



CW High School

Geometry B

1. Triangle Basics (20.00%)

Learning Targets

1.1 I can apply the Triangle Angle Sum Theorem and Exterior Angle Theorem to write and solve algebraic expressions and find indicated angle measurements.

Learning Target	Descriptor	Definition
4	Proficient	I can apply the Triangle Angle Sum Theorem and Exterior Angle Theorem to write and solve algebraic expressions and find indicated angle measurements.
3	Developing	I can solve for missing variables using the Triangle Angle Sum Theorem and Exterior Angle Theorem when given algebraic expression instead of direct measurements.
2	Basic	I can solve using the Triangle Angle Sum Theorem on a right triangle when the 90 degree corner is marked only with a box. I can solve for one of the remote interior angles when given the measure of the exterior angle and the remaining remote angle.
1	Minimal	I can solve for a missing interior angle using the Triangle Angle Sum Theorem if given two exact angle measurements. I can apply the Exterior Angle Theorem to calculate the measure of the exterior angle when given the two remote interior angles.
0	No Evidence	No evidence shown.

1.2 I can utilize the properties of isosceles and equilateral triangles to write equations to solve for missing variables for both triangle side lengths and angle measurements.

Learning Target	Descriptor	Definition
4	Proficient	I can utilize the properties of isosceles and equilateral triangles to write equations to solve for missing variables for both triangle side lengths and angle measurements.
3	Developing	I can find the side lengths of an equilateral triangle when given algebraic expressions. I can find the length of the congruent legs of an isosceles triangle when given algebraic expressions.
2	Basic	I can determine the lengths of all three sides of an equilateral triangle given just one side length. I can find the measure of the base angles of an isosceles triangle given the vertex angle.
1	Minimal	I can find the angle measure of an equilateral triangle and determine the length of the missing leg of an isosceles triangle when given the measure of the other leg.
0	No Evidence	No evidence shown.

1.3 I can implement triangle inequalities to determine if three sides lengths will form an acute, obtuse or right triangle.

Learning Target	Descriptor	Definition
4	Proficient	I can implement triangle inequalities to determine if three sides lengths will form an acute, obtuse or right triangle.



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Learning Target	Descriptor	Definition
3	Developing	I can implement triangle inequalities to calculate the range of the length of a third side of a triangle, given the other two side lengths.
2	Basic	I can implement triangle inequality to determine if a triangle can be formed with three given lengths.
1	Minimal	I can identify triangles are acute, right, or obtuse based on angle measurements.
0	No Evidence	No evidence shown.

1.4 I can calculate the areas of a triangle when it is necessary to implement the Pythagorean Theorem to obtain all the needed parts.

Learning Target	Descriptor	Definition
4	Proficient	I can calculate the areas of a triangle when it is necessary to implement the Pythagorean Theorem to obtain all the needed parts.
3	Developing	I can calculate the area of a triangle when given extra measurements that might not be needed to do so.
2	Basic	I can calculate the area of a non-right triangle when given the base and height.
1	Minimal	I can calculate the area of a right triangle when given the lengths of the legs.
0	No Evidence	No evidence shown.

2. Trigonometry (20.00%)

Learning Targets

2.1 I can produce a diagram of situation from a story problem, involving an angle of elevation or angle of depression, use it to write an equation using sine, cosine, or tangent, and solve for a missing distance.

Learning Target	Descriptor	Definition
4	Proficient	I can produce a diagram of situation from a story problem, involving an angle of elevation or angle of depression, use it to write an equation using sine, cosine, or tangent, and solve for a missing distance.
3	Developing	I can produce a diagram of situation from a story problem, involving a standard triangle situation, use it to write an equation involving sine, cosine, or tangent, and solve for a missing distance or angle measurement.
2	Basic	I can formulate an equation using sine, cosine, or tangent to solve for a missing angle measurement, given a diagram of the triangle with two labeled parts.
1	Minimal	I can formulate an equation using sine, cosine, or tangent to solve for a missing side length, given a diagram of the triangle with two labeled parts.
0	No Evidence	No evidence shown.

2.2 I can utilize the properties of the special right triangles (45-45-90 and 30-60-90) to calculate the length of any leg or hypotenuse, when the radical is given as a whole number.



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Learning Target	Descriptor	Definition
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4	Proficient	I can utilize the properties of the special right triangles (45-45-90 and 30-60-90) to calculate the length of any leg or hypotenuse, when the radical is given as a whole number.
3	Developing	I can utilize the properties of the 30-60-90 special right triangle to calculate the length of the legs when given the hypotenuse or the hypotenuse and short leg when given the longer leg.
2	Basic	I can utilize the 45-45-90 triangle to find the length of the legs when the length of the hypotenuse as a radical. And, use the 30-60-90 triangle to find the length of the long leg and hypotenuse when the length of the short leg.
1	Minimal	I utilize the properties of the 45-45-90 special right triangle to find the length of the hypotenuse when given the length of one leg.
0	No Evidence	No evidence shown.

2.3 I can produce the measure of missing angle of a non-right triangle, using the Law of Cosine.

Learning Target	Descriptor	Definition
4	Proficient	I can produce the measure of missing angle of a non-right triangle, using the Law of Cosine.
3	Developing	I can produce the measure of a missing angle of a non-right triangle using the Law of Sine.
2	Basic	I can produce length of a missing side of a non-right triangle using the Law of Cosine.
1	Minimal	I can produce the length of a missing side of a non-right triangle using the Law of Sine.
0	No Evidence	No evidence shown.

3. Quadrilaterals (20.00%)

Learning Targets

3.1 I can apply properties to prove whether a quadrilateral is a rectangle or parallelogram.

Learning Target	Descriptor	Definition
4	Proficient	I can apply properties to prove whether a quadrilateral is a rectangle or parallelogram.
3	Developing	I can use the properties of a rectangle or parallelogram to write and solve algebraic equations to calculate a missing variable.
2	Basic	I can calculate the area of a rectangle or parallelogram when I have to use other mathematical means to calculate needed information.
1	Minimal	I can calculate the area of a rectangle or parallelogram when given all needed information.
0	No Evidence	No evidence shown.



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3.2 I can apply properties to prove whether a quadrilateral is a square or rhombus.

Learning Target	Descriptor	Definition
4	Proficient	I can apply properties to prove whether a quadrilateral is a square or rhombus.
3	Developing	I can use the properties of a square or rhombus to write and solve algebraic equations to calculate a missing variable.
2	Basic	I can calculate the area of a square or rhombus when I need to use other mathematical means to calculate needed information.
1	Minimal	I can calculate the area of a square or rhombus when given all needed information.
0	No Evidence	No evidence shown.

3.3 I can compare and contract the properties of an isosceles trapezoid and kite to the properties of the other quadrilaterals.

Learning Target	Descriptor	Definition
4	Proficient	I can compare and contract the properties of an isosceles trapezoid and kite to the properties of the other quadrilaterals.
3	Developing	I can use the properties of a kite to write and solve algebraic equations to calculate a missing variable.
2	Basic	I can use the properties of an isosceles trapezoid to write and solve algebraic equations to calculate a missing variable.
1	Minimal	I can calculate the area of a trapezoid or a kite.
0	No Evidence	No evidence shown.

4. Regular Polygons (20.00%)

Learning Targets

4.1 I can compute and use the measure of interior angles of any polygon to write and solve algebraic equations to calculate missing variables or angle measurements.

Learning Target	Descriptor	Definition
4	Proficient	I can compute and use the measure of interior angles of any polygon to write and solve algebraic equations to calculate missing variables or angle measurements.
3	Developing	I can determine the number of sides a regular polygon has given the measure of just one interior angle.
2	Basic	I can determine the number of sides a regular polygon has given the measure of either a central angle or vertex angle.
1	Minimal	I can utilize the formula to solve the sum of the interior angles of any polygon. I can utilize the formula to calculate the measure of one interior angle of a regular polygon.



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Learning Target	Descriptor	Definition
0	No Evidence	No evidence shown.

4.2 I can compute the area of a regular polygon when I need to use a trigonometric ratio to calculate the side length of the figure.

Learning Target	Descriptor	Definition
4	Proficient	I can compute the area of a regular polygon when I need to use a trigonometric ratio to calculate the side length of the figure.
3	Developing	I can compute the area of a regular polygon when I need to use a trigonometric ratio to calculate the length of the apothem.
2	Basic	I can calculate the measure of the vertex and base angle of a regular polygon.
1	Minimal	I can compute the area of a regular polygon when given a side length and the length of the apothem.
0	No Evidence	No evidence shown.

4.3 I can compute the area of a composite figure formed by various polygons, circles, and sectors of circles in which measurements must be calculated using the Pythagorean Theorem or trig ratios.

Learning Target	Descriptor	Definition
4	Proficient	I can compute the area of a composite figure formed by various polygons, circles, and sectors of circles in which measurements must be calculated using the Pythagorean Theorem or trig ratios.
3	Developing	I can compute the area of a composite figure formed by various polygons, circles, and sectors.
2	Basic	I can compute the area of a composite figure formed by triangles and quadrilaterals using the subtraction method.
1	Minimal	I can compute the area of a composite figure formed by triangles and quadrilaterals using the addition method.
0	No Evidence	No evidence shown.

5. 3-D Solids (20.00%)

Learning Targets

5.1 I can compute the surface area of 3-D solids, particularly prisms and pyramids with regular polygonal bases beyond four sides when given either the height or slant height of the figure.

Learning Target	Descriptor	Definition
4	Proficient	I can compute the surface area of 3-D solids, particularly prisms and pyramids with regular polygonal bases beyond four sides when given either the height or slant height of the figure.



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Learning Target	Descriptor	Definition
3	Developing	I can compute the surface area of 3-D solids, particularly prisms and pyramids with either triangular or quadrilateral bases when given either the height or slant height of the figure.
2	Basic	I can compute the surface area of 3-D solids, particularly cones when given either the height or slant height of the figure.
1	Minimal	I can compute the surface area of 3-D solids, particularly spheres and cylinders when given either the radius or diameter of the figure.
0	No Evidence	No evidence shown.

5.2 I can compute the volume of 3-D solids, particularly prisms and pyramids with regular polygonal bases beyond four sides when given either the height or slant height of the figure.

Learning Target	Descriptor	Definition
4	Proficient	I can compute the volume of 3-D solids, particularly prisms and pyramids with regular polygonal bases beyond four sides when given either the height or slant height of the figure.
3	Developing	I can compute the volume of 3-D solids, particularly prisms and pyramids with either triangular or quadrilateral bases when given either the height or slant height of the figure.
2	Basic	I can compute the volume of 3-D solids, particularly cones when given either the height or slant height of the figure.
1	Minimal	I can compute the volume of 3-D solids, particularly spheres and cylinders when given either the radius or diameter of the figure.
0	No Evidence	No evidence shown.

5.3 I can identify similar solids, determine the scale factor, create and select the proper ratio to use in order to answer a question comparing the two objects.

Learning Target	Descriptor	Definition
4	Proficient	I can identify similar solids, determine the scale factor, create and select the proper ratio to use in order to answer a question comparing the two objects.
3	Developing	I can convert a ratio of volumes to a scale factor. I can convert a ratio of areas to scale factor.
2	Basic	I can convert scale factor to a ratio of areas and a ratio of volumes.
1	Minimal	I can derive the scale factor between two similar objects given side lengths.
0	No Evidence	No evidence shown.

Submitted on 2/1/2022 by Wendy Weaver