Geometry 2

MTHH036059

Credits: 0.5 units / 5 hours | NCAA Approved

Course Description

This course is the second of two courses designed to help students develop reasoning skills using geometric terms and processes, concepts of logic, and applied problem solving. Topics covered in this course include quadrilaterals, ratios and proportions, right triangles and trigonometry, transformations, areas of polygons and circles, surface area and volume, and tangents, chords and arcs. Frequent skill checks, guided practice sections, and reviews will help ensure that students get the most from this course. Career connections sections in every lesson help students learn more about career choices. This course uses many of the problem solving skills and equations learned in First Year Algebra. Students who have not completed at least one year of algebra may need to review linear and quadratic equations and relationships.

Graded Assessments: 6 Unit Evaluations; 2 Projects; 3 Proctored Progress Tests

Course Objectives

When you have completed the materials in this course, you should be able to:

1. Distinguish between similar and congruent shapes.

2. Use rations and proportions in geometric shapes.

3. Understand how to apply basic trigonometry to right triangles.

4. Study the four types of transformations.

5. Compute areas for all two-dimensional shapes.

6. Find surface area and volume for all three-dimensional shapes.

7. Build knowledge of circles by studying lines and angles in them.

8. Apply trigonometry to real world problems.

9. Use probability in geometric relationships.

10. Find perimeter, area, and volume of similar shapes.

Course Outline

Unit 1: Similarity

Lesson 1 Similarity

Lesson 2 Applying Similarity

Unit 2: Right triangles and Trigonometry

Lesson 3 Right Triangles

Lesson 4 Trigonometry

Unit 3: Extending Perimeter and Area

Lesson 5 Areas of Triangles, Quadrilaterals, Polygons, and Circles

Lesson 6 Applying Geometric Methods

Unit 4: Solid Geometry

Lesson 7: Three-Dimensional Geometry

Lesson 8: Surface Area and Volume

Unit 5: Circles

Lesson 9: Parts of Circles—Lines and Arcs

Lesson 10: Circles—Segments and Angles

Unit 6: Transformations

Lesson 11: Loci

Lesson 12: Transformations

Required Textbook and Materials
(available through Follett virtual bookstore at http://highschool.nebraska.bkstr.com)

To complete the activities and assignments in *Geometry 2*, you will need certain items. A math kit containing the *** items** is available for purchase from UNHS, or you can acquire them on your own.

> *1 compass
>
> *1 protractor
>
> *1 pad of graph paper (8.5 x 11 in. pad, quad ruled or centimeter square/ 4 squares per inch)
>
> *10 sheets of tracing paper
>
> 1 straightedge or ruler
>
> 1 set of 12 colored pencils
>
> 2 pencils & 1 eraser
>
> 1 notebook (containing paper) or about 30 sheets of regular-sized scratch paper
>
> scissors