assignment problems in order to get the *magic number*. To show you what I mean by *magic number*, I have created **assignment0**. Download **assignment0** on the course website and start doing it. This homework assignment should be easy if you have read this syllabus.

The second kind is word problems which I will put several homework exercises at the end of each handout. You will need to either type your homework or write it neatly and scan it using a scanner. You will need to upload the homework assignment on the course website. It should be easy to figure out how to upload your homework when you go to the course website. Of course, this syllabus has this kind of assignments at the end, too. It should be fairly self-explanatory.

There will be approximately ten handouts, and my plan is to have one handout per week which means this is likely to be a ten-week course.

## Reward

To encourage you to succeed in this course, I will reward you a bluetooth speaker if you pass all the assignments.



Figure 2. Bluetooth speakers

If you do not like this reward, we can discuss about it.

## Exercises

1. What is our *magic number*? Download **Assignment0** and finish its problems to get the number.
2. Besides **Euclidean geometry**, what are examples of other geometry subfields ? Try to search for it on the internet and explain what they are in your own words.
3. Tell me what you think about the course format. Is it good? bad? terrible? excellent?