Math 48C Mitchell Schoenbrun - Mid Term Review

You should know

1) What a function is
   - What is the domain and range of a function
   - What is the inverse of a function
   - What is a periodic function
   - How can we make a periodic functions inverse a function

2) How are angles measured
   - What is radian measure $s = r\theta$
   - How to convert from radian measure to degrees
   - How to convert from degrees to radian measure

3) The ratios of some standard triangles, 45/45/90, 30/60/90

4) What the standard position of a triangle on a unit circle is

5) What a directed angle is

6) What co-terminal angles are

7) How to provide an exact answer to a problem, no rounding.

8) How to round an answer to a specific number of decimal places

9) How to convert from RPM to Radians per minute or Degrees per minute

10) How to do angular velocity problems $\omega = \frac{\theta}{t}$ and $v = \omega r$

11) The Pythagorean theorem (like the back of your hand

12) The right triangle definitions of sine and cosine

13) The unit circle definitions of sine and cosine

14) The definitions of tangent, co-tangent, secant and co-secant in terms of sine and cosine functions

15) How to solve all right triangle problems using trig functions.

16) How to solve all general triangle problems using the Pythagorean theorem, with the law of sines and the law of cosines.

17) Know the Signs (+|-) of the trigonometric functions in each quadrant.

18) Know what the reference angle of an angle is and how to use it to find the values of trigonometric functions using a calculator.

19) How to find all trig function values for angles that are a multiple of $\frac{\pi}{6}$ and $\frac{\pi}{4}$. This includes 0, 1, -1, etc.

20. How to graph any of the trig functions, including any asymptotes.

21. The meaning of and how to find the amplitude, period, frequency, horizontal shift and phase shift.

22. How to model a set of data using a trig function.

23. How to use the inverse trig functions and relations, and how to use them.

24. How to find all angle solutions to a trigonometric equation, for example:
$\sin(\theta) = .7$

25. The domain and ranges of all the trig functions and their inverses.

26. How to solve a trig equation such as $\sin(2\theta) = .47$.

27. Anything not mentioned here but covered in class or on the homework.