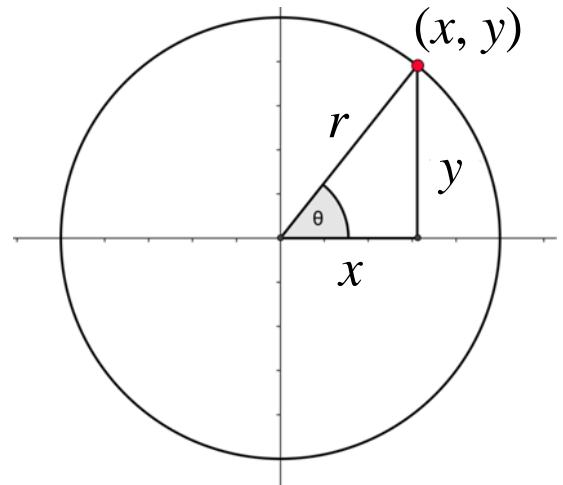


Activity – Triangle Trig Connections

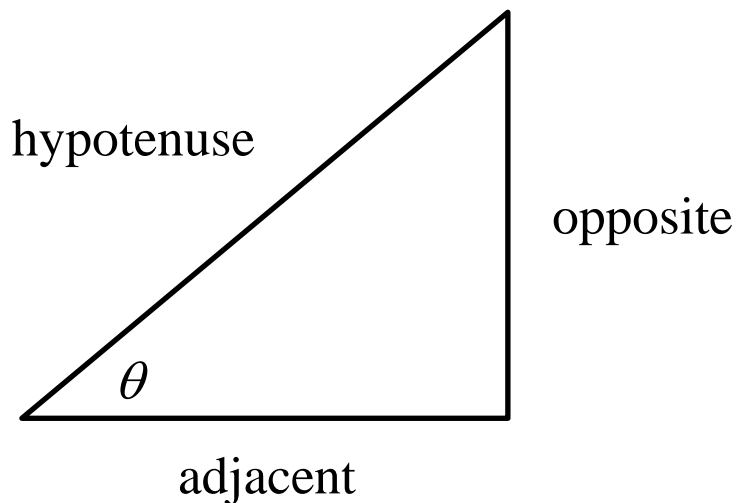
From a previous activity, recall that for an angle θ in a right triangle inscribed in a circle of radius r , we could express $\sin\theta$ and $\cos\theta$ as the ratio of sides of the triangle.

- $\sin\theta$ is the ratio of which two sides of the triangle?
 - $\cos\theta$ is the ratio of which two sides of the triangle?
- Thinking of reciprocal and quotient identities complete the following with ratios of sides of the triangle.



- $\sec\theta =$
- $\tan\theta =$
- $\csc\theta =$
- $\cot\theta =$

3. In general, if we have a right triangle, we will not need to draw the circle. In the triangle below, we label the sides according to their position with respect to the angle we are using in the trig function. Using the triangle shown below, answer the questions with the correct ratio of sides, using the labels below.



- $\sin\theta =$
- $\cos\theta =$
- $\tan\theta =$
- $\csc\theta =$
- $\sec\theta =$
- $\cot\theta =$

4. You are cliff jumping in Hawaii and want to know how high the cliff you just jumped off from is. Your friend down on the beach that is 50 feet away measured the angle of elevation to the top of the cliff to be 60.4° . How high is the cliff?

