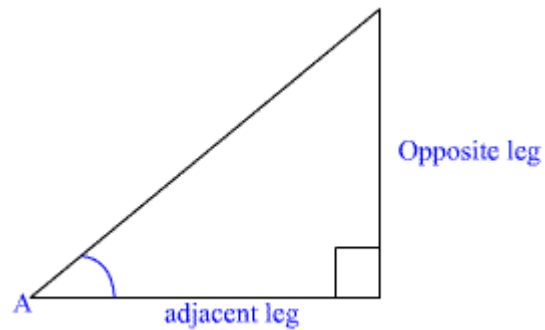


Trigonometry in Geometry

Objective:

- Learning about tangent, sine, and cosine ratios for an acute angle
- Using tangent, sine, and cosine ratios to solve right triangle problems

Tangent Ratio: The measure of the leg opposite of the angle over the measure of the leg adjacent of the angle.

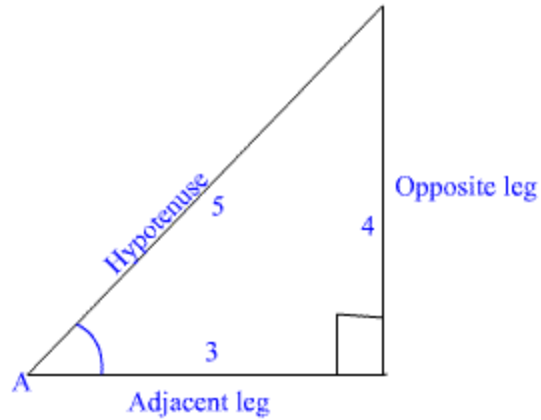


$$\text{Tangent of } \angle A = (\text{Leg opposite } \angle A) / (\text{Adjacent leg } \angle A)$$



$$\text{Tangent of } \angle A = 3/4$$

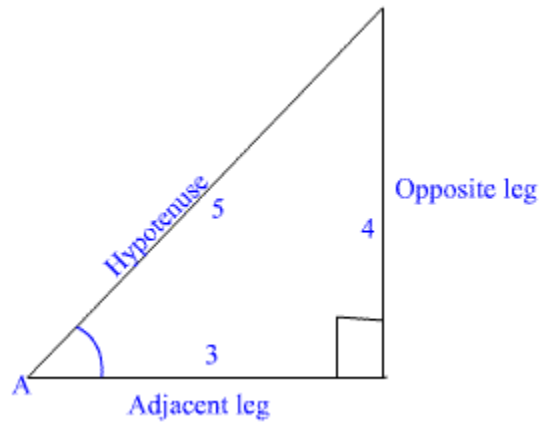
Sine: The measure of the leg opposite of the angle over the measure of hypotenuse



Sine of $\angle A = (\text{Leg opposite } \angle A) / \text{Hypotenuse}$

$$\text{Sine of } \angle A = 4/5$$

Cosine: The measure of the leg adjacent to the angle over the measure of the hypotenuse



cosine of $\angle A = (\text{Leg adjacent to } \angle A) / \text{Hypotenuse}$

$$\text{cosine of } \angle A = 3/5$$

Easy way to remember trigonometric ratios:

Soh, Cah, Toa or *Oh Heck, Another Hour of Algebra*

$$\text{Sin } A = \text{Opp} / \text{hyp}$$

$$\text{Cos } A = \text{Adj} / \text{hyp}$$

$$\text{Tan } A = \text{Opp} / \text{adj}$$