

Refer to the $30^\circ - 60^\circ - 90^\circ$ triangle. The side opposite 60° has length $\sqrt{3}$ and the hypotenuse has length 2, so:

$$\sin 60^\circ = \frac{o}{h} = \frac{\sqrt{3}}{2}$$

Cosecant is the reciprocal of sine, so:

$$\csc 60^\circ = \frac{1}{\frac{\sqrt{3}}{2}} = \frac{2}{\sqrt{3}}$$