

1. **8-1 Pythagorean Theorem:** If a triangle is a right triangle, then the sum of the squares of the legs is equal to the square of the hypotenuse.
 $a^2 + b^2 = c^2$
2. **8-2 Pythagorean Triple:** A set of natural/counting numbers a, b, and c that satisfy the Pythagorean Theorem
3. **8-3 Common Pythagorean Triples:** 3/4/5, 5/12/13, 7/24/25, 8/15/17
4. **8-4 Converse of Pythagorean Theorem:** If the sum of the squares of two sides of a triangle is equal to the square of the third side, then the triangle is right.
5. **8-5 If $c^2 > a^2 + b^2$ then the triangle is:** Obtuse
6. **8-6 If $c^2 < a^2 + b^2$ then the triangle is:** Acute
7. **8-7 45-45-90 Triangle:** Both legs are congruent. The length of the hypotenuse is $\sqrt{2}$ times the length of either leg.
8. **8-8 30-60-90 Triangle:** The length of the hypotenuse is 2 times the length of the short leg. The length of the long leg is $\sqrt{3}$ times the length of the short leg.
9. **8-9 Sine (Sin):** opposite side / hypotenuse (SOH)
10. **8-10 Cosine (Cos):** adjacent side / hypotenuse (CAH)
11. **8-11 Tangent (Tan):** opposite side / adjacent side (TOA)
12. **8-12 Angle of Elevation:** The angle between a horizontal line and the line of sight to an object above the horizontal line
13. **8-13 Angle of Depression:** The angle between a horizontal line and the line of sight to an object below the horizontal line