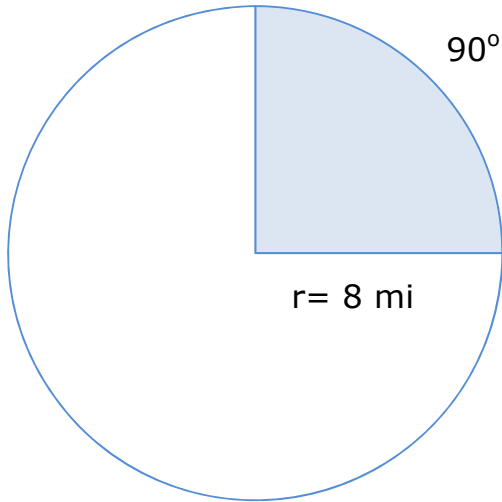Name _____   Date _____

Area of Sectors of A Circle - Step-by-Step Lesson

The radius of circle is 8 miles. What is the area of a sector bounded by a 90° arc?

Explanation:

Step 1) The formula for the area of a sector is

$$K = \frac{m}{360} . A$$

Where K is the area of the sector, A is the area of the circle, and m is the measure in degrees of the arc bounding the sector.

Step 2) First, find the area of the circle.

A= Πr²

A= Π(8)²   Plug in r=8

A= 64Π   Square

The area of circle is 64Π square miles.

Step 3) Now, find the area of the sector.

$$K = A.\frac{m}{360}$$

$K = 64\Pi \times \frac{90}{360}$ Plug in A= 64Π and m= 90

$K = 64\Pi \times \frac{90}{360}$ Multiply and simplify

$K = 16\Pi$

The area of sector is 16Π square miles.