Double Angle Sine Formula

Name _____

Date _____ Period _____

Double Angle Sine Formula

$$\sin(2\theta) = 2\sin\theta\cos\theta$$

Sum Formula for Sine

$$\sin(\alpha + \beta) = \sin\alpha\cos\beta + \cos\alpha\sin\beta$$

$$\sin(2\theta)$$

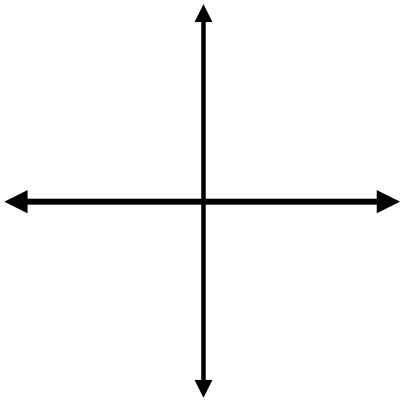
$$\sin(\theta + \theta) = \sin\theta\cos\theta + \cos\theta\sin\theta$$

$$= 2\sin\theta\cos\theta$$

Double Angle Sine Formula

$$\sin(2\theta) = 2\sin\theta\cos\theta$$

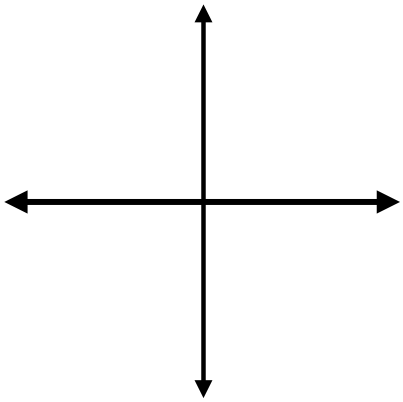
Given $\sin\theta = \frac{3}{5}$; θ lies in quadrant 1, determine the value of $\sin(2\theta)$



Double Angle Sine Formula

$\sin(2\theta) = 2\sin\theta\cos\theta$

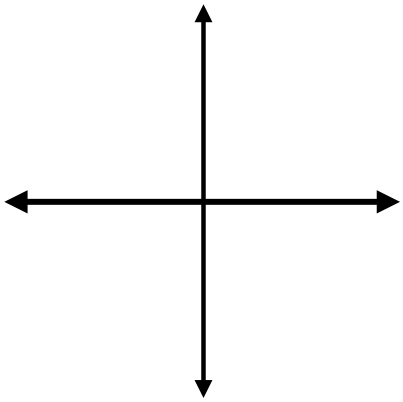
Given $\tan\theta = \frac{4}{3}$; θ lies in quadrant 3, determine the value of $\sin(2\theta)$



Double Angle Sine Formula

$\sin(2\theta) = 2\sin\theta\cos\theta$

Given $\cos\theta = -\frac{1}{2}$; θ lies in quadrant 2, determine the value of $\sin(2\theta)$



Double Angle Sine Formula

$$\sin(2\theta) = 2\sin\theta\cos\theta$$

Simplify the following expressions

$2\sin 22.5^\circ \cos 22.5^\circ$ $2\sin\frac{\pi}{12}\cos\frac{\pi}{12}$ $2\sin 35^\circ \cos 35^\circ$

Prove the following identities

$$\sin 2\theta = \frac{2\tan\theta}{1+\tan^2\theta}$$

Prove the following identities

$$\csc 2\theta = \frac{1}{2} \csc \theta \sec \theta$$

Double Angle Sine Formula

$$\sin(2\theta) = 2 \sin \theta \cos \theta$$