Pre-Calculus AB Name_____

Worksheet 33 - Lesson 84

Date_____ Period____

Using radians, find the period of each function. Then graph.

1) $y = \frac{1}{2} \cdot \cos\left(\frac{\theta}{2} + \frac{\pi}{3}\right) - 2$

2) $y = 3\sin\left(3\theta + \frac{3\pi}{2}\right) - 1$

3) $y = 2\sin\left(\frac{\theta}{3} + \frac{3\pi}{4}\right) + 2$

4) $y = \frac{1}{2} \cdot \cos\left(2\theta - \frac{3\pi}{4}\right) + 2$

5) Show: $\dfrac{\csc^2 x - 1}{\tan x} = \cot^3 x$

6) Show: $\cos x - \cos x \cdot \sin^2 x = \cos^3 x$

7) Show: $\dfrac{\sec^2 \theta - 1}{\cot \theta} = \tan^3 \theta$

8) Show: $\dfrac{\csc^4 x - cot^4}{\csc^2 x + \cot^2 x} + \cot^2 x = \csc^2 x$

9) Show:

$$-\cos -\theta \cdot \csc -\theta \cdot \tan\left(\frac{\pi}{2} - \theta\right) = \cot^2 -\theta$$