

Geometry – Pythagorean Theorem and Special Right Triangles mini-unit:

Pre- Post-

Prerequisite skills:

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|--|-------|-------|
| a. I can calculate the sum of the angles in a polygon. | _____ | _____ |
| b. I can simplify exponential expressions. | _____ | _____ |
| c. I can solve equations for a variable by using inverse operations. | _____ | _____ |
| d. I can identify equilateral and isosceles triangles. | _____ | _____ |
| e. I can identify the components of a right triangle. | _____ | _____ |
| f. I can calculate the area of a square. | _____ | _____ |

Learning Targets:

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|---|-------|-------|
| 1. I can interpret the Pythagorean Theorem. | _____ | _____ |
| 2. I can use the Pythagorean Theorem to solve for a hypotenuse. | _____ | _____ |
| 3. I can use the Pythagorean Theorem to solve for a leg. | _____ | _____ |
| 4. I can use the Pythagorean Theorem to prove the ratio of isosceles right triangles. | _____ | _____ |
| 5. I can understand the proof of the ratios in a 30-60-90 triangle. | _____ | _____ |
| 6. I can use special right triangle relationships to solve for missing side lengths. | _____ | _____ |

Performance Checks:

1. Explain the Pythagorean Theorem using the terms – leg, hypotenuse, squared, right triangle.
2. In a right triangle with both leg lengths given, calculate the length of the missing hypotenuse.
3. In a right triangle with a leg and the hypotenuse lengths given, calculate the length of the missing leg.
4. Write an informal proof of the ratio of the sides of an isosceles right triangle by using the Pythagorean Theorem.
5. Draw a 30-60-90 triangle and write the ratio of the side lengths.
6. Given one length of a side in a special right triangle (either 45-45-90 or 30-60-90), use the ratios to determine the lengths of the missing sides.