$\qquad$ Unit \#7: Trig Identities [50 pts]

## Formula Sheet Allowed. 4-FUNCTION CALCULATOR ONLY. [REMEMBER: IT WILL BE "NO CALCULATOR OR FORMULA SHEET" IN CALCULUS.]

You must show the use of the correct formula to receive credit for the problem. Simplify fractions and reduce radicals as we have done in class. [Roots within roots are acceptable answers.]

Answers having no supporting arithmetic work will not be scored.

1. Use the information about the angle, $\theta$, to find the exact value. [5 pts]
$\cos \theta=\frac{-3}{5}, \quad \frac{\pi}{2}<\theta<\pi$ $\sin (2 \theta)=$ $\qquad$ $\xrightarrow{\longrightarrow}$
Work:
2. Use a half-angle formula to find the exact value of $\sec 15^{\circ}$. [10 pts]

Work:
$\sec 15^{\circ}=$ $\qquad$
3. Use a half-angle formula to find the exact value. [5 pts]

$$
\sin \theta=\frac{\sqrt{3}}{3}, \quad \frac{\pi}{2}<\theta<\pi
$$

$$
\cos \frac{\theta}{2}=
$$



Work:

Find the exact value of the expression. [15 pts]
4. $\quad \cos \left(2 \sin ^{-1}\left(\frac{5}{13}\right)\right)$


Work:

Find the exact value of the expression. [15 pts]
5. $\sin ^{2}\left(\frac{1}{2} \tan ^{-1}(-3)\right)$


Work:

