Name _____ Per _____

Algebra 2/Trig Identities Practice

Mrs. Jensen

Verify the following identities on a separate piece of paper:

#1 $\tan\theta\cos\theta = \sin\theta$	#2 $\dfrac{1+\tan\alpha}{1+\cot\alpha} = \dfrac{\sin\alpha}{\cos\alpha}$
#3 $\dfrac{\csc\theta}{\sec\theta} = \cot\theta$	#4 $\dfrac{\cot\beta+\csc\beta}{\sin\beta+\tan\beta} = \cot\beta\csc\beta$
#5 $\sin^2\theta(\csc^2\theta+\sec^2\theta) = \sec^2\theta$	#6 $\dfrac{1}{\sec^2\theta}+\dfrac{1}{\csc^2\theta} = 1$
#7 $(1+\sin\beta)(1-\sin\beta) = \cos^2\beta$	#8 $\tan^4\theta+2\tan^2\theta+1 = \sec^4\theta$
#9 $\dfrac{\sin\beta}{\sec\beta} = \dfrac{1}{\tan\beta+\cot\beta}$	#10 $\dfrac{\sin\alpha}{\cot\alpha}-\sec\alpha = -\cos\alpha$

Use identities to solve the following:

10. Find $\cos\theta$ if $\tan\theta = -\frac{3}{4}$ for $90° \leq \theta < 180°$	11. Find $\sec\theta$ if $\sin\theta = -\frac{2}{3}$ for for $180° \leq \theta < 270°$