

Precalculus
WS Single Trig Functions – Double & Half Angles

Name

Truster

Write as a single trig function of a single angle.

$$1. \sqrt{\frac{1 - \cos(80^\circ)}{2}} = \sin 40^\circ$$

$$2. \cos^2\left(\frac{2\pi}{7}\right) - \sin^2\left(\frac{2\pi}{7}\right) = \cos\left(\frac{4\pi}{7}\right)$$

$$3. \sqrt{\frac{1 + \cos(100^\circ)}{2}} = \cos 50^\circ$$

$$4. \frac{2\tan(35^\circ)}{1 - \tan^2(35^\circ)} = \tan(70^\circ)$$

$$5. \frac{1 - \cos 98^\circ}{\sin 98^\circ} = \tan 49^\circ$$

$$6. 2\sin\left(\frac{\pi}{5}\right)\cos\left(\frac{\pi}{5}\right) = \sin\left(\frac{2\pi}{5}\right)$$

$$7. 2\cos^2\left(\frac{2\pi}{5}\right) - 1 = \cos\left(\frac{4\pi}{5}\right)$$

$$8. 1 - 2\sin^2\left(\frac{\pi}{8}\right) = \cos\left(\frac{2\pi}{8}\right) = \cos\left(\frac{\pi}{4}\right)$$