

16.4: Trigonometric Identities

- $\sin^2 u + \cos^2 u = 1$
 - $\tan u = \frac{\sin u}{\cos u}$
 - $\sin\left(\frac{\pi}{2} - u\right) = \cos u$
 - $\cos\left(\frac{\pi}{2} - u\right) = \sin u$
 - $\sin(u \pm v) = \sin u \cos v \pm \cos u \sin v$
 - $\cos(u \pm v) = \cos u \cos v \mp \sin u \sin v$
 - $\sin(-u) = -\sin u$
 - $\cos(-u) = \cos u$
 - $\tan(-u) = -\tan u$
 - $\sin u \cos v = \frac{1}{2} [\sin(u + v) + \sin(u - v)]$
 - $\sin u \sin v = \frac{1}{2} [\cos(u - v) - \cos(u + v)]$
 - $\cos u \cos v = \frac{1}{2} [\cos(u - v) + \cos(u + v)]$
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