16.4: Trigonometric Identities

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