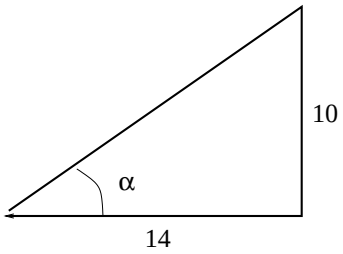
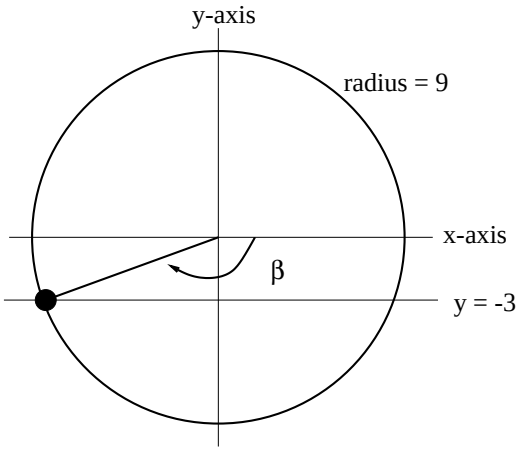
Math 120
16 November 2000
Quiz #7 (20 points)

Name _____
Section _____
TA: _____

Instructions: You have 25 minutes for this quiz. You **MUST** show work for credit. No credit for answers only. If in doubt, ask for clarification. NO GRAPHING CALCULATORS ALLOWED. Use 2 decimal places of accuracy.

1. (6pts) Find the the unknown angles α, β in these two pictures.





2. (4pts) Find ALL solutions of the equation: $-11 = \tan(2x + 1)$.

3. (10pts)The electrical current passing through and electrical circuit (in amps) at time t hours is given by the sinusoidal function

$$a(t) = 7\sin(4\pi t - 3\pi) + 12$$

(a) (7pts) Find ALL solutions of the equation: $10 = a(t)$.

(b) (3pts) During the first hour, what percentage of the time will the current in the circuit exceed 10 amps?