

Questions on 7.9 HW?

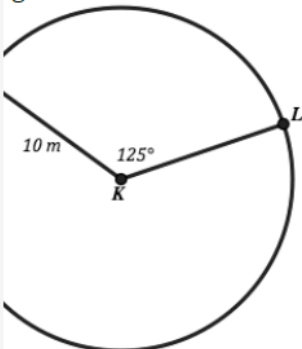
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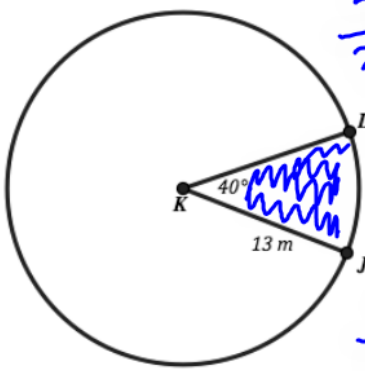
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1. Given $\odot K$ and marked angle measure. Find the measure of the length of \widehat{JL} . Find the radian measure that goes with angle of 125° .



4. Given $\odot K$ and marked angle measure. Find the area of the small sector. Find the arc length.



Arc length:
 $\frac{40}{360} (2\pi 13) = 9.09$ m

Area of sector:
 $\frac{40}{360} (\pi 13^2) = 59$ m²
 or
 58.99 m²

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D → R $\frac{\pi \text{ rad}}{180^\circ}$ R → D $\frac{180^\circ}{\pi \text{ rad}}$

Convert each angle measure to radians or degrees based on what is given.

5. $100^\circ = 1.745$ Radians 6. $30^\circ =$ Radians 7. $225^\circ =$ Radians

$\frac{100^\circ}{1} \cdot \frac{\pi \text{ rad}}{180^\circ} = \frac{100\pi}{180} \text{ rad.}$

8. $\frac{\pi}{3}$ Radians = Degrees 9. 5π Radians = Degrees 10. $\frac{5\pi}{4}$ Radians = 225° Degrees

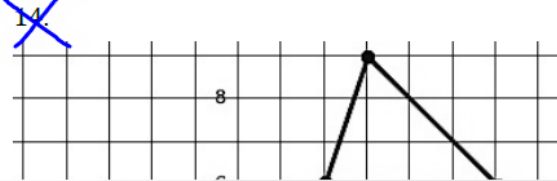
$\frac{5\pi}{4} \cdot \frac{180^\circ}{\pi \text{ rad}} = \frac{5 \cdot 180^\circ}{4}$

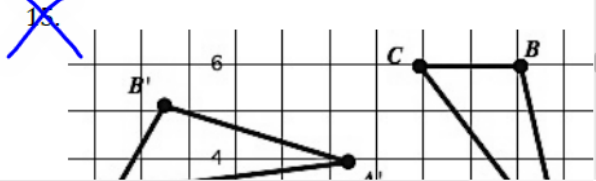
11. $270^\circ =$ Radians 12. $90^\circ =$ Radians 13. $150^\circ =$ Radians

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Topic: Finding centers of rotation.

Given the two figures below find the center of rotation that was used. Then use a compass to draw the concentric circles on which the vertex points of the triangle lie.

14. 

15. 

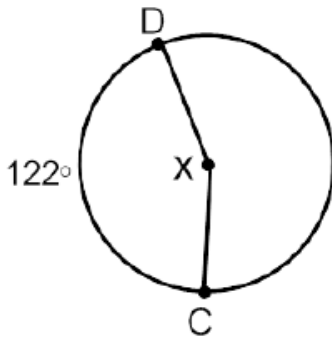
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SECONDARY MATH II
Module 7 Test Review: Circles

Directions: Show ALL work. Round any decimals to one decimal place, unless otherwise stated.

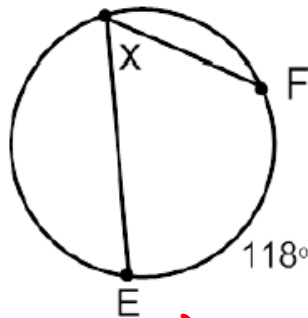
For 1-3: Determine what x equals in each circle below.

1.



x = 122°

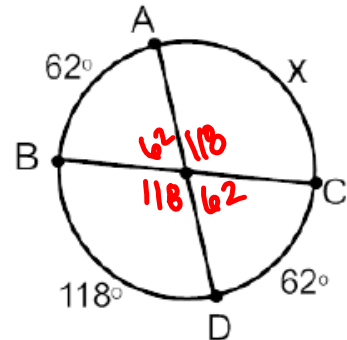
2.



$\frac{1}{2}(118)$

x = 59°

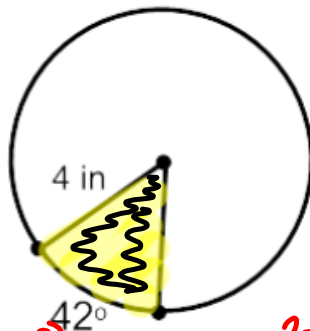
3.



x = 118°

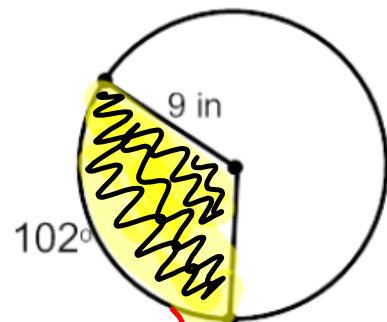
For 4-5: Find the area of the shaded sector below using the area of a sector formula, $A = \frac{\theta}{360}(\pi r^2)$.

4.



$\frac{42}{360}(\pi 4^2) = 5.9 \text{ in}^2$

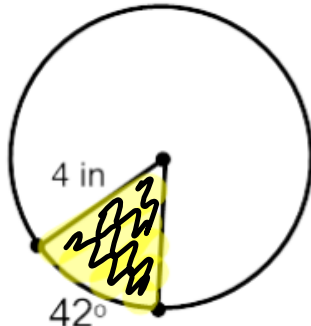
5.



$\frac{102}{360}(\pi 9^2) = 72.1 \text{ in}^2$

For 6-7: Find the arc length of the shaded sector below using the arc length formula, $s = \frac{\theta}{360} (2\pi r)$.

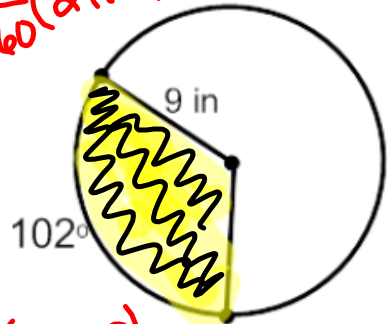
6.



$$\frac{42}{360} (2\pi 4) = 2.9 \text{ in}$$

7.

$$s = \frac{\theta}{360} (2\pi r)$$



$$\frac{102}{360} (2\pi 9) = 16.0 \text{ in}$$

or 16 in

For 8-10: Convert each angle measure from degrees to radians. Round your answer to three decimal places if necessary. Use either $\frac{\pi}{180^\circ}$ or $\frac{180^\circ}{\pi}$ to convert.

8. $75^\circ \cdot \frac{\pi \text{ rad}}{180^\circ}$

$$\frac{75\pi}{180} \text{ rad} = 1.309 \text{ radians}$$

9. $112^\circ \cdot \frac{\pi \text{ rad}}{180^\circ} = \frac{112\pi}{180} \text{ rad}$

$$= 1.955 \text{ radians}$$

10. $22^\circ \cdot \frac{\pi \text{ rad}}{180^\circ} =$

$$\frac{22\pi}{180} \text{ rad} = 0.384 \text{ rad}$$

For 11-13: Convert each angle measure from radians to degrees. Round your answer to one decimal place if necessary. Use either $\frac{\pi}{180^\circ}$ or $\frac{180^\circ}{\pi}$ to convert.

11. $\frac{1}{6} \cdot \frac{180^\circ}{\pi \text{ rad}}$

$$\frac{180^\circ}{6} = 30^\circ$$

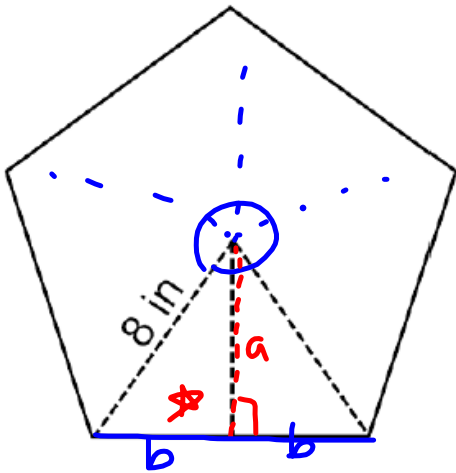
12. $\frac{2}{3} \cdot \frac{180^\circ}{\pi \text{ rad}}$

$$\frac{2 \cdot 180^\circ}{3} = 120^\circ$$

13. $\frac{1}{9} \cdot \frac{180^\circ}{\pi \text{ rad}}$

$$\frac{180^\circ}{9} = 20^\circ$$

For 14-15: Use the regular pentagon below to answer the questions. Formulas:



Area of a regular polygon:

$$A = \frac{1}{2}Pa, \text{ where}$$

P = perimeter of polygon and
 a = apothem

$$\sin\theta = \frac{\text{opposite}}{\text{hypotenuse}}$$

$$\cos\theta = \frac{\text{adjacent}}{\text{hypotenuse}}$$

$$\tan\theta = \frac{\text{opposite}}{\text{adjacent}}$$

Pythagorean Theorem: $a^2 + b^2 = c^2$

14. What is the measure of one of the 5 central angles of this regular pentagon?

$$\frac{360^\circ}{5} = 72^\circ$$

15. What is the measure of the apothem?

CAH

$$8 \cdot \cos 36 = \frac{a}{8}$$

$$8 \cdot \cos 36 = a$$

$$\underline{\underline{6.5 \text{ in}}}$$

16. What is the measure of one of the 5 side lengths of this regular pentagon?

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$$8 \cdot \sin 36 = \frac{b}{8}$$

$$8 \cdot \sin 36 = b$$

$$4.7 = b$$

side length $2 \cdot b = 2(4.7) = \boxed{9.4 \text{ in}}$

17. What is the Perimeter of this regular pentagon?

$$P = 5(9.4)$$

$$\underline{\underline{P = 47 \text{ in}}}$$

18. What is the area of this regular pentagon?

$$A = \frac{1}{2}Pa$$

$$A = \frac{1}{2}(47)(6.5)$$

$$\underline{\underline{A = 152.75 \text{ in}^2}}$$

Homework

Study for Module 7 Test