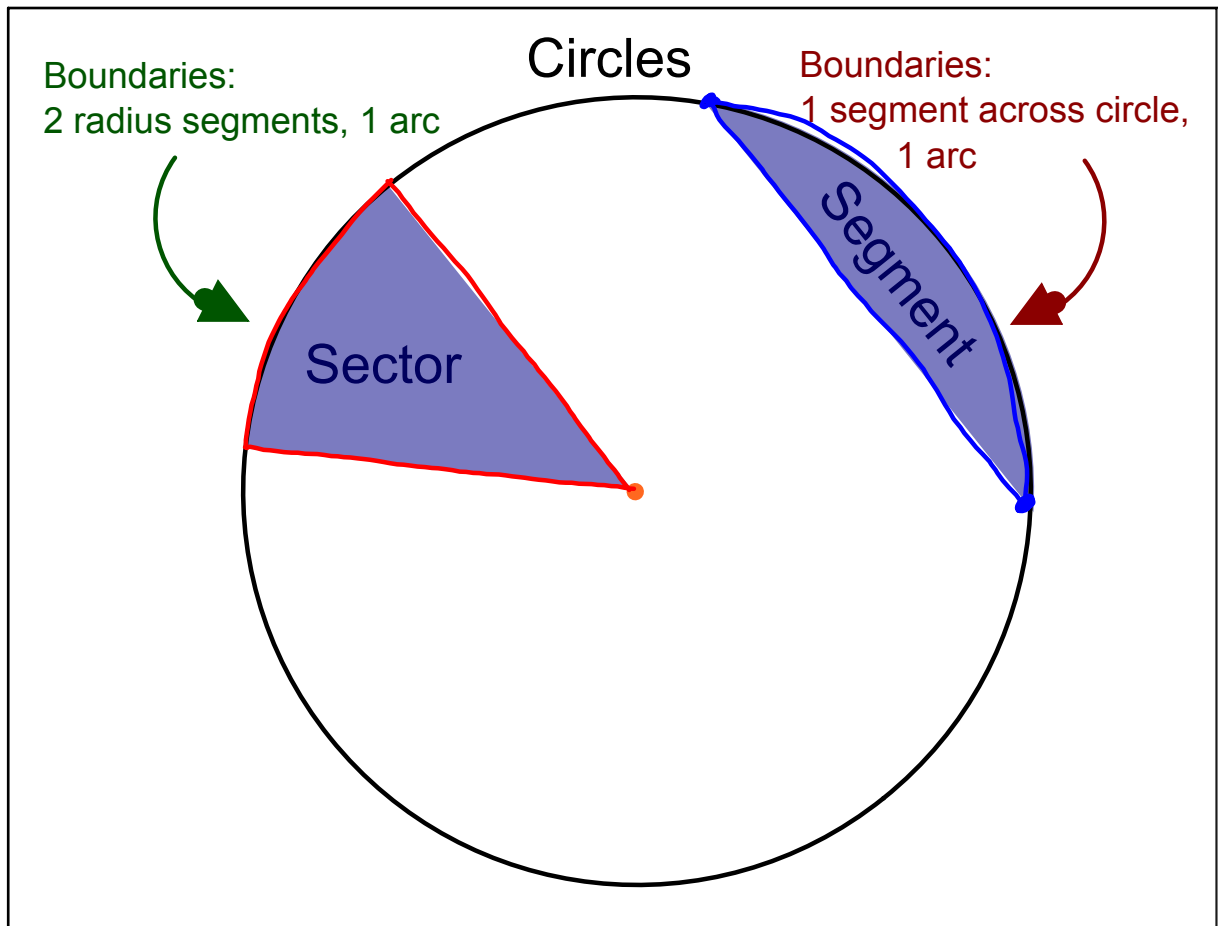


# Geometry

Chapter 10

Section 10-7

May 13-10:02 PM

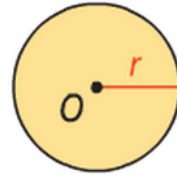


Mar 3-10:13 PM

### Theorem 10-11 Area of a Circle

The area of a circle is the product of  $\pi$  and the square of the radius.

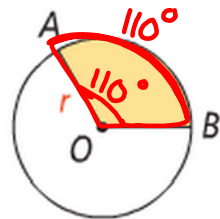
$$A = \pi r^2$$



### Theorem 10-12 Area of a Sector of a Circle

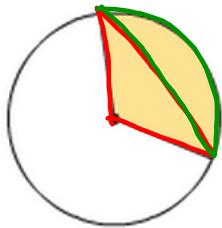
The area of a sector of a circle is the product of the ratio  $\frac{\text{measure of the arc}}{360}$  and the area of the circle.

$$\text{Area of sector } AOB = \frac{m\widehat{AB}}{360} \cdot \pi r^2$$



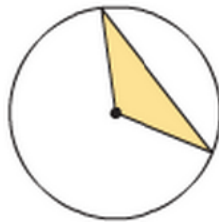
Mar 17-8:58 PM

### Key Concept Area of a Segment



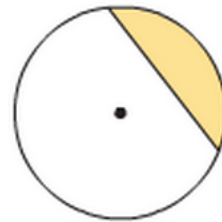
Area of sector

—



Area of triangle

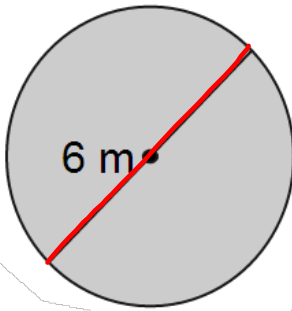
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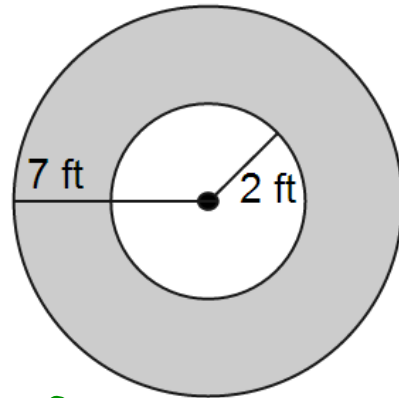
Area of segment

Mar 17-9:03 PM

Find the area of the shaded region in terms of pi.



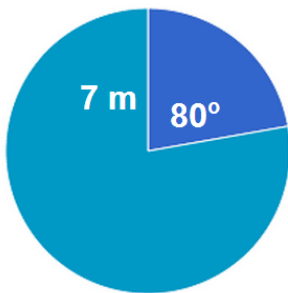
$$\pi 3^2 = 9\pi m^2$$



$$\begin{aligned} \pi 7^2 - \pi 2^2 \\ 49\pi - 4\pi = 45\pi ft^2 \end{aligned}$$

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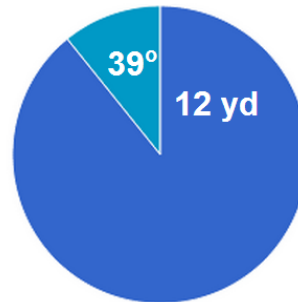
Find the area of the dark blue region in terms of  $\pi$ .



$$\frac{80}{360} \cdot \pi 7^2$$

$$\frac{2}{9} \cdot 49\pi$$

$$\frac{98}{9} \pi m^2$$

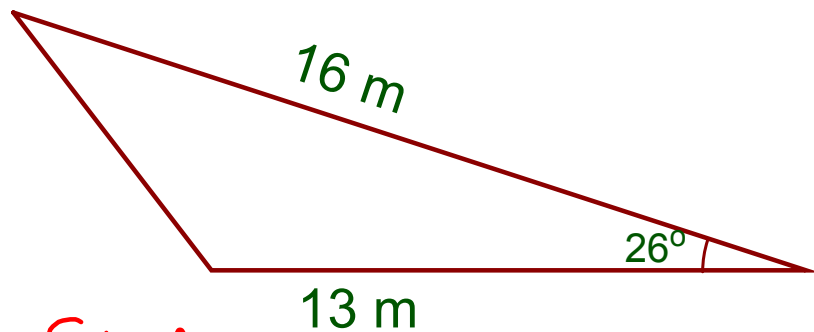


$$\frac{360-39}{360} \cdot \pi 12^2$$

$$128.4\pi yd^2$$

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Review: Find the area of the triangle.  
Round to the nearest tenth of a unit.



$$A = \frac{1}{2} bc \sin A$$

$$A = \frac{1}{2} (16)(13) \sin 26 = 45.6 \text{ m}^2$$

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Find the area of the dark blue region.  
Round your answer to the nearest mm.

sector

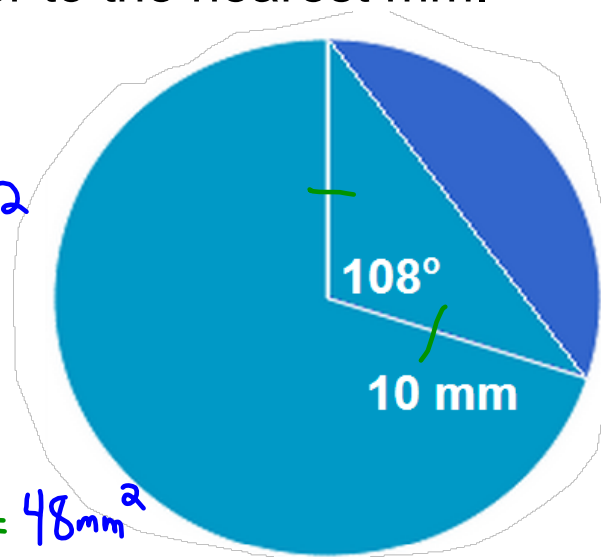
$$\frac{108}{360} \cdot \pi 10^2 = 94 \text{ mm}^2$$

triangle

$$A = \frac{1}{2} (10)(10) \sin 108 = 48 \text{ mm}^2$$

segment

$$94 - 48 = 46 \text{ mm}^2$$



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What is the area of the shaded region to the nearest unit?

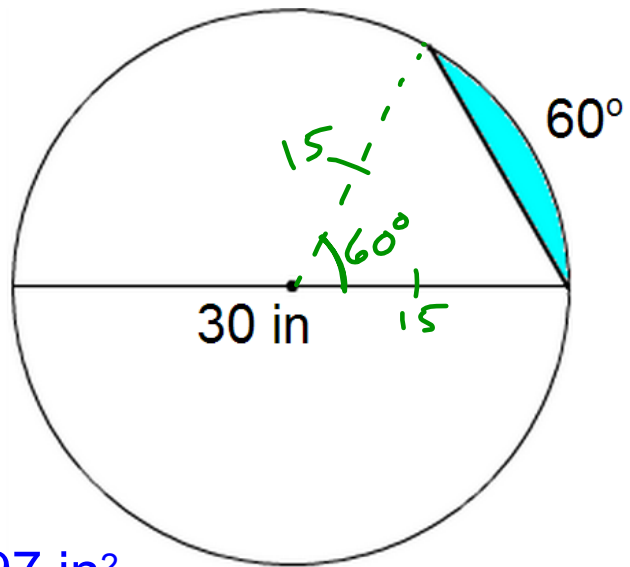
sector

$$\frac{60}{360} \cdot \pi 15^2 = 118 \text{ in}^2$$

triangle

$$A = \frac{1}{2} (15)(15) \sin 60 = 97 \text{ in}^2$$

$$118 \text{ in}^2 - 97 \text{ in}^2 = 21 \text{ in}^2$$



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# Homework

Pages 663 - 664

# 8 - 32 even

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