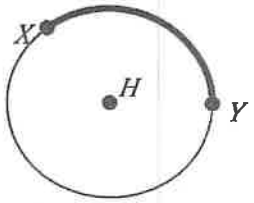
Section 9 – Topic 2
Arcs and Circumference of a Circle

1. Consider circle H below.



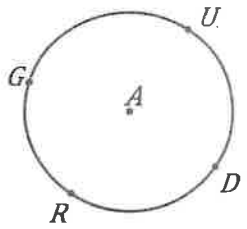
Part A: If $\overline{XH} = 10$ feet and $m\widehat{XY} = 100°$, then determine the arc length of $\widehat{XY}$.

Part B: If $\overline{HY} = 46$ inches and $m\widehat{YX} = 75°$, then determine the arc length of $\widehat{YX}$.

Part C: If $\widehat{YX} = 24$ meters and $m\widehat{YX} = 120°$, then determine the radius of circle H.

Part D: If $\widehat{XY} = 78$ miles and $m\widehat{XY} = 70°$, then determine the radius of circle H.

2. Consider the circle below with center A.

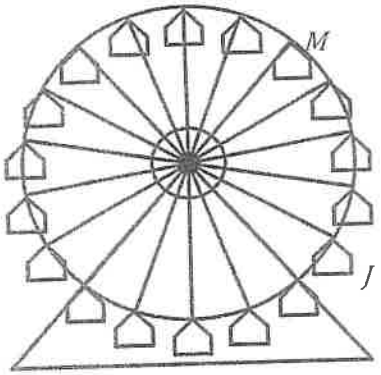


Part A: If $\overline{GA} = 12$ feet and a major arc $m\widehat{GR} = 200°$, then determine the major arc length of $\widehat{GR}$.

Part B: If $\overline{GA} = 29$ and a major arc $m\widehat{DG} = 185°$, then determine the minor arc length of $\widehat{GD}$.

Part C: If the minor arc $\widehat{GU} = 24$ units and major arc $m\widehat{GU} = 270°$, then determine the radius of circle A.

3. The *Skyview Atlanta* in Atlanta, Georgia is a super-sized Ferris wheel that overlooks the city and is 200 feet in radius length.



Part A: If a passenger rides clockwise from points M to point J and then stops, determine how many feet the passenger has traveled.

Part B: Approximate, to the nearest foot, how many feet a passenger would travel if the full ride is two revolutions.