

Name: _____ Period: _____

Ch. 5 Review **Show all work. Simplify answers.**

Establish the identity.

1) $\tan^2 \theta \cos^2 \theta + \cot^2 \theta \sin^2 \theta = 1$

Establish the identity.

2) $\frac{1 - \sin \theta}{\cos \theta} + \frac{1}{1 + \sin \theta} = \frac{\cos \theta + 1}{\sin \theta + 1}$

Solve each equation for θ on the interval $[0, 2\pi]$.

3) $\tan^2 \theta = \frac{1}{3}$

4) $2\sin^2 \theta - \sin \theta - 1 = 0$

5) Draw a reference triangle given the following:

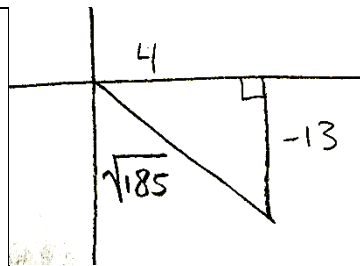
$$\sin \theta = -\frac{3}{11} \quad \tan \theta > 0$$

6) Draw a reference triangle given the following:

$$\cos^{-1} \left(-\frac{4}{13} \right)$$

7) Find the exact value of the expression $\tan \left(\cos^{-1} \left(-\frac{3}{5} \right) + \sin^{-1} \left(\frac{5}{13} \right) \right)$.

Use the reference triangle to the right on problems 8 and 9.



8) $\cos(2\theta)$

9) $\cot(2\theta)$

10) Use a half-angle formula to find the exact value of the expression.

$$\sin\left(\frac{7\pi}{8}\right)$$

11) Use a half-angle formula to find the exact value of the expression.

$$\cot\left(\frac{17\pi}{8}\right)$$