Name _____ Date _____

Area of Sectors of A Circle Problems - Guided Lesson Explanation

Explanation # 1

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.

$A = \Pi r^2$

$A = \Pi(4)^2$ Plug in r=4

$A = 16\Pi$ Square

The area of circle is 16Π square miles.

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

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

$$K = 16\Pi.\frac{130}{360}$$ Plug in A= 16Π and m= 130

$$K = 16\Pi.\frac{130}{360}$$

$$K = \frac{52\Pi}{9}$$ Multiply and simplify

The area of sector is $\frac{52\pi}{9}$ square miles.

Name _____ Date _____

Explanation # 2

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.

$A = \Pi r^2$

$A = \Pi(12)^2$ Plug in r=12

$A = 144\Pi$ Square

The area of circle is 144Π square miles.

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

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

$$K = 144\Pi.\frac{240}{360}$$ Plug in A= 144Π and m= 240

$$K = 144\Pi.\frac{240}{360}$$

$K = 96\Pi$ Multiply and simplify

The area of sector is 96Π square miles.

Name _____ Date _____

Explanation # 3

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

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

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= $\Pi(9)^2$ Plug in r=9

A= 81Π Square

The area of circle is 81Π square miles.

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

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

$K = 81\Pi \times \frac{30}{360}$ Plug in A= 81Π and m= 30

$$K = 81\Pi \times \frac{30}{360}$$

$K = \frac{27\Pi}{4}$ Multiply and simplify

The area of sector is $\frac{27\Pi}{4}$ square miles.