

# Similarity & Right-Angled Trigonometry

## Curriculum Expectations

During this strand, I will:

- verify properties of similar triangles
- determine the lengths of sides of similar triangles, using proportional reasoning
- solve problems involving similar triangles in realistic situations
- determine the relationship between the ratio of two sides in a right triangle and the ratio of the two corresponding sides in a similar right triangle, and define the sine, cosine, and tangent ratios
- determine the measures of the sides and angles in right triangles, using the primary trigonometric ratios and the Pythagorean Theorem
- solve problems involving the measures of sides and angles in right triangles in real-life applications using the primary trigonometric ratios and the Pythagorean Theorem
- describe the application of trigonometry in an occupation

## Schedule of Topics

Day	Topic	Homework	Questions?	Done
1	Ratios and Proportions			
2	Angle Properties			
3	Similar Triangles			
4	Applications of Similar Triangles			
5	Review: Similar Triangles			
6	Pythagorean Theorem			
7	Sine, Cosine and Tangent Ratios			
8	Solving for Unknown Sides Using Trig. Ratios			
9	Solving for Unknown Angles Using Trig. Ratios			
10	Review: Trigonometric Ratios			
11	Applications of Trig. Ratios			
12	Applications Involving Multiple Triangles			
13	Review: Similarity and Trigonometry			

## Assessment and Evaluation

Quiz/Test/Task	Date	K	A	T	C

# Skills Checklist

At the end of this strand, I am able to:

- |   |                                 |                                |                                 |
|---|---------------------------------|--------------------------------|---------------------------------|
| • solve proportions by identifying a scaling factor             | <input type="checkbox"/> Always | <input type="checkbox"/> Often | <input type="checkbox"/> Rarely |
| • solve proportions using cross-multiplication                  | <input type="checkbox"/> Always | <input type="checkbox"/> Often | <input type="checkbox"/> Rarely |
| • use angle properties in triangles or involving parallel lines | <input type="checkbox"/> Always | <input type="checkbox"/> Often | <input type="checkbox"/> Rarely |
| • identify conditions necessary for similar triangles           | <input type="checkbox"/> Always | <input type="checkbox"/> Often | <input type="checkbox"/> Rarely |
| • create proportions relating the sides in similar triangles    | <input type="checkbox"/> Always | <input type="checkbox"/> Often | <input type="checkbox"/> Rarely |
| • find unknown side lengths using similar triangles             | <input type="checkbox"/> Always | <input type="checkbox"/> Often | <input type="checkbox"/> Rarely |
| • solve word problems involving similar triangles               | <input type="checkbox"/> Always | <input type="checkbox"/> Often | <input type="checkbox"/> Rarely |
| • classify triangles as right-angled or oblique                 | <input type="checkbox"/> Always | <input type="checkbox"/> Often | <input type="checkbox"/> Rarely |
| • find unknown side lengths using the Pythagorean Theorem       | <input type="checkbox"/> Always | <input type="checkbox"/> Often | <input type="checkbox"/> Rarely |
| • solve word problems involving the Pythagorean Theorem         | <input type="checkbox"/> Always | <input type="checkbox"/> Often | <input type="checkbox"/> Rarely |
| • determine the primary trigonometric ratios for a given angle  | <input type="checkbox"/> Always | <input type="checkbox"/> Often | <input type="checkbox"/> Rarely |
| • find unknown side lengths using the primary trig. ratios      | <input type="checkbox"/> Always | <input type="checkbox"/> Often | <input type="checkbox"/> Rarely |
| • find unknown angles using the primary trig. ratios            | <input type="checkbox"/> Always | <input type="checkbox"/> Often | <input type="checkbox"/> Rarely |
| • solve word problems involving the primary trig. ratios        | <input type="checkbox"/> Always | <input type="checkbox"/> Often | <input type="checkbox"/> Rarely |
| • solve problems involving multiple right-angled triangles      | <input type="checkbox"/> Always | <input type="checkbox"/> Often | <input type="checkbox"/> Rarely |
| • describe applications of trigonometry to occupations          | <input type="checkbox"/> Always | <input type="checkbox"/> Often | <input type="checkbox"/> Rarely |

**Student Comments**

**Parent/Guardian Comments**

**Teacher Comments**