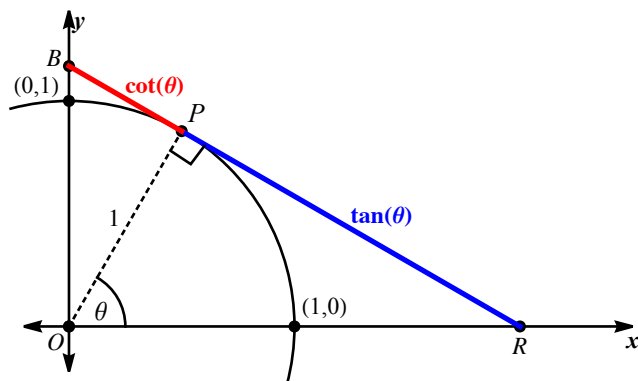


Trigonometry 33: Reciprocal Identities: Cotangent

The cotangent function, $y = \cot(\theta)$ is the length BP (highlighted in red) in the unit circle diagram below.



If we focus on triangle OBP, we know that

$$\tan \theta = \frac{1}{BP} \quad \Rightarrow \quad BP = \cot(\theta) = \frac{1}{\tan \theta}$$

This relationship is also a reciprocal identity.

Because $\tan \theta = \sin \theta / \cos \theta$,

$$\cot(\theta) = \frac{\cos \theta}{\sin \theta}$$

This is our second quotient identity.

The graph of the cotangent function:

