

Questions on 7.4 HW?

Unit 7: Circles

Date (subject to change):	Lesson	Homework & Stamp (Homework is due 2 class days after lesson is taught)
B: 3/29/2017 3/30 A: 3/29/2017	7.3 Cyclic Polygons *We are skipping 7.1 and 7.2*	7.3 Ready, Set, Go (pgs.19-21) Complete: _____
B: 3/31/2017 4/3 A: 3/31/2017	7.4 Planning the Gazebo	7.4 Ready, Set, Go (pgs.24-25) Complete: _____
B: 4/3/2017 4/5 A: 4/4/2017	7.6 Circular Reasoning *We are skipping 7.5*	7.6 Ready, Set, Go (pgs.35-36) Complete: _____
B: 4/5/2017 4/7 A: 4/6/2017	7.7 Pied	7.7 Ready, Set, Go (pgs.39-41) Complete: _____
4/17/2017 4/17- 4/20/2017 4/20	SAGE REVIEW Spring Break: April 10-14	
4/21/2017- 4/26/2017	SAGE TEST	

8.50 x 11.00 in

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Unit 7: Circles

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Area of a circle:
 $A = \pi r^2$

Circumference:
 $C = \pi d = 2\pi r$

Topic: Radius and Area or Circumference

Given the area or circumference or radius find the other two.

1. Radius = 1 m
 Area =
 Circumference =

2. $C = 2\pi 3 = 6\pi$
 Radius = 3 ft
 Area = $9\pi \text{ ft}^2$
 Circumference = $6\pi \text{ ft}$

3. Radius =
 Area =
 Circumference = $8\pi \text{ yds}$

4. R =
 A = 3.14 m^2
 C =

5. R = 7 miles
 A =
 C =


6. R =
 A =
 C = $81\pi \text{ in}^2$


$\frac{A}{\pi} = \frac{9\pi}{\pi}$
 $r^2 = 9$
 $r = 3$

Set

Topic: Finding area and perimeter of regular polygons.

For each of the regular polygons find the measure of the interior angle, the perimeter and the area.

7.  a. Measure of one interior angle:

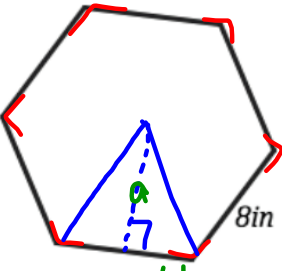
8.  a. Measure of one interior angle:

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For each of the regular polygons find the measure of the interior angle and the area.

7.




a. Measure of one interior angle:
 $720^\circ \div 6 = 120^\circ$

b. Perimeter:
 $6 \cdot 8 = 48 \text{ in}$

c. Area:
 165.6 in^2

a = apothem

8.



10. A regular side equal to

a. Measure of

b. Perimeter

a) Sum of Interior Angles in a Polygon:

$$180(n-2)$$

where n = # of sides

$$\begin{aligned} \text{Sum} &= 180(6-2) \\ &= 180(4) \\ &= 720^\circ \end{aligned}$$

c) Area of a Regular Polygon:



TOA

$$a \cdot \tan 30 = \frac{4}{a} \cdot a$$

$$\frac{a \cdot \tan 30}{\tan 30} = \frac{4}{\tan 30}$$

$$a = \frac{4}{\tan 30} = 6.9$$

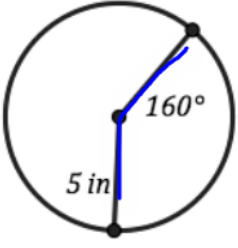
where P = perimeter and a = apothem

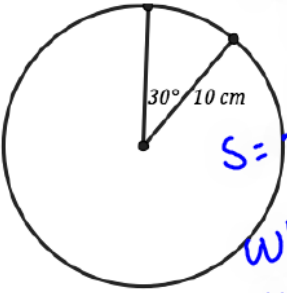
$$A = \frac{1}{2}(48)(6.9)$$

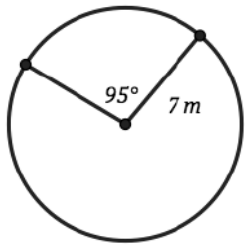
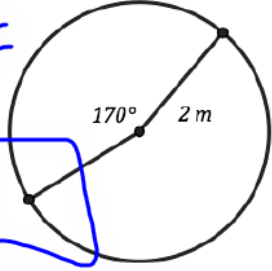
$$A = 165.6 \text{ in}^2$$

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Find the area of the sector indicated with the angle measure.

13.  $\frac{160}{360} (\pi r^2) =$
 $\frac{160}{360} (\pi 5^2) =$
 $\frac{4}{9} (25\pi) =$
 $\frac{100\pi}{9} \approx 34.9$

14.  $s = \frac{\theta}{360} (\pi r^2)$
 where θ = angle in degrees and r = radius.

15.  

Need Assistance? Check out these additional resources:
<http://www.regentsprep.org/regents/math/geometry/GP14/CircleSectors.htm>

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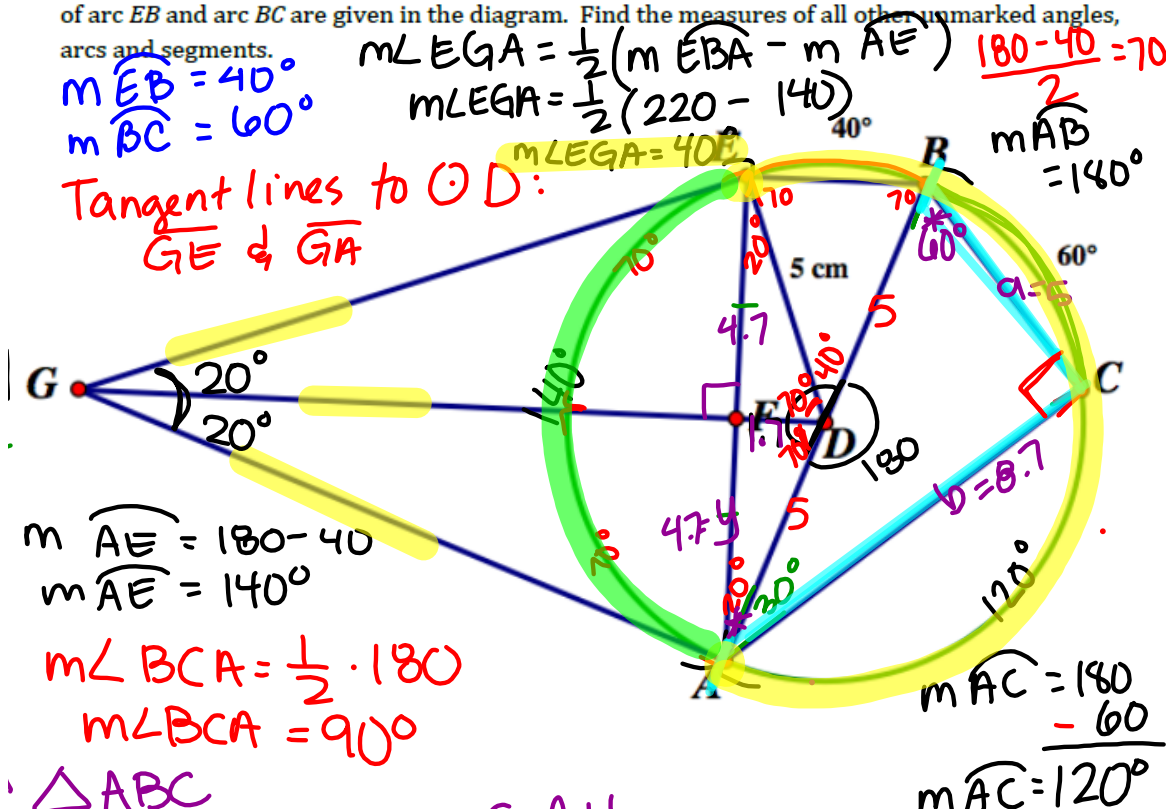
7.6 Circular Reasoning

A Practice Understanding Task

The following problems will draw upon your knowledge of similarity, circle relationships and trigonometry.



In the following diagram the radius of $\odot D$ is 5 cm and F is the midpoint of \overline{AE} . The measures of arc EB and arc BC are given in the diagram. Find the measures of all other unmarked angles, arcs and segments.



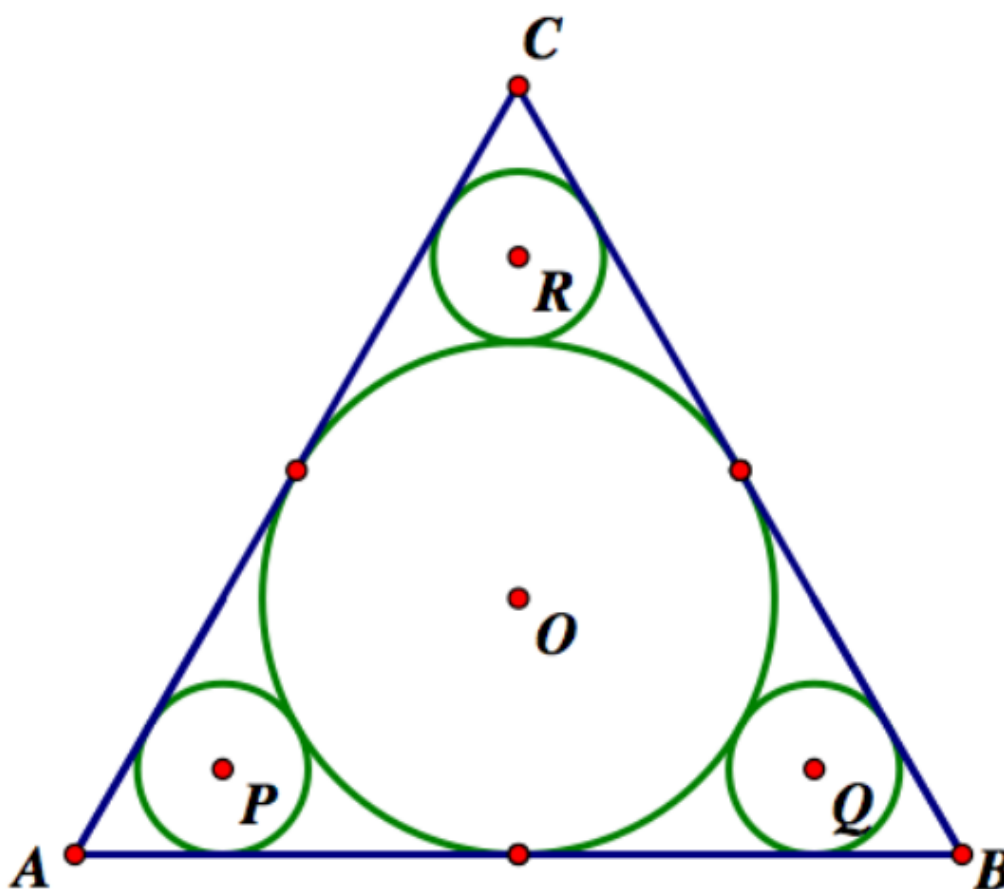
$m\widehat{EB} = 40^\circ$
 $m\widehat{BC} = 60^\circ$
 $m\angle EGA = \frac{1}{2}(m\widehat{EBA} - m\widehat{AE}) = \frac{1}{2}(180 - 40) = 70$
 $m\angle EGA = \frac{1}{2}(220 - 140) = 40^\circ$
 $m\angle A = 140^\circ$

Tangent lines to $\odot D$:
 \overline{GE} & \overline{GA}

$m\widehat{AE} = 180 - 40 = 140^\circ$
 $m\angle BCA = \frac{1}{2} \cdot 180 = 90^\circ$

$\triangle ABC$
SOH
 $10 \sin 60 = \frac{b}{10}$
 $10 \cdot \sin 60 = b$
 $8.7 = b$
 $\triangle AFD$
CAH
 $5 \cdot \cos 20 = \frac{y}{5}$
 $5 \cdot \cos 20 = y$
 $4.7 = y$
 $\triangle AFD$
SOH
 $5 \cdot \sin 20 = \frac{x}{5}$
 $5 \cdot \sin 20 = x$
 $1.7 = x$

In the diagram below $\triangle ABC$ is equilateral. All circles are tangent to each other and to the sides of the equilateral triangle. The radius of the three smaller circles, $\odot P$, $\odot Q$ and $\odot R$, is 4 cm. The radius of $\odot O$ is not given. Find the circumference and area of each circle and the length of the sides of the equilateral triangle.



Homework

Finish 7.6 "Ready, Set, Go"