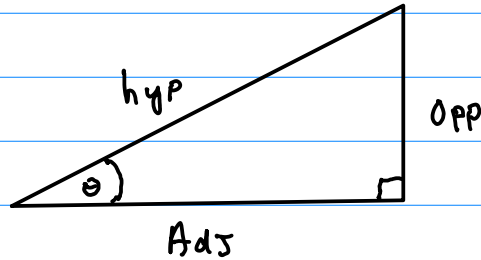


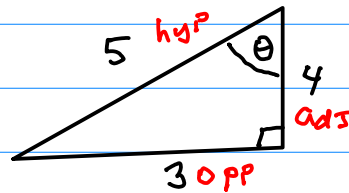
Right Angle Trigonometry

$$\sin(\theta) = \frac{\text{opp}}{\text{hyp}}, \quad \cos(\theta) = \frac{\text{adj}}{\text{hyp}}, \quad \tan(\theta) = \frac{\text{opp}}{\text{adj}} \quad \text{"SOHCAHTOA"}$$



$$\text{Also: } \csc(\theta) = \frac{1}{\sin(\theta)} = \frac{\text{hyp}}{\text{opp}}, \quad \sec(\theta) = \frac{1}{\cos(\theta)} = \frac{\text{hyp}}{\text{adj}}, \quad \cot(\theta) = \frac{1}{\tan(\theta)} = \frac{\text{adj}}{\text{opp}}$$

Example: Consider a right triangle with sides measuring 3, 4, and 5 units. Theta is the angle formed by the sides of length 4 and 5. Determine the values of all six trigonometric functions of theta.



$$\sin(\theta) = \frac{3}{5}, \quad \cos(\theta) = \frac{4}{5}, \quad \tan(\theta) = \frac{3}{4}, \quad \csc(\theta) = \frac{5}{3}, \quad \sec(\theta) = \frac{5}{4}, \quad \cot(\theta) = \frac{4}{3}$$