

MAT 123: Introduction to Calculus, R-16  
Fall 2005

Homework 1

1. Convert 150 degrees to radians.
2. Convert  $\frac{11\pi}{12}$  radians to degrees.
3. Use trigonometric identities to simplify  $\csc^2 \frac{\pi}{6} - \cot^2 \frac{\pi}{6}$
4. Find the value of  $\sec\left(-\frac{\pi}{3}\right)$ . You can make use of the figure on p.450 of the textbook. (*Hint*: Is the secant function even or odd?)
5. If  $\sin t = \frac{2}{3}$  and  $\cos t = \frac{\sqrt{5}}{3}$ , find  $\tan t$ ,  $\sec t$ ,  $\csc t$ ,  $\cot t$ .