

**MATH. 125, QUIZ 4 - Section 4.1 & 4.2** (25points = 5% final grade) -  
**NO CALCULATOR ALLOWED** - Fall 2009

1. (1 point each) Convert each angle below from degrees to radians, express your answer in terms of  $\pi$

(a)  $75^\circ =$

(b)  $20^\circ =$

(c)  $-240^\circ =$

2. (1 point each) Convert each angle below from radians to degrees

(a)  $-2\pi =$

(b)  $\frac{\pi}{5} =$

(c)  $-\frac{3\pi}{2} =$

3. (2 points each) The minute hand of a clock which is 7 inches long moves from 2 o'clock to 5 o'clock. Show your work, circle the final answer.

(a) Through how many degrees does it move?

Solution:

(b) How far does the tip of the hand move? Express your answer in terms of  $\pi$ .

Solution:

*go to the next page*

- (c) How fast does the tip of the hand move (in inches per minute)? Express your answer in terms of  $\pi$ .

Solution:  $v =$

4. (5 points each) **Show your work - write down the computations you performed and simplify - no credit for just writing down the final answer! It is assumed that you remember the values of sin, cos, and tan of the following angles:  $0, \frac{\pi}{6}, \frac{\pi}{4}, \frac{\pi}{3}, \frac{\pi}{2}$  anything more you have to show your work.** Find the exact value of

(a)  $\tan \frac{15\pi}{4} =$

(b)  $\sin(-270^\circ) =$

(c)  $\cos 45^\circ + \sin 45^\circ =$