# 10.4 and 10.9 Practice Review

Geometry Honors

C I R C L e s

## 1.

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$C = 20\pi$

$A.L = \frac{80}{360} \cdot 20\pi$

$= \frac{2}{9} \cdot 20\pi$

$= \boxed{\frac{40}{9}\pi}$

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Find the area of a circle if an arc on the circle has measure 30° and length $9\pi$

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$9\pi = \frac{30}{360} \cdot C$

$9\pi = \frac{1}{12} \cdot C$

$C = 108\pi$

$r = 54$


$A = \pi r^2$

$A = \pi (54)^2$

$\boxed{A = 2916\pi}$

## 3.

Two tangent segments both have length 10 and form a 90 degree angle where they meet at P. How far is P from the circle?

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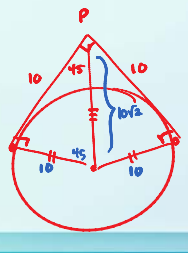
$\boxed{10\sqrt{2} - 10}$

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$3^2 + x^2 = 15^2$

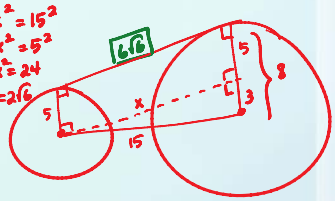
$1^2 + x^2 = 5^2$

$x^2 = 24$

$x = 2\sqrt{6}$

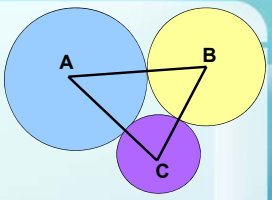
$\times 3$

$\boxed{6\sqrt{6}}$




## 5. Find the radius of each circle.

AB = 16
BC = 10
AC = 12

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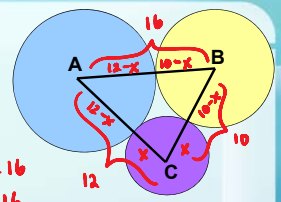



$12 - x + 10 - x = 16$

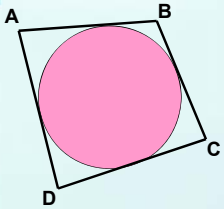
$22 - 2x = 16$

$-2x = -6$

$x = 3$

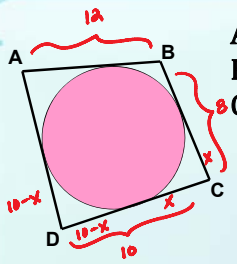
$\boxed{\text{Radii} = 3, 7, 9}$

## 6. Find AD.




AB = 12
BC = 8
CD = 10

6. Find AD.




AB = 12
BC = 8
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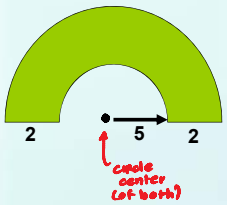
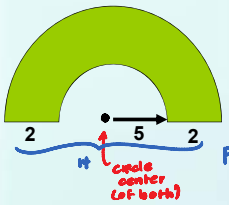
7. Find the Perimeter.




7. Find the Perimeter.




$C_{small} = 10\pi$
A.L. $= 5\pi$
$C_{big} = 14\pi$
A.L. $= 7\pi$

$P = 5\pi + 7\pi + 2 + 2$
$= \boxed{12\pi + 4}$

8.
How many revolutions does a wheel make if it has a radius of 15 inches and it travels 100 feet? Round to the 10th of a revolution.

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$C = 30\pi$ in  100 ft = 1200 in

$\frac{1200}{30\pi} \approx 12.7$ revolutions!

9.
If an arc of a circle has a length of $4\pi$ inches and measures 45 degrees, what is the radius of the circle?

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If an arc of a circle has a length of $4\pi$ inches and measures 45 degrees, what is the radius of the circle?

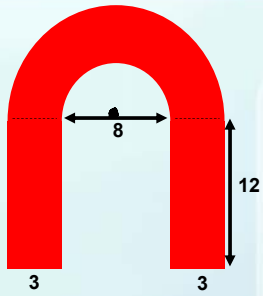
$\frac{45}{360} = \frac{4\pi}{C}$

$\frac{1}{8} = \frac{4\pi}{C}$

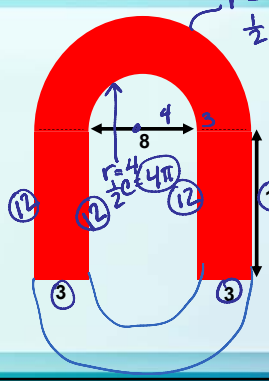
$C = 32\pi$

$r = 16$

**10.** Find the Perimeter.




**10.** Find the Perimeter.




$r = 7$

$\frac{1}{2}C = 7\pi$

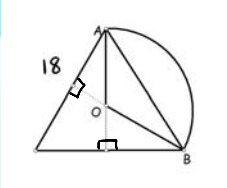
$r = 4$

$\frac{1}{2}C = 4\pi$

$11\pi + 54$

**11.**

$\triangle ABC$ is equil. Find the length of arc AB.

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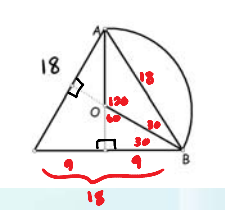


$\frac{x\sqrt{3}}{\sqrt{3}} = \frac{9}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}}$

$x = 3\sqrt{3}$

radius: $6\sqrt{3}$

Circumf: $12\sqrt{3}$

$A.L. = \frac{1}{3} \cdot 12\sqrt{3} = \boxed{4\sqrt{3}}$