Algebra/Trigonometry Name: Key

Review for Chapter 6 Test (Due Tues)
Show all work for credit. 6 Points.

YOU MAY USE YOUR PINK SHEET FOR YOUR REVIEW AND FOR THE QUIZ

1. Find the reference angle for the following:

a. $225°$ **b.** $330°$ **c.** $-45°$ **d.** $5\pi/3$ **e.** $-7\pi/4$

$45°$ $30°$ $45°$ $\pi/3$ $\pi/4$

2. Determine the quadrant of the above angles.

a. III **b.** IV **c.** IV **d.** IV **e.** I

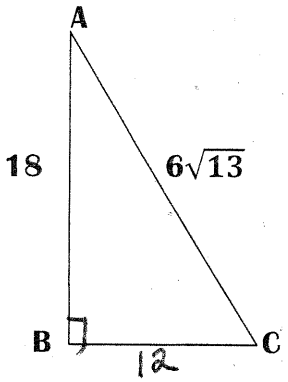
3. Convert the following degrees to radians:

a. $260° = \frac{13\pi}{9}$ **b.** $480° = \frac{24\pi}{9} = \frac{8\pi}{3}$ **c.** $-100° = \frac{-5\pi}{9}$

4. Convert the following radians to degrees:

a. $5\pi/9 = 100°$ **b.** $-4\pi/5 = -144°$ **c.** $7\pi/6 = 210°$

5. Use Pythagorean theorem and SOHCAHTOA to find the values of all 6 trig functions:



Sin A = $\frac{2\sqrt{13}}{13}$ Csc A = $\frac{\sqrt{13}}{2}$

Cos A = $\frac{3\sqrt{13}}{13}$ Sec A = $\frac{\sqrt{13}}{3}$

Tan A = $\frac{2}{3}$ Cot A = $\frac{3}{2}$

6. Given the following situation, find the values of all 6 trig functions:

a. $\sin\theta = 4/5$ and $90° \le \theta \le 180°$

Quadrant: II

Sin θ = 4/5

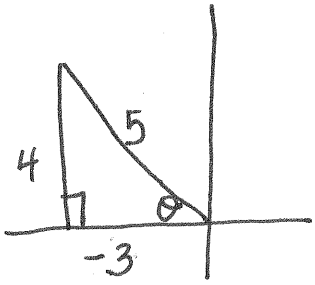
Cos θ = −3/5

Tan θ = −4/3

Csc θ = 5/4

Sec θ = −5/3

Cot θ = −3/4



b. Tan θ = ~~−8/17~~ −5/12 and $3\pi/2 \le \theta \le 2\pi$

Quadrant: 3

Sin θ = −5/13

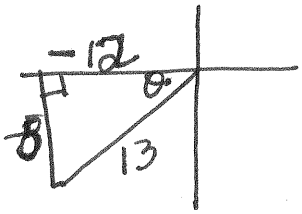
Cos θ = −12/13

Tan θ = 5/12

Csc θ = −13/5

Sec θ = −13/12

Cot θ = 12/5



7. Use your PINK sheet to determine the value of the following angles.

Find the reference angle (α) and determine the Quadrant first!

a. Sin 135° = $\sqrt{2}/2$

b. Cos (-210°) = $-\sqrt{3}/2$

c. Tan $5\pi/6$ = $-\sqrt{3}/3$

d. Sin $\pi/2$ = 1

e. Cos 315° = $\sqrt{2}/2$

f. Cos (-45°) = $\sqrt{2}/2$

g. Cos π = −1

h. Sin (-270°) = 1

i. Tan $11\pi/6$ = $-\sqrt{3}/3$

j. Cos (-150°) = $-\sqrt{3}/2$

K. Tan (-330°) = $\sqrt{3}/3$

L. Tan $3\pi/2$ = und.

m. Sin 150° = 1/2

n. Cos $(-2\pi/3)$ = −1/2

o. Sin (-135°) = $-\sqrt{2}/2$

p. Tan 180° = und. 0

8. Solve the trig equations below for $0 \le \theta \le 360°$.

a. $\sin\theta = \frac{\sqrt{3}}{2}$ $60°, 120°$

b. $\cos\theta = -1$ $180°$

c. $\frac{2}{2}\tan\theta = \frac{-2}{2}$ $\tan\theta = -1$ $135°, 315°$

9. Solve the trig equations below for $0 \le \theta \le 2\pi$.

a. $\sin\theta = -\frac{\sqrt{2}}{2}$ $\frac{5\pi}{4}, \frac{7\pi}{4}$

b. $\frac{2}{2}\cos\theta = \frac{-1}{2}$ $\frac{2\pi}{3}, \frac{4\pi}{3}$

c. $3\tan\theta = -\sqrt{3}$ $\tan\theta = -\frac{\sqrt{3}}{3}$ $\frac{5\pi}{6}, \frac{11\pi}{6}$

10. A point (-8, -15) is on the terminal side of an angle in standard position. Determine exact values of the six trigonometric functions of the angle.

$\sin\theta =$ $-15/17$ $\quad \csc\theta =$ $-17/15$

$\cos\theta =$ $-8/17$ $\quad \sec\theta =$ $-17/8$

$\tan\theta =$ $15/8$ $\quad \cot\theta =$ $8/15$