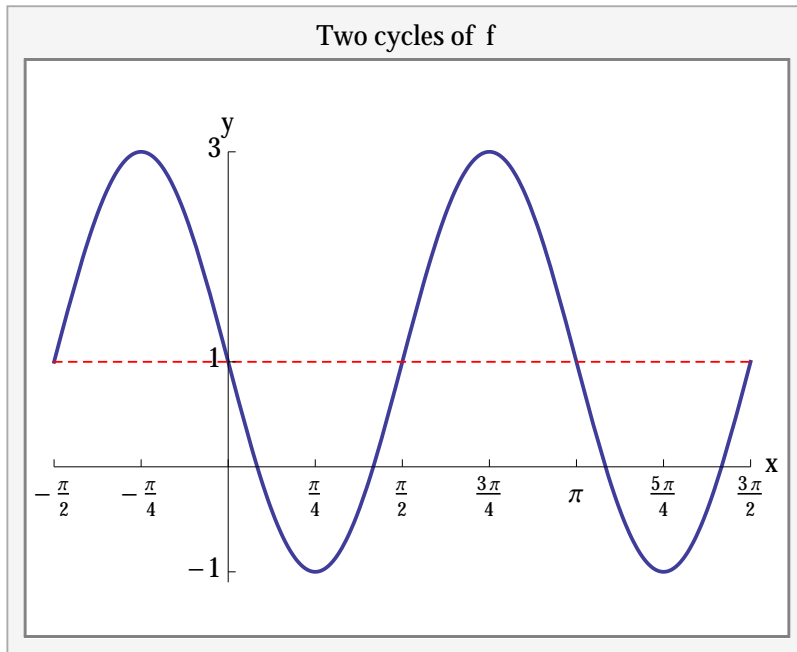


Exam 1

Name:

Date: May 30, 2013

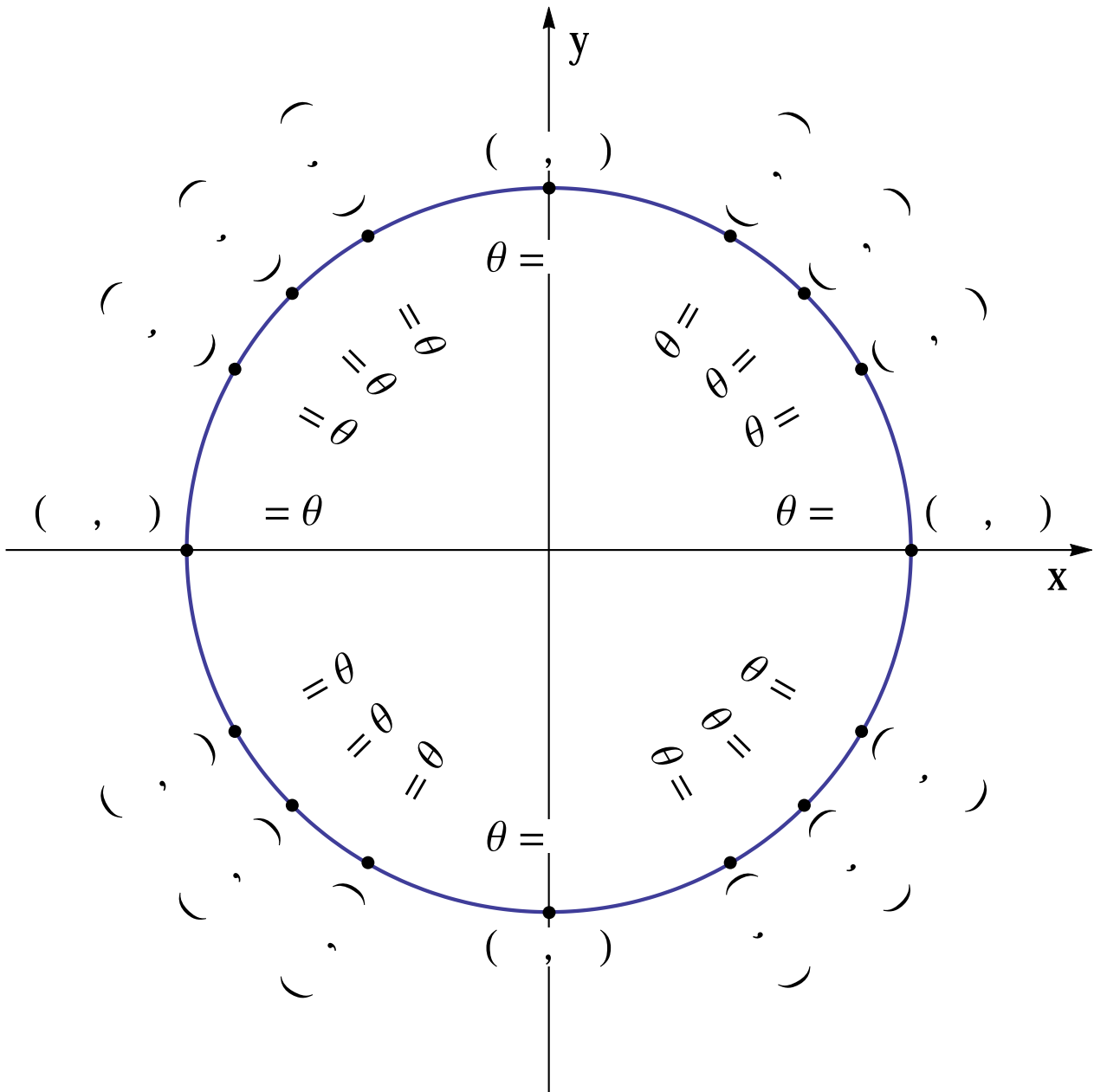
P 1. [12 Points] Consider the graph of f below.



Use the graph of f to answer the following. If a solution does not exist, state why.

- (a) Find the amplitude.
- (b) Find the period.
- (c) Find the midline.
- (d) Find an equation for f .
- (e) Find the x -intercepts for f on the interval $[-\pi/2, 3\pi/2]$?
- (f) Find the y -intercept.

P 2. [10 Points] Complete the unit circle with the common angles between 0 and 2π and the corresponding ordered pairs.



P 3 (10 points). Find the values of the six trigonometric functions of θ given that

$$\cos \theta = \frac{-4}{5}$$

and θ lies in quadrant III.

P 4 (5 points). Evaluate

$$\sin \left(\arctan \frac{2}{5} \right)$$

P 5 (10 points). Sketch the graph of

$$f(x) = 5 \cos(\pi x) - 3$$

Include two full periods. Find the amplitude, period, and midline. Also include a table of “nice” values for which to evaluate f and the corresponding values of f . Label x and y - intercepts (if any).

P 6 (10 points). Sketch the graph of

$$f(x) = 2 \sec x$$

Include one full period. Find the period. Also include a table of “nice” values for which to evaluate f and the corresponding values of f . Label x and y - intercepts and asymptotes (if any).

P 7 (12 points). Solve

$$2 \sin x + \sqrt{2} = 0$$

(a) on $(-\infty, \infty)$.

(b) on $[0, 2\pi)$

(c) on $[-2\pi, 0)$

P 8 (12 points). Evaluate

(a) $\sin 121\pi$

(d) $\csc 12\pi$

(b) $\cos \frac{19\pi}{4}$

(e) $\sec \frac{-7\pi}{4}$

(c) $\tan \frac{-5\pi}{6}$

(f) $\cos^2(4.1) + \sin^2(4.1)$

P 9 (12 points). Evaluate

(a) $\sin^{-1}(1/2)$

(d) $\cos^{-1}(3)$

(b) $\arccos(-1)$

(e) $\arcsin \frac{\sqrt{3}}{2}$

(c) $\tan^{-1}(1)$

(f) $\arctan \sqrt{3}$