Geometry
Chapter 10 Review Worksheet

Name Key
Date _____ Period _____

1-12 Given: $\odot O$, $\overline{DA}$ and $\overline{DC}$ tangent segments, $\overline{AB}$ is a diameter, $m\overset{\frown}{AC}=120^\circ$, $m\overset{\frown}{AE}=84^\circ$, $m\overset{\frown}{EG}=58^\circ$

Find:

$m\overset{\frown}{BG}=$ 38°

$m\overset{\frown}{CB}=$ 60°

$m\angle 1=$ 60°

$m\angle 2=$ 90°

$m\angle 3=$ 42°

$m\angle 4=$ 101° $=\frac{1}{2}(142+60)$

$m\angle 5=$ 31° $=\frac{1}{2}(120-58)$

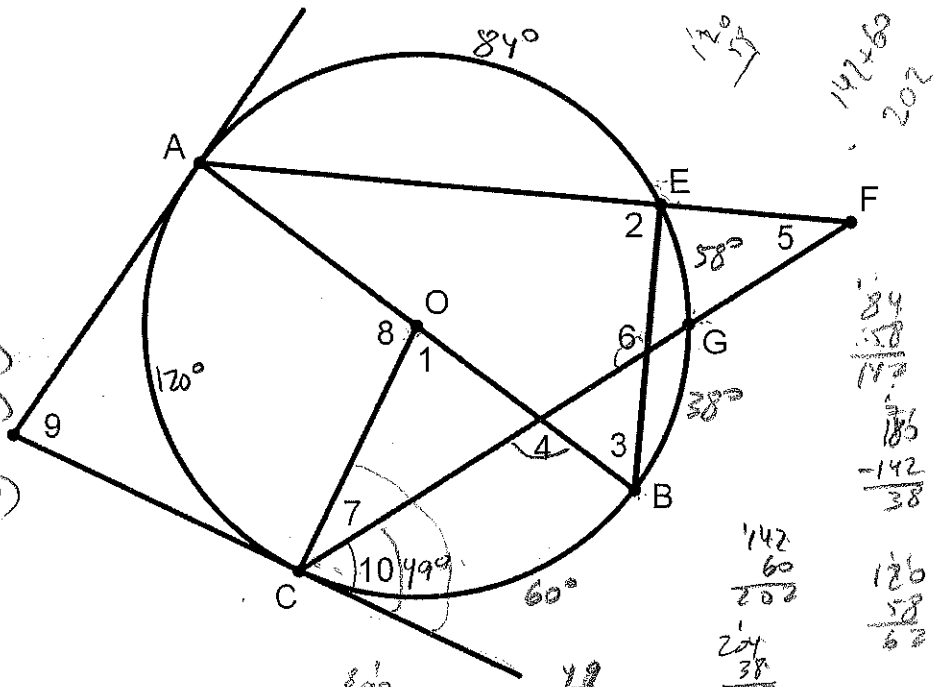
$m\angle 6=$ 121° $=\frac{1}{2}(204+38)$

$m\angle 7=$ 41°

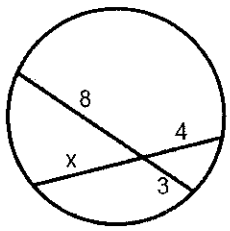
$m\angle 8=$ 120°

$m\angle 9=$ 60° $=180-120$

$m\angle 10=$ 49° $\frac{1}{2}(60+38)$

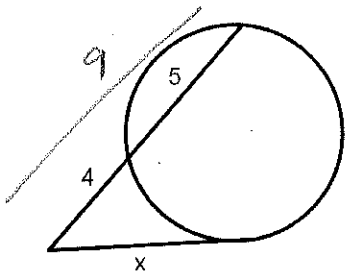


13. Find x



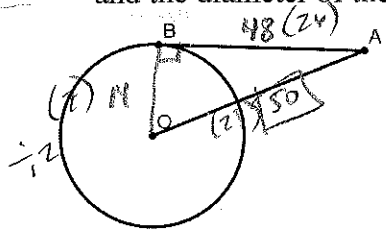
$4x=8\cdot3$
$x=\frac{24}{4}=6$
$x=6$

14. Find x.



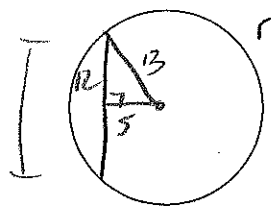
$9\cdot4=x^2$
$36=x^2$
$x=6$

15. In $\odot O$, $\overline{AB}$ is a tangent segment, $\overline{AB}=48$, and the diameter of the circle is 28. Find AO.



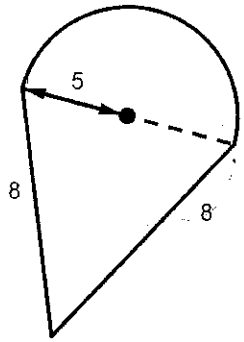
$AO=50$

16. Find the radius of a circle if a 24-unit chord is 5 units from the center of the circle.



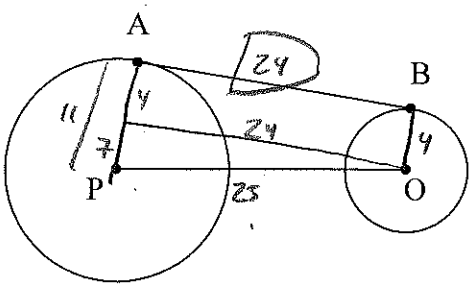
$r=13$

17. Find the perimeter of this shape:



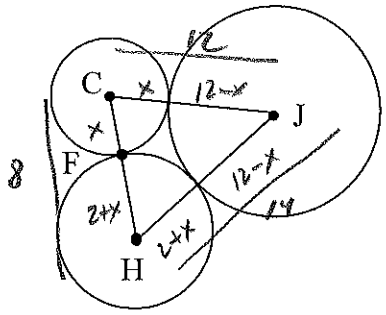
$C=2\pi(5)=10\pi$
$\frac{1}{2}C=5\pi$
$P=8+8+5\pi=16+5\pi$

. Given: $\odot O$ and $\odot P$ with common external tangent segment. If $OP = 25$, radius of $\odot O$ is 4, and radius $\odot P$ is 11, find AB.



19. Circles C, J, and H are tangent as shown. If CH = 8, HJ = 14, and CJ = 12, find CF..

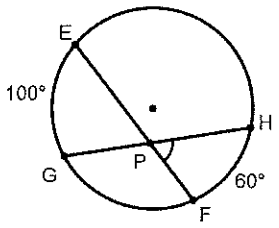
$x + 2 + x = 8$
$2x + 2 = 8$
$2x = 6$
$CF = x = 3$



$14 - (12 - x)$
$2 + x$

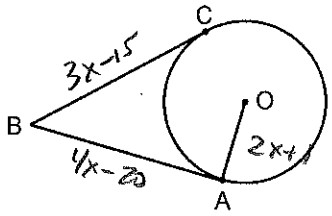
20. Given chords $\overline{EF}$ and $\overline{GH}$ of a circle intersecting at P. If $m\overset{\frown}{HF} = 60°$ and $m\overset{\frown}{EG} = 100°$, then find $m\angle HPF$.

$= \frac{1}{2}(\text{big} + \text{little})$
$= \frac{1}{2}(100 + 60)$
$= \frac{1}{2}160$
$= 80°$



21. $\overline{BA}$ and $\overline{BC}$ are tangent segments, BC = 3x - 15, BA = 4x - 20, and OA = 2x + 1. What is the length of a diameter of $\odot$ O?

$3x - 15 = 4x - 20$
$5 = x$
$r = 2(5) + 1 = 11$



dia = 22

22. **Multiple Choice** The area of a circle with a circumference of 16π units is

A 16π units^2 **B** 48π units^2 **C** 64π units^2 **D** 144π units^2

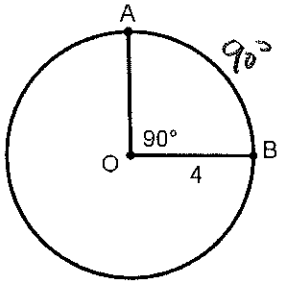
$C = 2\pi r$
$16\pi = 2\pi r$
$r = 8$
$A = \pi(8)^2 = 64\pi$ u^2

In problems 23-25, use $\odot O$.

23. Find $m\overset{\frown}{AB}$ = 90°

24. Find the circumference of $\odot O$. 8π

25. Find the **length** of $\overset{\frown}{AB}$. 2π



$C = 2\pi r = 2\pi 4 = 8\pi$

length of arc $= \left(\frac{90}{360}\right)8\pi = \frac{1}{4}8\pi$
$= 2\pi$

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$m\angle 1$ = _____

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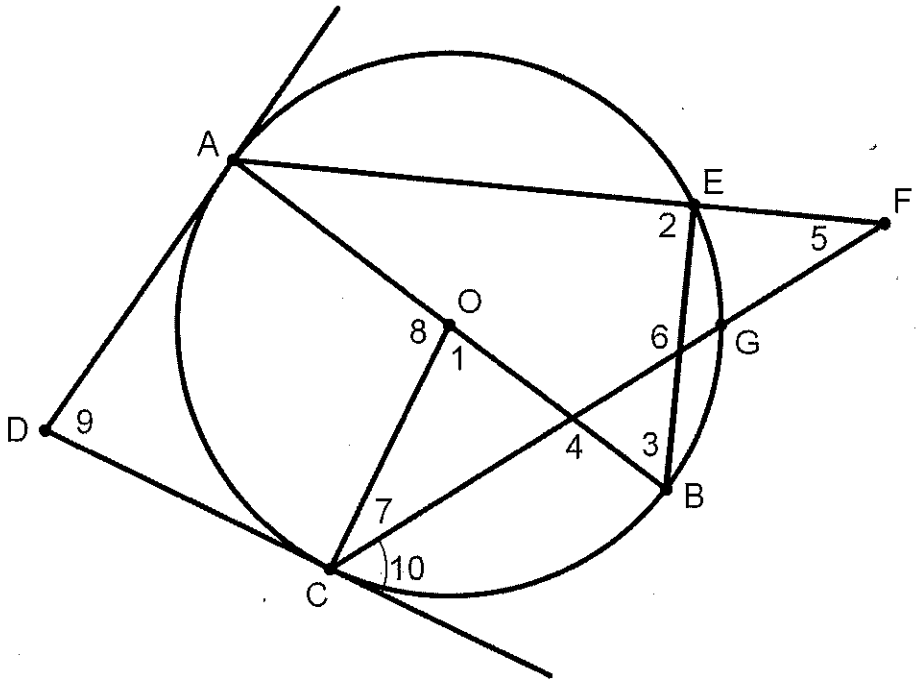

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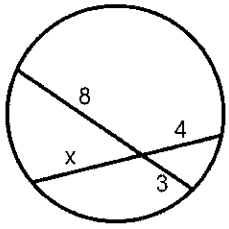

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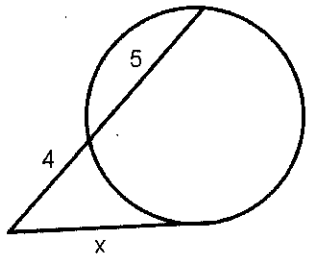

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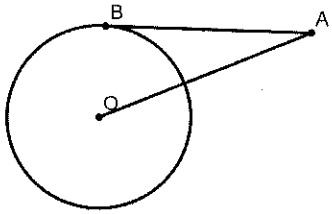

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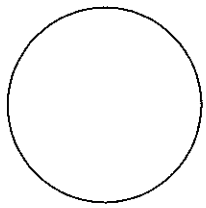

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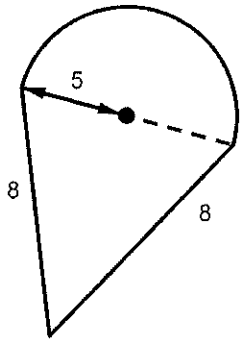

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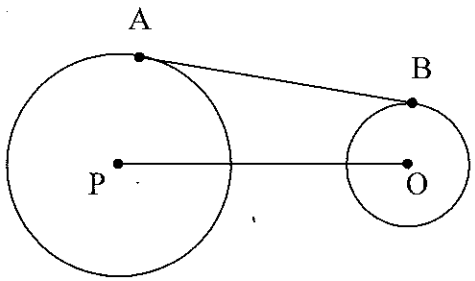

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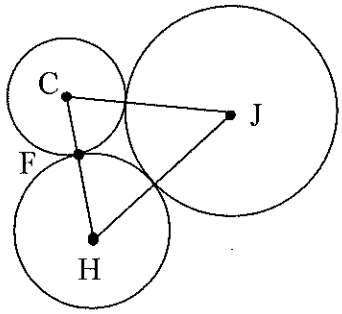

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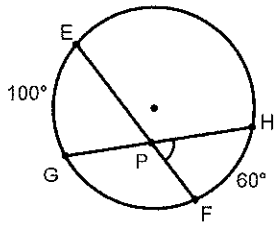

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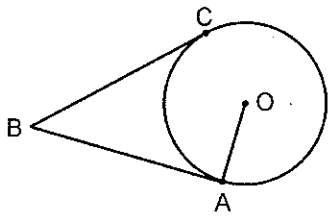

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