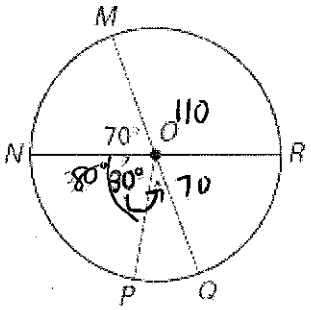
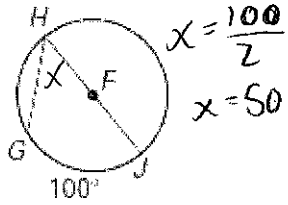
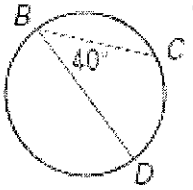
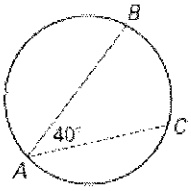
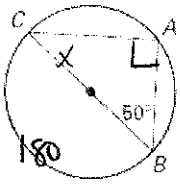
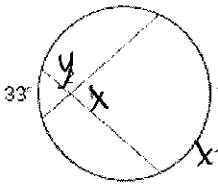
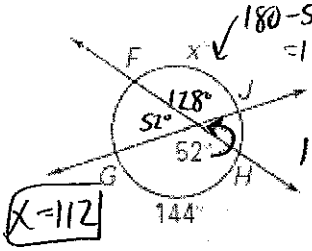
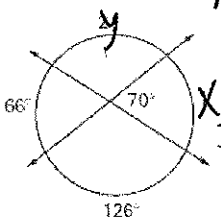
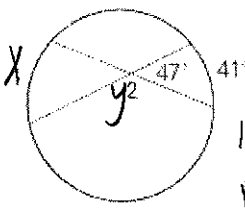
Name: Key Date: _____

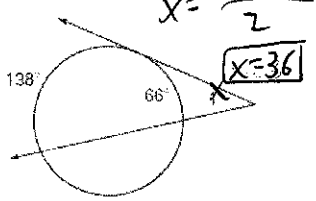
Use the following to review for you test. **Work the Practice Problems on a separate sheet of paper.**

What you need to know & be able to do	Things to remember		
Find the measure of arcs from central angles.	Angle = Arc		1. Find $m\widehat{MN}$ 70 2. Find $m\widehat{QNR}$ 290 3. Find $m\widehat{MR}$ 110 4. Find $m\widehat{PRN}$ 280
Find the measure of arcs and angles with inscribed angles	Angle = $\frac{\text{Arc}}{2}$	5. Find $m\angle GHJ$  $x = \frac{100}{2}$ $x = 50$	6. Find $m\widehat{CD}$  $40 = \frac{x}{2}$ $80 = x$
		7. Find $m\widehat{BC}$  $40 = \frac{x}{2}$ $x = 80$	8. Find $m\angle C$  $180 - 90 - 50$ $x = 40$
Find the measure of arcs and angles if the angle is inside the circle	Angle = $\frac{\text{Arc} + \text{Arc}}{2}$	9. Find $m\angle 1$ and $m\angle 2$  $x = \frac{33+131}{2}$ $x = 82$ $x + y = 180$ $y = 98$	10. Find the value of x.  $180 - 52 = 128$ $128 = \frac{x + 144}{2}$ $x = 112$
		11. Find 1 & 2  $70 = \frac{x + 66}{2}$ $x = 74$ $360 - 74 - 66 - 126$ $y = 94$	12. Find 1 & 2  $47 = \frac{x + 41}{2}$ $x = 53$ $180 - 47 = y$ $y = 133$

Find the measure of arcs and angles if the angle is outside the circle.

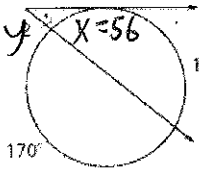
$$\text{Angle} = \frac{\text{Large Arc} - \text{Small Arc}}{2}$$

13. Find 1.



$x = \frac{138-66}{2}$ $x = 36$

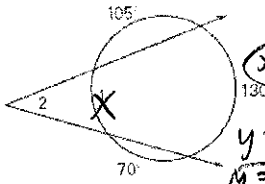
14. Find 1 & 2.



$x = 360 - 170 - 134$ $x = 56$

$y = \frac{134 - 56}{2}$ $y = 39$

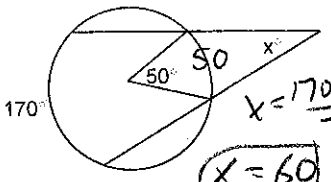
15. Find 1 & 2.



$360 - 105 - 130 - 70$ $x = 55$

$y = \frac{130 - 55}{2}$ $y = 37.5$

16. Find the value of x.



$x = \frac{170 - 50}{2}$ $x = 60$

Find the area of circles

$$\text{Area} = \pi r^2$$

17. The area of a circle is 31.4 cm^2. What is the radius? $31.4 = \pi r^2$ $r^2 = 9.99$ $r = 3.16$

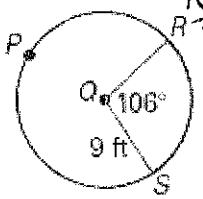
18. Find the area of a circle with a diameter of 22 inches.

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

Find the area of sectors

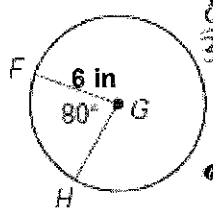
$$\text{Sector} = \frac{\text{Arc}}{360} \cdot \pi r^2$$

19. Find the area of the shaded region



$\frac{106}{360}\pi(9)^2$ $= \frac{477\pi}{20}$ $= 74.93 ft^2$

20. Find the area of the shaded region.



$\frac{80}{360}\pi(6)^2$ $= 8\pi$ or 25.13 in.

Find the circumference of circles

$$\text{Circumference} = 2\pi r$$

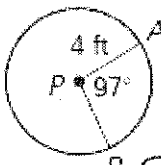
21. Find the circumference of a circle with a radius of 8 m. $C = 2\pi(8) = 16\pi = 50.27 m$

22. The circumference of a circle is 25.12 ft. What is the radius? $25.12 = 2\pi r$ $r = 4$ ft

Find arc lengths

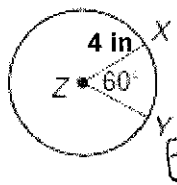
$$\text{Circumference} = \frac{\text{Arc}}{360} \cdot 2\pi r$$

23. Find the arc length of $\overset{\frown}{AB}$



$\frac{97}{360} \cdot 2\pi(4)$ $= \frac{97\pi}{45}$ $= 6.77 ft$

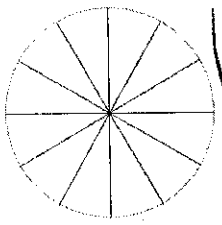
24. Find the arc length of $\overset{\frown}{XY}$.



$\frac{60}{360} 2\pi(4)$ $= \frac{4\pi}{3}$ $= 4.19 in$

Word Problems

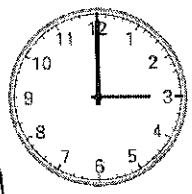
25. A birthday cake has a radius of 4 in. What is the length of icing needed to go around the end of the whole cake? How much icing would be used for one slice?



$C = 2\pi(4)$ $= 8\pi$ or $= 25.13 in$

$\frac{1}{12} 2\pi(4) = \frac{2\pi}{3}$ or $2.09 in$

26. A wall clock has an area of 452.39 in^2. Find the diameter of the clock. Then, find the area of the sector formed when the time is 3:00.



$\pi r^2 = 452.39$ $r = 12 \rightarrow d = 24$

$\frac{90}{360}\pi(12)^2 = 36\pi$ $= 113.10 in^2$