UNIT 5 REVIEW GUIDE - ANGLES in CIRCLES

Name: Key

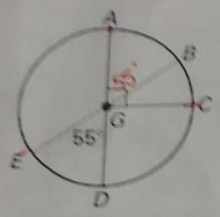
Block: _____

Learning Target 1: Angle Relationships in Circles

Important Relationships/Formulas

Central Angles =	Angle On =	Angle Outside =
Inscribed Angles =	Angle Inside =	Inscribed Polygons =

1. Use the picture to answer the following:



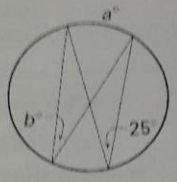
a. Find $\angle AGE$. 125°

b. Find $m\overset{\frown}{BC}$. 35°

c. Find $m\overset{\frown}{CD}$. 90°

d. Find $m\overset{\frown}{CAE}$. 215°

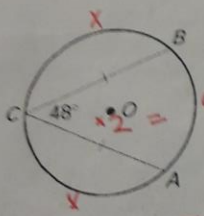
2. Find the values of a & b.



$m\overset{\frown}{a} = 50°$

$m\angle b = 25°$

3. Find $m\overset{\frown}{BC}$.



$m\overset{\frown}{BC} = 132$

96

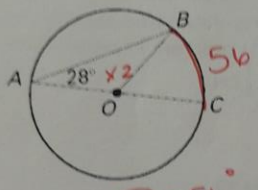
$x + x + 96 = 360$

$2x + 96 = 360$

$2x = 264$

$x = 132$

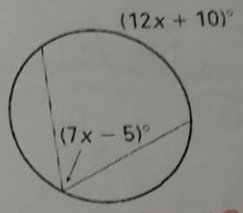
4. Find $m\overset{\frown}{BC}$.



56

$m\overset{\frown}{BC} = 56°$

5. Find the value of x.



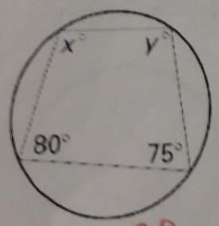
$2(7x-5) = 12x+10$

$14x - 10 = 12x + 10$

$2x = 20$

$x = 10$

6. Find the values of x and y.



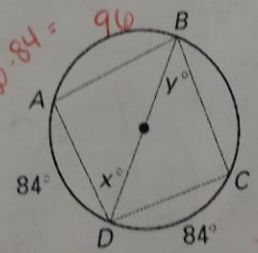
$x + 75 = 180$

$x = 105°$

$y + 80 = 180$

$y = 100°$

7. Find the values of x and y.



$180 - 84 = 96$

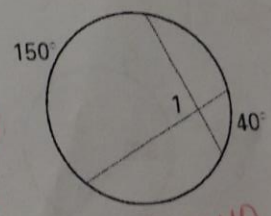
$x = \frac{1}{2}(96)$

$x = 48$

$y = \frac{1}{2}(84)$

$y = 42°$

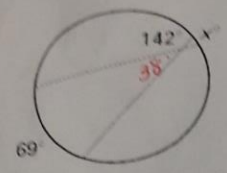
8. Find $m\angle 1$.



$\frac{150 + 40}{2} = m\angle 1$

$95 = m\angle 1$

9. Find the value of x.



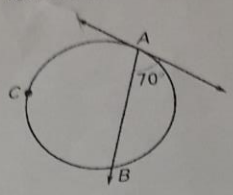
$180 - 142 = 38$

$\frac{x+69}{2} = 38$

$x + 69 = 76$

$x = 7$

10. Find $m\overset{\frown}{AB}$.

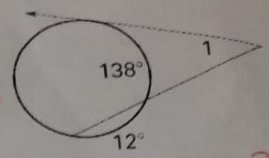


$m\angle A = \frac{1}{2} m\overset{\frown}{AB}$

$70 = \frac{1}{2} m\overset{\frown}{AB}$

$140° = m\overset{\frown}{AB}$

11. Find $m\angle 1$.



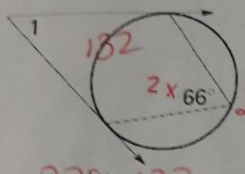
210

$360 - 138 - 12 = 210$

$\frac{210 - 138}{2} = m\angle 1$

$36° = m\angle 1$

12. Find $m\angle 1$.



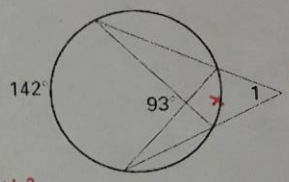
$360 - 132$

$228°$

$\frac{228 - 132}{2} = m\angle 1$

$48 = m\angle 1$

13. Find $m\angle 1$.



$\frac{142 - x}{2} = m\angle 1$

$\frac{142 - 44}{2} = m\angle 1$

$49 = m\angle 1$

$\frac{x + 142}{2} = 93$

$x + 142 = 186$

$x = 44$

Learning Target #3: Arc Length and Area of a Sector

Important Relationships/Formulas	
Circumference =	Arc Length =
Area = πr^2	Area of a Sector = $\frac{m}{360} \cdot \pi r^2$

14. Find the area of a circle with radius of 8 ft.

$A = \pi (8)^2$

$A = 64\pi$

$A \approx 201.06$

15. The area of a circle is 25π m. What is the diameter?

$A = \pi r^2$

$25\pi = \pi r^2$

$25 = r^2$

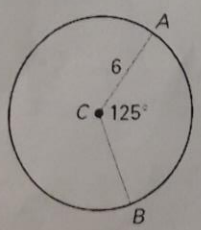
$5 = r$

$d = 2 \cdot r$

$d = 2(5)$

$d = 10$

16. Find the area of sector $\overset{\frown}{AB}$. Write the answer exactly.



$A = \frac{m}{360}(\pi r^2)$

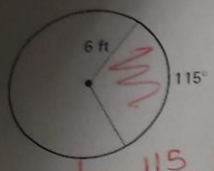
$A = \frac{125}{360} \cdot (\pi \cdot 6^2)$

$A = \frac{25}{2}\pi$

$A \approx 39.27$

$A = \pi r^2$
$A = \pi(11)^2$
$A = 121\pi$
$A \approx 380.13$

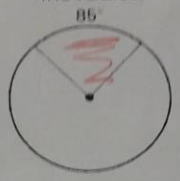
17. Find the area of a circle with a diameter of 22 inches.



$A = \frac{115}{360}(\pi \cdot 6^2)$

$A = \frac{23}{2}\pi$ $\quad A \approx 36.13$

18. The area of the shaded region is 47.5 cm^2. Find the radius.



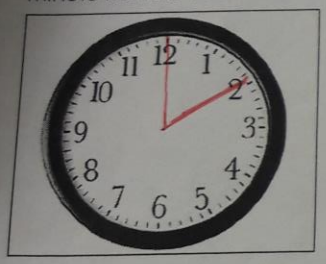
$A = \frac{m}{360} \cdot \pi r^2$

$\frac{47.5}{\pi} = \frac{85}{360}\pi \cdot r^2$

$15.12 = \frac{85}{360} \cdot r^2$

$64 = r^2$ $\quad r = 8$

20. How many degrees does the minute hand move in 10 minutes? What would be the area of this sector if the minute hand is 14 centimeter long in this 10 minutes?

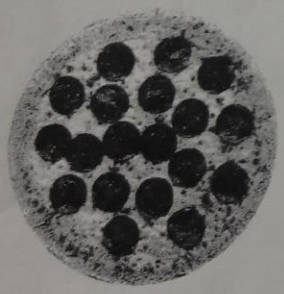


after 10 minutes = 60°

$A = \frac{60}{360} \cdot \pi(14^2)$

$A = \frac{98}{3}\pi$ $\quad A \approx 102.63$

21. You are working at a pizza delivery store and someone calls in a special order. They want a large pizza (15 inches in diameter) but only want 3 out of the 10 slices of the pizza to have pepperoni. What is the area of the three slices of pizza that will have pepperoni?



$A = \frac{3}{10} \cdot \pi(7.5^2)$

$A = 16.875\pi$

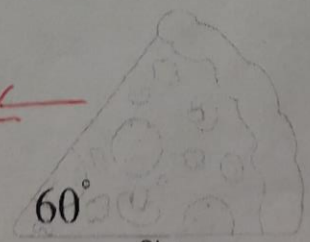
$A \approx 53.01$

22. Which of the following Pizza Slice specials is the better deal?

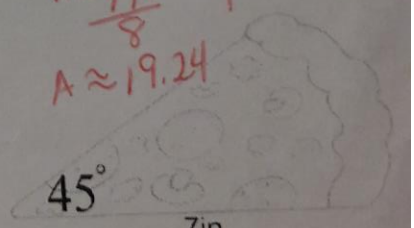
$A = \frac{45}{30} \cdot \pi(7^2)$

$A = \frac{49\pi}{8}$

$A \approx 19.24$



Price - $1.50



Price - $1.70

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ice is
better
al by

$A = \frac{60}{360} \cdot \pi \cdot 6^2$ ←

$A = 6\pi$

≈ 18.84

$.08 $.09