

# Geometry

## Readiness Profile & Course Expectations

**Prerequisites:** “C” or higher in Algebra I.

Below are some guidelines for choosing the best course for an individual student. This is *not* a placement test and it should *not* be used as the only criteria for making placement decisions.

### Student Background

Students entering **Geometry** should *already* have a good understanding of the following concepts:

- How to solve multi-step single variable equations.
- How to solve quadratic equations.
- How to solve proportions.
- How to solve a system of equations

Students entering **Geometry** should also be able to solve problems such as

<p><u>Example Equation Problems:</u></p> <p>1) <math>2x + 5 = 15</math></p> <p>2) <math>6x + 5 - 2x = 8x - 20</math></p>	<p><u>Quadratic Equation:</u></p> <p><math>x^2 - 5x + 6 = 0</math>      Solve using the</p> <p>Solve by factoring:      Quadratic Formula:</p> <p><math>(x-2)(x-3)=0</math>      <math>x = \frac{5 \pm \sqrt{(-5)^2 - 4(1)(6)}}{2(1)}</math></p> <p style="text-align: center;"><math>S = \{2,3\}</math></p>
<p><u>Word Problem:</u></p> <p>The long side of a rectangle is four times its shorter side. If the shorter side is 3 feet, what is the length of the longer side?</p>	<p><u>Explain an Equation Problem:</u></p> <p><math>2(x+4) = 5x + 14</math></p> <p><math>2x + 8 = 5x + 14</math>      First I distributed the 2 into the <math>x+4</math>.</p> <p><math>\underline{-2x} \quad \underline{-2x}</math>      Then, I subtracted <math>2x</math> from both sides</p>
<p><u>Systems of Equations:</u></p> <p><math>2x+3y = 8</math></p> <p><math>x - 3y = 1</math></p>	<p style="text-align: center;"><math>8 = 3x + 14</math></p> <p style="text-align: center;"><math>\underline{-14} \quad \underline{-14}</math>      Then, I subtracted 14 from both sides</p> <p style="text-align: center;"><math>-6 = 3x</math>      to get the numbers on the left.</p>
<p><u>Proportions:</u></p> <p><math>\frac{x+3}{7} = \frac{2x+4}{5}</math></p>	<p style="text-align: center;"><math>x = -2</math>      Then, I divided both sides by <math>-3</math> to get <math>1x</math>. Therefore, <math>x = -2</math>.</p>

Students entering **Geometry** are expected to do the following things:

- Complete ALL homework problems with a thorough understanding of the concepts covered.
- Take detailed notes and use the notes as “guidelines” when completing homework.
- Identify “trouble” areas or concepts they do not understand and get help immediately.
- Be able to keep an organized notebook/binder.
- Keep all work and use old work to better understand current work.

## Course Content and Expectations

In **Geometry**, students will learn concepts such as:

- Reasoning and the deductive thought process. This will be developed through the practice and mastery of two-column proofs.
- Basic properties of polygons and circles. The students will apply these properties to solve multi-step algebraic equations. The types of equations used are: two equations with two unknowns, quadratic and multi-step single-variable problems.
- Special right triangles. A thorough exploration of simplifying radicals will be performed.
- Area and volume problems.
- Other topics may include transformations, constructions, and coordinate geometry.

Textbook: *Geometry*, Houghton Mifflin 1997, Jurgensen.

Students will be expected to spend an average of approximately 1 hour outside of class on homework for each class period. Approximately 1 to 2 sections from the text will be covered per class and one chapter every 2 to 3 weeks. Each semester will have approximately 6 tests and 6 quizzes. A cumulative final exam will be given at the end of each semester. Grades will be calculated within the following guidelines:

- Tests and Quizzes: 60 – 80%
- Homework: 20 – 35%

There may also be projects such as:

- Group problem solving followed by group presentations.
- Open ended problems that are applications of the content being covered. These are often times called Problems of The Week.
- Challenge problems, which may consist of detailed diagrams and a single page write-up.

## Test Scores

Other indicators of potential success in **Geometry** include test scores near or above the following values:

- California Standards Test (CST) for Algebra I: Proficient
- MDTP for Geometry Readiness: 70%
- District Benchmark Test for Algebra I: 70%