

# Small Angle Approximations

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## What counts as small?

There is no hard and fast rule as to what counts as small, however, generally angles  $\leq 0.2$  rad or  $\leq 12^\circ$  can be considered small.

## The Approximations

$$\sin \theta \approx \theta$$

$$\tan \theta \approx \theta$$

$$\cos \theta \approx 1 - \frac{\theta^2}{2}$$