Name_____

Math-1060 Session #12 HW (Review)

Date_____ Period____
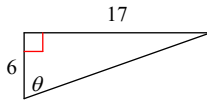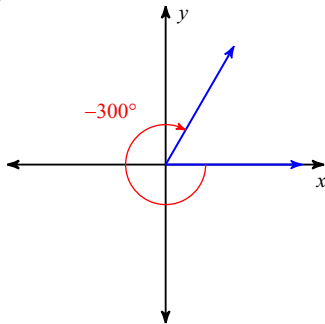
Find the value of the trig function indicated. Do not give these values in decimal form. I want them in fraction form with simplified radicals (if applicable).

1) $\sin \theta$

Find the exact value of each trigonometric function.

2) $\csc \theta$

3) If the sine, cosine, and tangent ratios are defined based upon the sides of right triangles, how do we figure out these ratios for angles that are outside of the range $0 \le \theta \le 90$?

4) a) What is a reference angle?
b) What is a standard position angle?
c) What is the minimim and maximum values that a reference angle can take on?
d) What is the minimum and maximum values that a standard position angle can take on?

5) The cosine ratio of an angle is $-\dfrac{5}{8}$. If the terminal side of the angle is in quadrant II:

    a) What is the measure of the reference angle? (to the nearest 1/10th of a degree)
    b) What is the measure of the standard position angle? (round to the 1st decimal place)
    c) Find the cosecant ratio for this angle.

Convert each degree measure into radians.

6) -220°

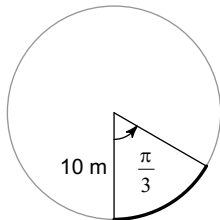**Convert each radian measure into degrees.**

7) $\dfrac{29\pi}{18}$

Find a positive and a negative coterminal angle for each given angle.
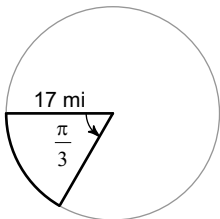
8) −210°

9) $\dfrac{\pi}{4}$

Find exact length of each arc (leave π in your answer).

10)

Find the exact area of each sector (leave π in your answer).

11)

12) A race car is moving at a constant speed around a circular track whose diameter is 2 miles. Assuming the care is traveling at a constant speed, if the car completes 6 laps in 24 minutes, what is the linear speed of the car to the nearest 1/10th mile per hour. Use 3.14 for π.

13) A child is spinning a ball at the end of a 5 foot string. If the ball travels makes 23 revolutions per minute, what is the ball's:

   a) Angular speed in radians per second? (Give your answer as an exact fraction.)
   b) Linear speed in feet per second? (Give your answer as an exact fraction.)

Find each measurement indicated. Round your answers to the nearest tenth.

14) Find AC
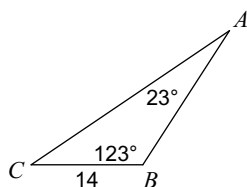
Solve each triangle (Find the measures of all missing angles and all missing sides). Round your answers to the nearest tenth.

15) $m\angle C = 67°$, $m\angle B = 52°$, $b = 18$

State the number of possible triangles that can be formed using the given measurements.
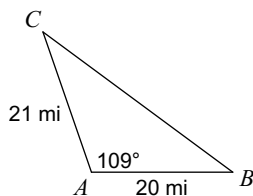
16) $m\angle C = 59°$, $c = 30$ m, $b = 17$ m

17) $m\angle B = 36°$, $a = 25$ mi, $b = 20$ mi

18) $m\angle C = 83°$, $b = 28$ km, $c = 18$ km

Find each measurement indicated. Round your answers to the nearest tenth. For two triangles the angle will have two different measures.

19) $m\angle B = 21°$, $a = 31$ ft, $b = 15$ ft
   Find $m\angle A$

20) Find $m\angle B$

Find the area of the triangle to the nearest tenth.

21)