Sectors of a Circle

A sector is a region of a circle bounded by two radii and the arc between them.

Think of a sector like a slice of pizza.

Area of a sector (degrees):
Area = $(\theta / 360°) \times \pi r^2$

Area of a sector (radians):
Area = $(1/2) \times r^2 \times \theta$

Where θ is the central angle.

Example:
If r = 6 and $\theta = 60°$, area = $(60/360) \times \pi(6^2) = 6\pi$

Quiz

1. What is a sector of a circle?
2. Which shape does a sector resemble?
3. Write the area formula for a sector using degrees.
4. Find the area of a sector with r = 3 and $\theta = 180°$.
5. True or False: Sector area depends on the radius.

Answer Key

1. A region bounded by two radii and an arc.
2. A slice of pizza.
3. Area = $(\theta / 360°) \times \pi r^2$
4. Area = $(180/360) \times \pi(9) = 9\pi/2$
5. True