Exam 2 Study Guide

Name_____

Answer the questions in the spaces provided. Feel free to use another piece of paper for your work

1. Graph the following two trig. functions:

   (a) $y = \tan\left(\frac{x}{5}\right)$ $y = 2x\cos(x)$

2. Give the exact solution, if possible, for the following inverse trigonometric functions exaluated at the point:

   (a) arctan(0) arcsin(9)

   (b) $\cos(x) = \frac{1}{2}$ $\frac{1}{2}\tan(x) = \frac{1}{2}$

   (c) arccos(cos(30°)) $\tan\left(\arccos\left(\frac{\sqrt{2}}{2}\right)\right)$

3. What is the period of the following trigonometric functions:

   (a) $\csc(3x)$ $2\cos\left(\frac{x}{5}\right)$

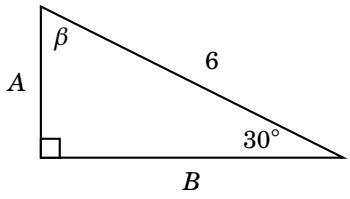
4. What is the domain of:
   Hint: I'm asking what values can x be? Your answer should be an inequality or interval.

   (a) $\sec(x)$ $\csc(x)$

5. Factor each of the following:

   (a) $\sec^3(x)+\sec(x)$ $\cos^2(x)\tan^2(x)-\cot^2(x)\sin^2(x)$

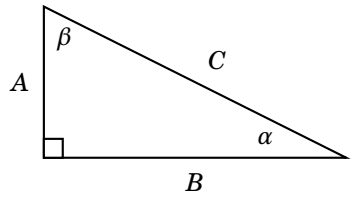
6. Given the following triangle find A, B, β:



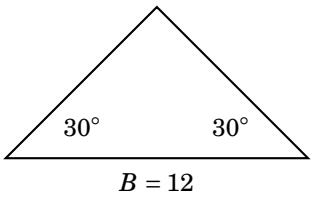
7. Given the following triangle and the following solutions:

   $C\sin(\alpha) = 5$
   $C\sin(\beta) = 3$

   find A, B, C, α, β.



8. Given the following triangle find the height of the triangle:



9. The sun is 35° above the horizon. Find the length of a shadow cast by a building that is 550 feet tall and draw the corresponding triangle:

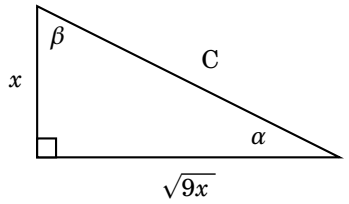
10. Use the given conditions to find the values of all six trigonometric functions.
$\cos(x) = -\frac{3}{7}$, $sin(x) < 0$

11. Use the fundamental identities to simplify the expression.

(a) $\frac{\sec(x)\tan(x)}{cot(x)}$ $2\cos(x) - \frac{2}{sec^3(x)}$

(b) $\frac{sec(x)}{csc(x)}cot^2(x) - cot(x)$ $\frac{csc(x)}{sec(x)}tan(x) + tan^2(x)$

12. Given the following triangle, find C and give β using one of the arc-trig functions.



13. Given the following triangle, find B and give α using one of the arc-trig functions.