Math 103 Rimmer - Pre-Calc Review
Fall 2013-Due Fri. Sept. 6th Name_____ Rec# _____

Answer the following questions. Show all work. Each questions is worth 7 points.

Simplify. Give an answer that has all positive exponents.

1) $\left(\frac{x^3 y^{-4}}{x^{-2} y^{-6}}\right)^{-3}$

2) $\left(\frac{25}{16}\right)^{-3/2} \cdot 125^{4/3}$

3) Simplify

$$3\left[15-\left(11-4^2\right)\right]\div 6-40\div\frac{(-4)^2}{5-7}-(-8)$$

Simplify

4) $5\sqrt{242}-8\sqrt{98}+\frac{40}{\sqrt{8}}$

Solve for x.

5)

$$4+3\left[2-6(2-x)\right]-5x=3(x+8)$$

6) $x^2-6x=40$

7) $8x^2+12=35x$

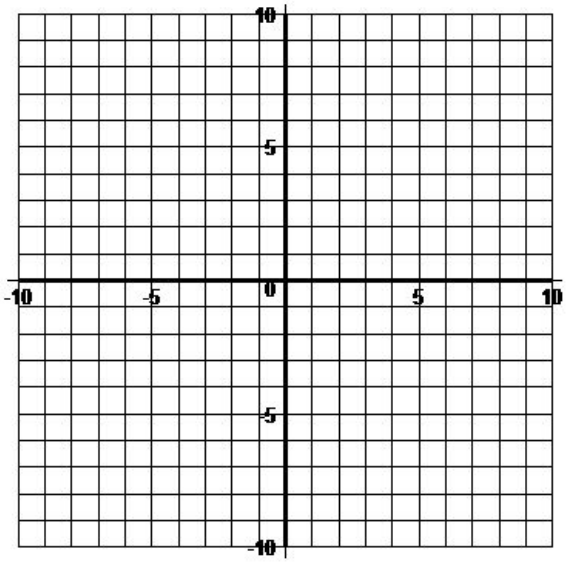
8) Solve

$$y^2+14y+47=0$$

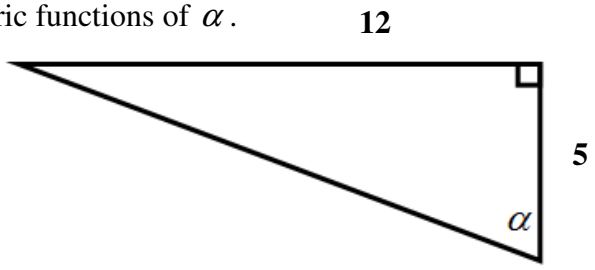
9) Find the equation of the line through $(2,4)$ and $(6,-2)$

10) Graph the line on the grid provided.

$$y=\frac{-4}{3}x+8$$



10) Find the exact values of all six trigonometric functions of α.



11) Solve the trigonometric equation for x if $0 \le x \le 2\pi$.

$$\cos^2 x = \frac{3}{4}$$

12) Solve the trigonometric equation for x if $0 \le x \le 2\pi$.

$$\sin 2x - \cos x = 0$$

13) Evaluate the logarithm.

a. $\log_3 243$ *b.* $\log_{1/2} 16$

14) Solve the equation.

a. $\log(3x-5) = 2$ *b.* $3^{4-2x} = \frac{1}{9}$

15) Solve the system of equations. Give either the point of intersection or tell whether there is no solution or infinitely many solutions

$$\begin{aligned} 3x &- 5y = 3 \\ -2x &- 3y = 17 \end{aligned}$$