

Name: _____

Pre-Calculus

Applying the Double Angle Identity

DOUBLE-ANGLE IDENTITIES

SINE	COSINE	TANGENT
$\sin (2A) = 2 \sin A \cos A$	$\cos (2A) = \cos^2 A - \sin^2 A$	$\tan (2A) = \frac{2 \tan A}{1 - \tan^2 A}$
	$\cos (2A) = 1 - 2 \sin^2 A$	
	$\cos (2A) = 2 \cos^2 A - 1$	

Example 1 (Finding Function Values of 2θ Given Information About θ): Given that $\sin \theta = \frac{8}{17}$ and $\cos \theta < 0$, find the values of $\sin 2\theta$, $\cos 2\theta$, and $\tan 2\theta$.

Example 2 (Practice): Find the values of $\sin 2\theta$, $\cos 2\theta$, and $\tan 2\theta$ given that $\cos 2\theta = -\frac{12}{13}$ and that $180^\circ < \theta < 270^\circ$.