Arc Length: The length $s$ of the arc intercepted on a circle of radius $r$ by a central angle $\theta$, measured in radians is given by

$$s = r\theta$$

Examples:

1. Find the length of the arc intercepted by a central angle of 3.6 rad on a circle of radius 24 cm.

2. What is the measure (in radians) of a central angle which intercepts an arc of 13 cm on a circle of radius 5 cm?

Area of a Sector: The area of a sector of a circle of radius $r$ and central angle $\theta$, measured in radians, is given by

$$A = \frac{1}{2}r^2\theta$$

Example: For a circle of radius 10 cm, find the area of the sector intercepted by a central angle of 2.3 rad.

Homework: pp 113–116; 3-17 odd, 35-49 odd