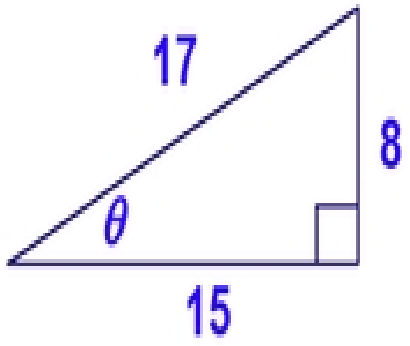
Example: A right triangle has sides whose lengths are 8 in., 15 in. and 17 in. Find the values of the six trig functions of the acute angle, θ, shown in the diagram.



$$\sin\theta = \frac{opposite}{hypotenuse} = \frac{8}{17} \qquad \csc\theta = \frac{hypotenuse}{opposite} = \frac{17}{8}$$

$$\cos\theta = \frac{adjacent}{hypotenuse} = \frac{15}{17} \qquad \sec\theta = \frac{hypotenuse}{adjacent} = \frac{17}{15}$$

$$\tan\theta = \frac{opposite}{adjacent} = \frac{8}{15} \qquad \cot\theta = \frac{adjacent}{opposite} = \frac{15}{8}$$