

Below are the trig identities used in our course, though most are not complete. Fill in any missing identities. A few are given to help you identify other identities.

**Pythagorean Identities:**

Sine/Cosine:

Tan/Sec:

Cot/Csc:

**Alternative Pythagorean Identities:**

$\sin^2 A =$

$\cos^2 A =$

$\tan^2 A =$

$\cot^2 A =$

**Odd/Even Functions (Negative Angle Identities):**

$\sin(-A) =$

$\cos(-A) =$

$\tan(-A) =$

**Sum and Difference Formulas:**

$\cos(A + B) = \cos A \cdot \cos B - \sin A \cdot \sin B$

$\cos(A - B) =$

$\sin(A + B) =$

$\sin(A - B) =$

$\tan(A + B) = \frac{\tan A + \tan B}{1 - \tan A \cdot \tan B}$

$\tan(A - B) =$

**Double Angle Formulas:**

$\sin(2A) =$

$\cos(2A) = \cos^2 A - \sin^2 A$

$\cos(2A) =$

$\cos(2A) =$

$\tan(2A) =$

**Half Angle Formulas:**

$\sin\left(\frac{1}{2}A\right) = \pm \sqrt{\frac{1 - \cos A}{2}}$

$\tan\left(\frac{1}{2}A\right) = \frac{1 - \cos A}{\sin A}$

$\cos\left(\frac{1}{2}A\right) =$

$\tan\left(\frac{1}{2}A\right) =$