

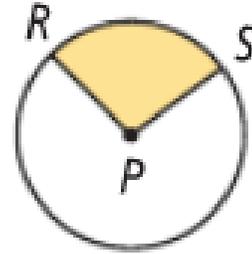
9.5 Area of Sectors and Segments

NOTES

Write your questions here!



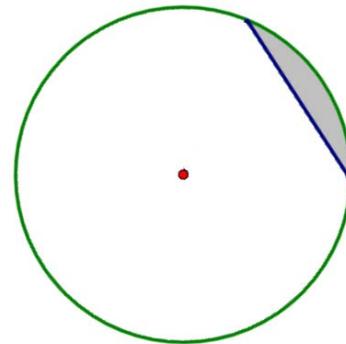
Sector of a Circle:



TRY IT!

Approximate = decimal solution	Exact = leave in terms of pi

Segment of a Circle:



Area of Sector - Area of Triangle = Area of Segment				
	-		=	

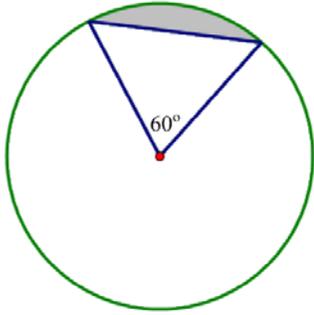
Write your questions here!



TRY IT!

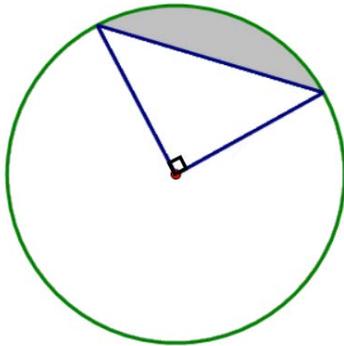
Approximate = decimal solution

Area of Sector - Area of Triangle = Area of Segment



Exact = leave in terms of pi

Area of Sector - Area of Triangle = Area of Segment



Summarize your notes!

9.5 PRACTICE

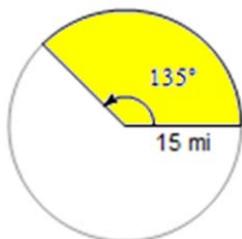
Draw the picture.

1. Circle P with radius of 5 m and sector bounded by a 60° minor arc.

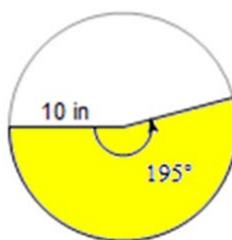
2. $\odot K$ with diameter of 8 inches and segment formed by a 45° central angle.

Find the area of the sector of each circle. Label your answer! Round to the nearest tenth.

3.



4.

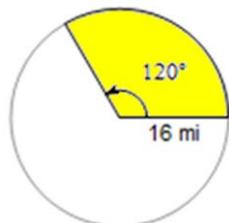


5.

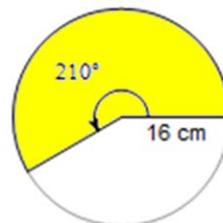
$$r = 12\text{ in}, \theta = 90^\circ$$

Find the area of the sector of each circle. Label your answer! Express your answer in terms of pi.

6.



7.

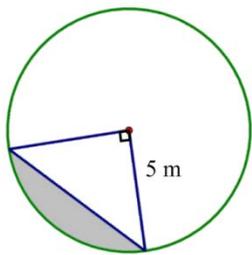


8.

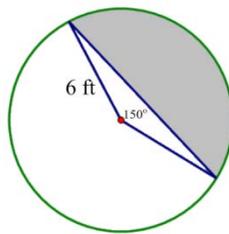
$$r = 10\text{ m}, \theta = 30^\circ$$

Find the area of the segment of each circle. Label your answer! Round to the nearest tenth.

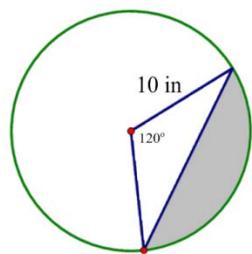
9.



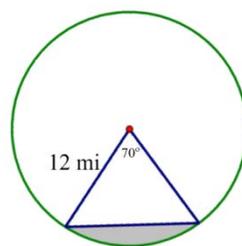
10.



11.



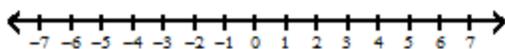
12.



ALGEBRA REVIEW

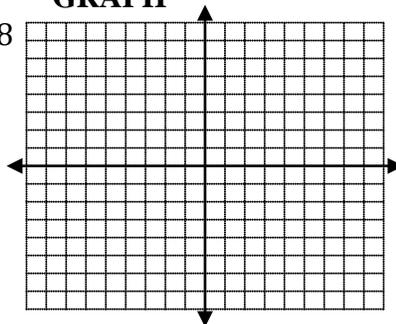
SOLVE

$$5x - 2(3 - 3x) < 0$$



GRAPH

$$-2y = 2x - 8$$

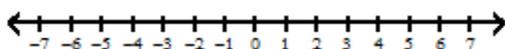


MULTIPLY

$$(2x - 5)(3x - 4)$$

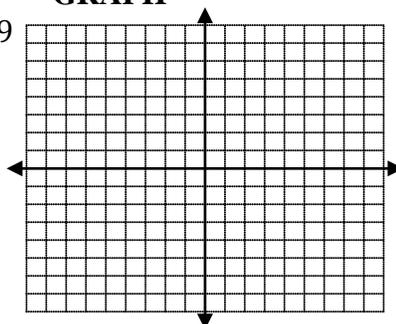
SOLVE

$$4x - 5 \geq -9 + 6x$$



GRAPH

$$-4x + 3y \leq 9$$

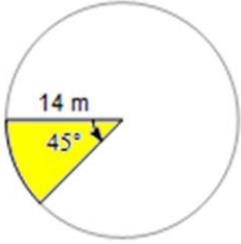


FACTOR

$$3x^2 + 11x - 4$$

9.5 APPLICATION

1. Find the area of the **SECTOR** of the circle.
Label your answer! Leave in terms of pi.

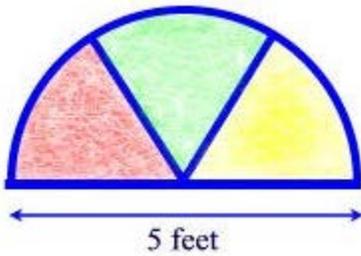


2. Find area of the **SEGMENT** of the circle. Label your answer! Round to the nearest tenth.

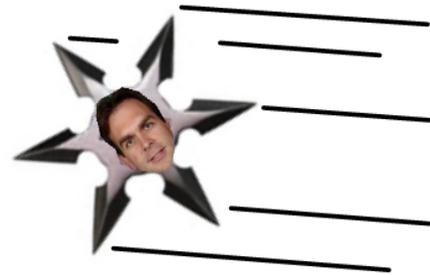
Radius = 9 ft and Central Angle = 30°

Watch the application walk through video if you need extra help getting started!

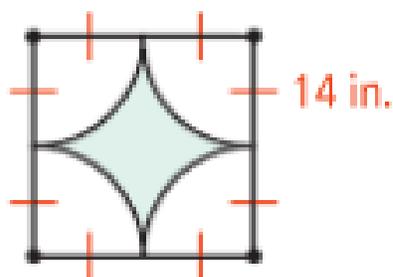
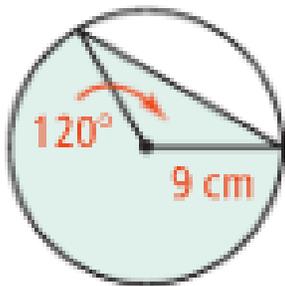
3. Mr. Kelly is into martial arts. He is a black belt in Kelly-Fu. One day he is throwing his ninja stars. Mr. Kelly misses his target and breaks one pane of glass from the church window next door. What is the area of glass that he broke?



church window next door

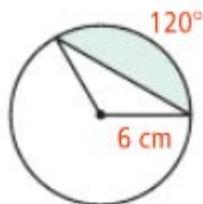


4. **SHADED REGION** Find the area of the shaded region.



5. **SAT PREP** Below is sample SAT question. The SAT is the main standardized test that colleges look at for admission. Blow it up.

MULTIPLE CHOICE



Find the exact value of the shaded area above.

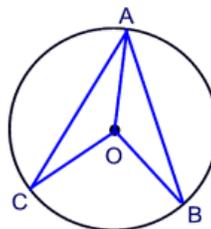
- (A) $36\pi - 18\sqrt{3} \text{ cm}^2$
- (B) $12\pi - 9\sqrt{3} \text{ cm}^2$
- (C) $12\pi - 12\sqrt{3} \text{ cm}^2$
- (D) $18\pi - 12\sqrt{3} \text{ cm}^2$
- (E) $36\pi - 9\sqrt{3} \text{ cm}^2$

6. **PROOF** Are you kidding me??? Just keepin' it real dawg.

Mark the picture. Answer the question. Prove it.

Given: Circle with center O
 $\angle AOC \cong \angle AOB$

Prove: $\triangle ACO \cong \triangle ABO$



WHY ARE THE TWO TRIANGLES CONGRUENT? _____
 (SSS, SAS, ASA, AAS, HL)

STATEMENTS	REASONS