

# Trigonometry

## Curriculum Expectations

By the end of this course, students will:

- determine the exact values of the sine, cosine, and tangent ratios of special angles
- determine the values of the sine, cosine, and tangent ratios of angles from  $0^\circ$  to  $360^\circ$
- determine the measures of two angles from  $0^\circ$  to  $360^\circ$  for which the value of a trigonometric ratio is the same
- define the secant, cosecant, and cotangent ratios for angles in a right triangle in terms of the sides of the triangle, and relate these ratios to the cosine, sine, and tangent ratios
- prove simple trigonometric identities using the Pythagorean identity, tangent identity, and reciprocal identities
- pose problems involving right and oblique triangles in both two- and three-dimensional settings, and solve these and other problems using the primary trigonometric ratios, the cosine law, and sine law (including the ambiguous case)

## Schedule of Topics

Day	Topic	Homework	Questions?
1	Primary and Secondary Trig. Ratios	Worksheet	
2	Working With Trigonometric Ratios	Worksheet	
3	Coterminal Angles/Ratios For Any Angle	p.237 #1-12,16,17	
4	Exact Values of Special Angles	Worksheet	
5	Sine/Cosine Laws	Worksheet	
6	Ambiguous Case of Sine Law	Worksheet	
7	2D Applications of Sine/Cosine Laws	p.254 #1-12,14,15,18,23	
8	3D Applications of Sine/Cosine Laws	p.265 #1-10,12,14,15	
9	Trigonometric Identities	Worksheet	
10	Review	p.276-279	

## Assessment and Evaluation

Quiz/Test/Task	Date	K	A	T	C

# Skills Checklist

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

- |   |            |           |            |
|---|------------|-----------|------------|
| • State the three primary trig. ratios for a given angle                                  | [ ] Always | [ ] Often | [ ] Seldom |
| • State the three secondary trig. ratios for a given angle                                | [ ] Always | [ ] Often | [ ] Seldom |
| • Use primary trig. ratios to determine a side length                                     | [ ] Always | [ ] Often | [ ] Seldom |
| • Use primary trig. ratios to determine the measure of an angle                           | [ ] Always | [ ] Often | [ ] Seldom |
| • Determine coterminal angles using positive and negative rotations                       | [ ] Always | [ ] Often | [ ] Seldom |
| • Determine trig. ratios given a point on an angle's terminal arm                         | [ ] Always | [ ] Often | [ ] Seldom |
| • State the exact trig. ratios for special angles   | [ ] Always | [ ] Often | [ ] Seldom |
| • State the special angles associated with exact trig. ratios                             | [ ] Always | [ ] Often | [ ] Seldom |
| • Use the cosine law to determine side lengths and angles                                 | [ ] Always | [ ] Often | [ ] Seldom |
| • Use the sine law to determine side lengths and angles                                   | [ ] Always | [ ] Often | [ ] Seldom |
| • Identify the conditions resulting in ambiguous oblique triangles                        | [ ] Always | [ ] Often | [ ] Seldom |
| • Determine side lengths and angles in ambiguous triangles                                | [ ] Always | [ ] Often | [ ] Seldom |
| • Solve applications using primary and secondary trig. ratios                             | [ ] Always | [ ] Often | [ ] Seldom |
| • Solve applications using the cosine and sine laws                                       | [ ] Always | [ ] Often | [ ] Seldom |
| • Prove trigonometric identities using the Pythagorean, tangent and reciprocal identities | [ ] Always | [ ] Often | [ ] Seldom |

Student Comments

Parent/Guardian Comments

Teacher Comments