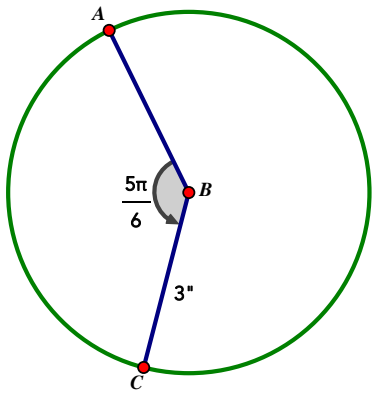
Name: _____ 623 More Practice Trigonometry.

1. Use the circle below



a.) Find the area of sector ABC.

b.) Compute the length of AC (arc).

2. A circle has a radius of 8 and a central angle of $3\pi/4$.

a.) Find the length of the arc created by the angle.

b.) Find the area of the sector determined by the angle.

3. If a sector of a circle with central angle $\pi/6$ has an area of 3π square meters, what is the radius of the circle?

4. The windshield wiper has an 18 inch blade mounted on a 10 inch arm. If the wiper turns through an angle of 110°, what area is swept clean?

5. Find the equation of the line containing (0,4) and is inclined 40° to the positive x-axis.

6. If the point (1,0) is rotated about (0,0), in which quadrant will the image point lie?
   a.) $-30°$ b.) $2\pi/3$ c.) $539°$

7. A fishing boat sails at a steady speed of 13 mph on a bearing of 67° (from North) If the boat set sail at 3:00 am, describe its location east and north of its port at 7:00 am.

8. A 30 foot ladder used by firefighters is safe only when it leans against a building at a 75° angle or less to the ground. What is the maximum height the ladder can reach?

9. In which quadrant is
   a.) $\sin x > 0$ and $\cos x < 0$ b.) $\tan x > 0$ and $\sin x < 0$

10. Find three angles, in radians and/or degrees, whose
    a.) sine is equal to 1 b.) cosine is equal to -1