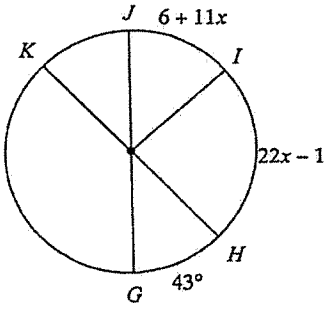
Math 3 Name_____ ID: 1

Arc measure and arc length

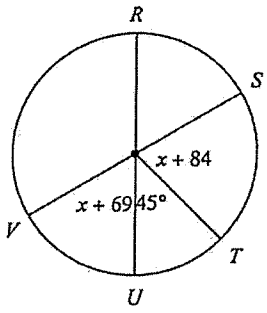
Date_____ Period____

Find the measure of the arc or central angle indicated. Assume that lines which appear to be diameters are actual diameters.

1) $m\widehat{IH}$

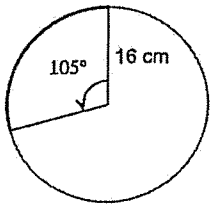


2) $m\widehat{RT}$

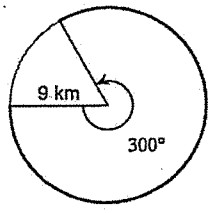


Find the length of each arc.

3)



4)



5) $r = 12$ in, $\theta = 270°$

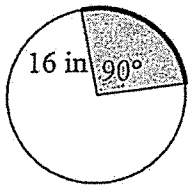
6) $r = 9$ km, $\theta = 240°$

7) A circle has an arc measure of 80 degrees and an arc length of 88π. What is the diamter of the circle?

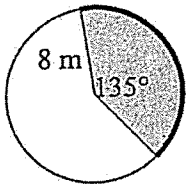
Arc Length-Sector Area Name:_____

8. Calculate the sector area:

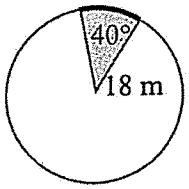
a.



b.



c.



9. The area of a circle is 225π square inches. Find the area of the sector whose central angle is $45°$.

10. The central angle of a sector is $60°$ and the area of the circle is 144π. What is the area of the sector?

11. A circle has a radius of 12. Find the area of the sector whose central angle is $120°$.

12. Find the radius of a circle which has a sector area of 9π whose central angle is $90°$.

13. The central angle of a sector is $72°$ and the sector has an area of 5π. Find the radius.

14. Find the measure of the central angle of a sector if its area is 5π and the radius is 6.