

Calculus Fall 2012  
S. Sisney

## Homework 2

Trigonometric functions

Problems:

Due:

1. Plot the point  $(\frac{2}{3}, -\frac{1}{3})$  on the unit circle and compute the values of the six trigonometric functions of that point.
2. On the unit circle, for what values of  $t$  is the y-coordinate of  $P(t)$  equal to zero?
3. On the unit circle, for what values of  $t$  is the x-coordinate of  $P(t)$  equal to zero?
4. Make a table of the *signs* of the trigonometric functions in each *quadrant* of the unit circle.
5. Find all six trigonometric functions of  $\frac{5\pi}{4}$ .
6. Prove the periodicity properties for the sine, cosine, and tangent functions.
7. Read pp 2-12 in the text.