

Geometry  
Circles Test Review

Name Key has known their best friend since:  
Date \_\_\_\_\_ Block \_\_\_\_\_

Word Bank:					
Central angle	Tangent	Semi-circle	Major arc	Minor arc	Secant
Point of tangency	Radius	Chord	Diameter	Inscribed angle	Degrees

1. In the diagram, point B is the center of the circle.

a.  $\overline{ED}$  is called a chord.

b.  $\overline{BC}$  is called a radius.

c.  $\overline{DA}$  is called a diameter.

d.  $\angle EDA$  is called an inscribed angle.

e. A line that intersects a circle in two points is called a secant.

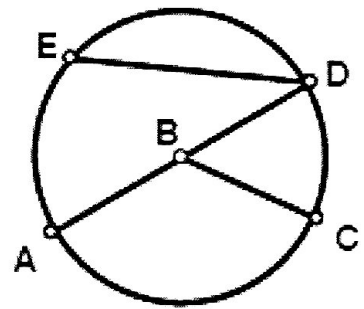
f. A line that intersects a circle in exactly one point is called a tangent. The point of intersection is called the point of tangency.

g. Arcs of circles are measured in degrees.

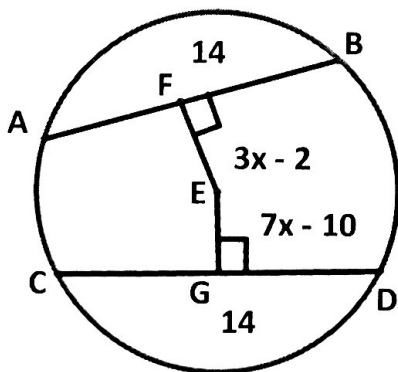
h. An arc that is less than 180 degrees is called a minor arc.

i. An arc that contains 180 degrees is called a semi-circle.

j. An arc that is more than 180 degrees is called a major arc.



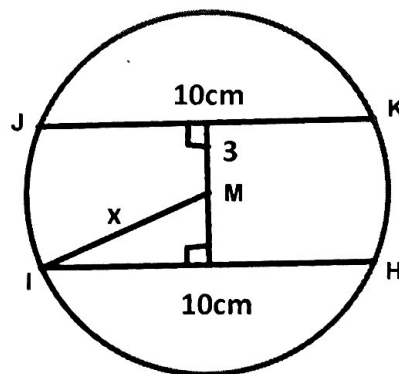
2.  $AB = CD = 14$ . Find the value of  $x$  and then  $FE$ .



$x = \underline{2}$

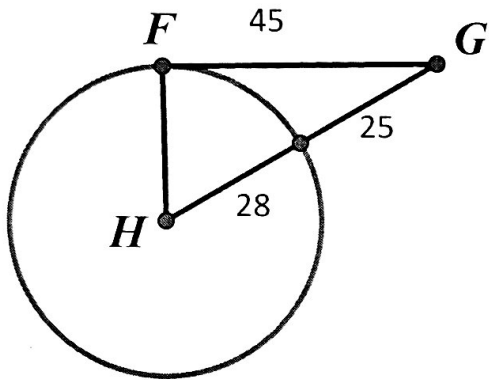
$FE = \underline{4}$

3. Solve for the value of  $x$ .



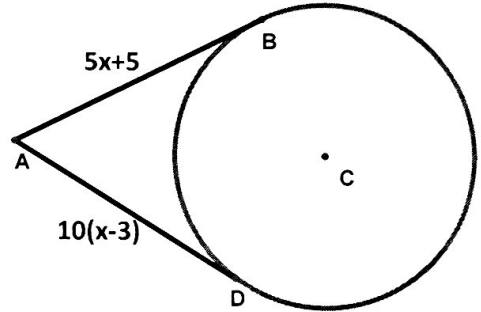
$x = \underline{\sqrt{34}}$

4. Is  $\overline{FG}$  tangent to  $H$ ? Show your work.



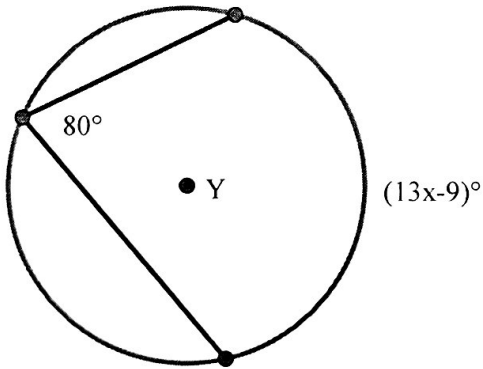
Yes  
 $28^2 + 45^2 = 53^2$

5.  $\overline{AB}$  and  $\overline{AD}$  are tangent to  $C$ .  
 Solve for  $x$ .



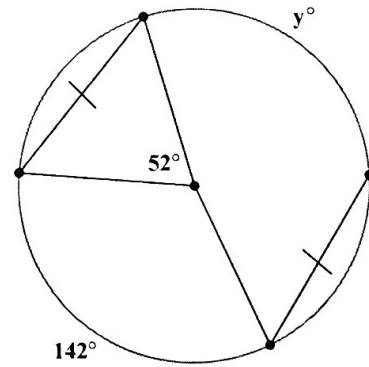
$x = \underline{5}$

6. Find the value of  $x$  in circle  $Y$ .



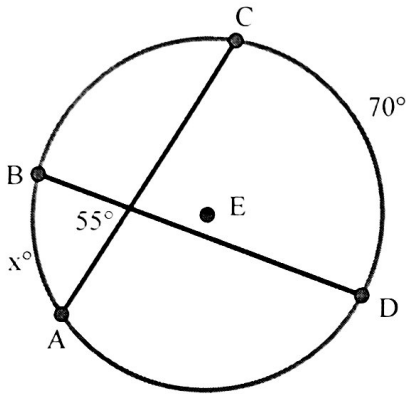
$x = \underline{13}$

7. Find the value of  $y$ .



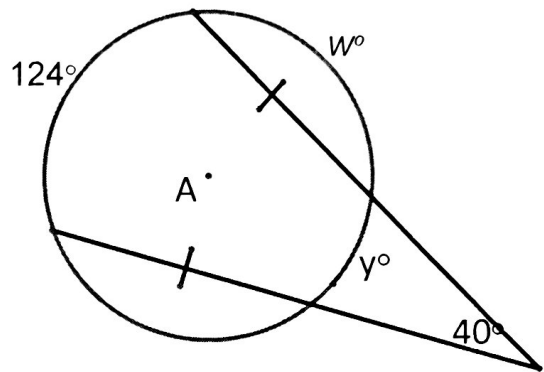
$y = \underline{114^\circ}$

8. Find the value of  $x$ .



$x = \underline{40^\circ}$

9. Solve for  $y$  and  $w$ .



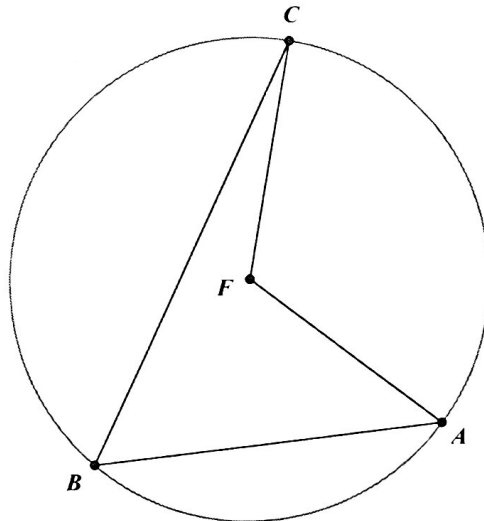
$y = \underline{44^\circ}$        $w = \underline{96^\circ}$

10. In the figure to the right, find:  $m\angle CBA$  and  $m\angle CFA$

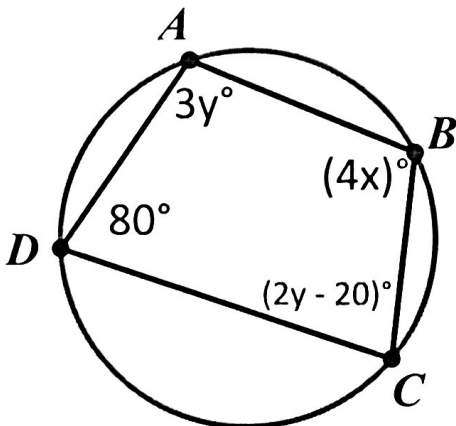
$m\widehat{ABC} = 240^\circ$

$m\angle CBA = 120^\circ$

$m\angle CFA = 60^\circ$



11. The quadrilateral ABCD is inscribed in the circle. Solve for the value of  $x$  and  $y$ , then find  $m(\angle C)$ .

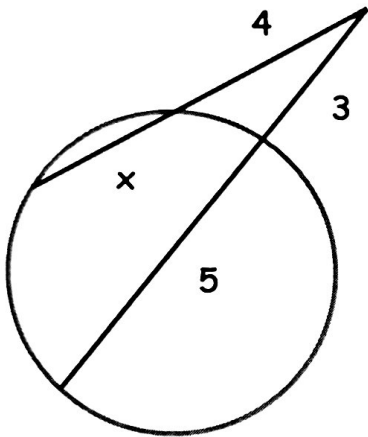


$x = \underline{25}$

$y = \underline{40}$

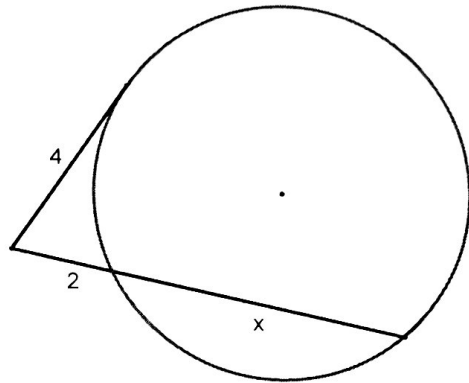
$m(\angle C) = \underline{60^\circ}$

12. Find the value of  $x$ .



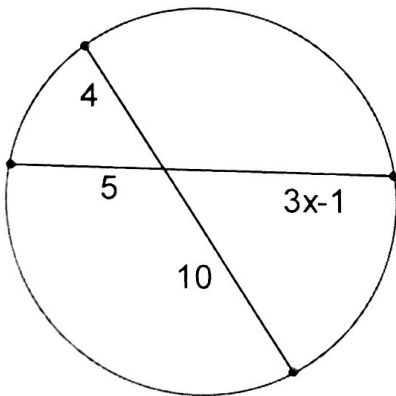
$x = \underline{2}$

13. Find the value of  $x$ .



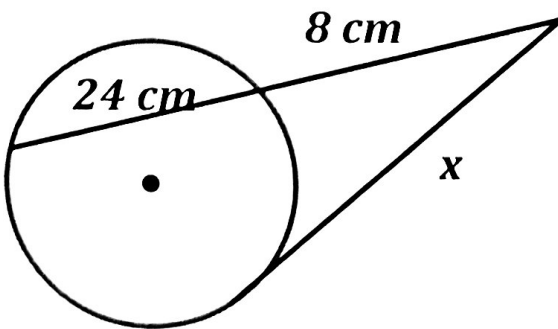
$x = \underline{6}$

14. Find the value of  $x$ .



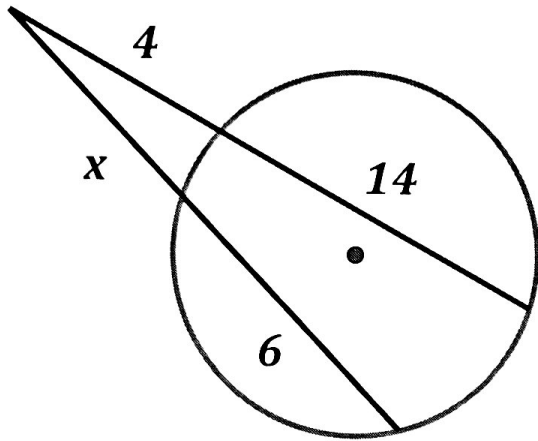
$x = \underline{3}$

15.



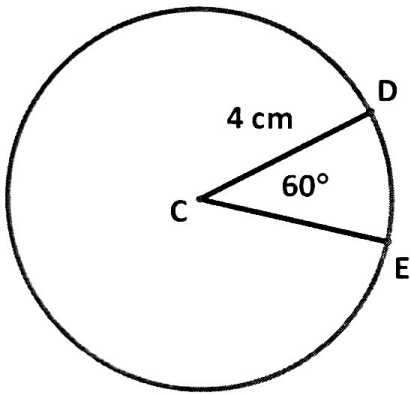
$x = \underline{16}$

16.



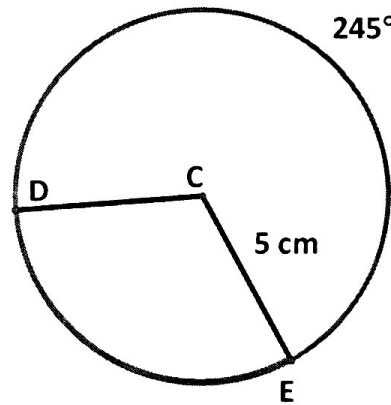
$x = \underline{6}$

17. Find the length of arc DE.



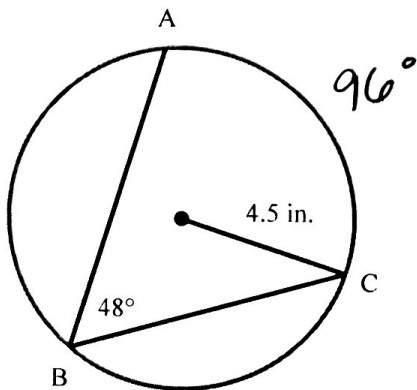
Arc Length =  $\underline{\frac{4}{3}\pi \text{ cm}}$  or  $\underline{1.33\pi \text{ cm}}$

18. Find the area of the shaded region.



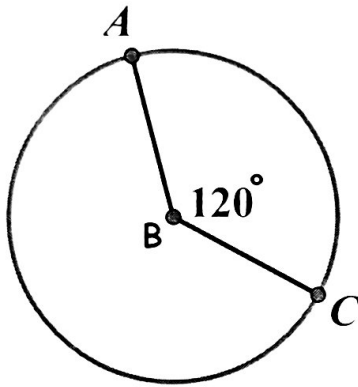
Area of sector =  $\underline{7.99\pi \text{ cm}^2}$

19. Find the length of AC in the following circle:



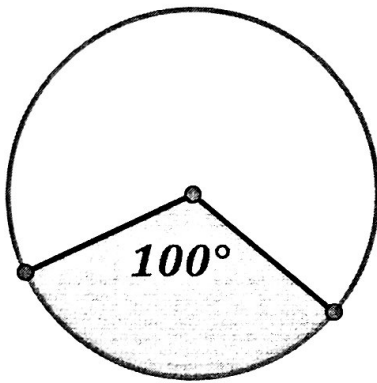
Arc Length =  $\underline{2.4\pi \text{ in}}$

20. What is the radius of the following circle if the arc length of  $ABC$  is  $2\pi$  cm?



$r = \underline{\underline{\cancel{15}^3 \text{ cm}}}$

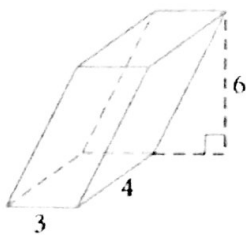
21. If the area of the sector is  $22.5\pi \text{ cm}^2$ , find the radius.



$r = \underline{\underline{9 \text{ cm}}}$

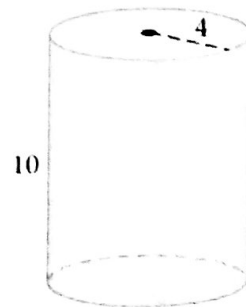
Find the volume of each solid. All measurements are in inches. Round approximate answers to the nearest hundredths.

22. Oblique rectangular prism



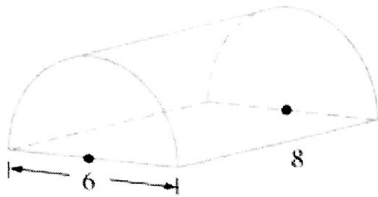
$72 \text{ in}^3$

23. Right cylinder



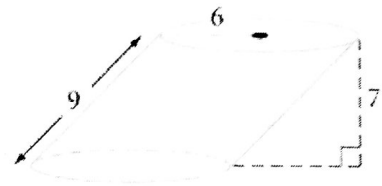
$160\pi \text{ in}^3$

24. Right semicircular cylinder  $h$



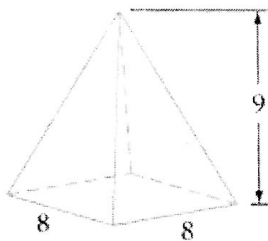
$$144\pi \text{ in}^3$$

25. oblique cylinder



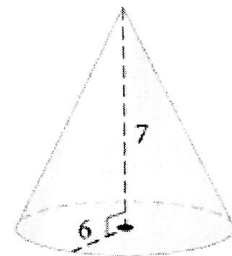
$$252\pi \text{ in}^3$$

26. Square pyramid



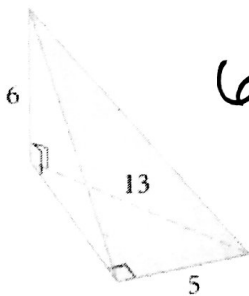
$$192 \text{ in}^3$$

27. Cone



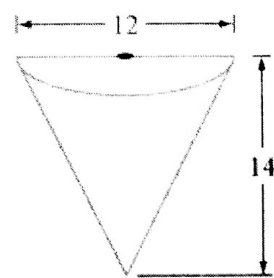
$$84\pi \text{ in}^3$$

28. Triangular pyramid



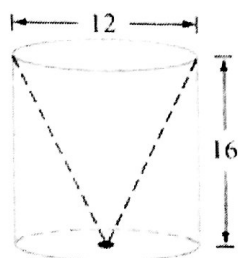
$$65 \text{ in}^3$$

29. Semicircular cone



$$84\pi \text{ in}^3$$

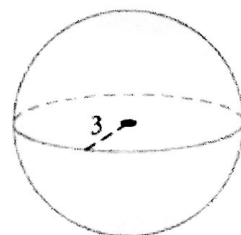
30. Cylinder with cone removed



$$576\pi - 192\pi$$

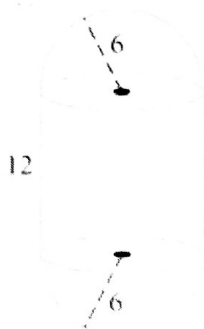
$$384\pi \text{ in}^3$$

31.



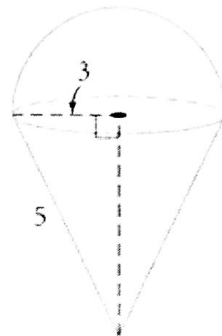
$$36\pi \text{ in}^3$$

32.



$$720\pi \text{ in}^3$$

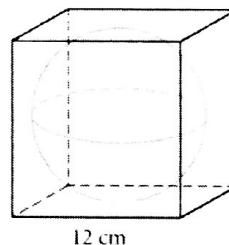
33.



$$33\pi \text{ in}^3$$

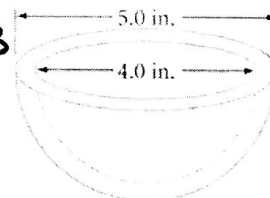
34. As an exercise for her art class, Jasmine has cast a plaster cube 12 cm on each side. Her assignment is to carve the largest possible sphere from the cube. After the sphere is carved out, how much plaster is left?

$$1728 - 288\pi \text{ cm}^3$$



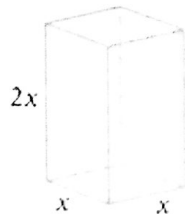
35. Find the volume of plastic (to the nearest cubic inch) needed for this hollow toy component. The outer-hemisphere diameter is 5.0 in. and the inner-hemisphere diameter is 4.0 in.

$$\frac{125}{12}\pi - \frac{16}{3}\pi = \frac{61}{12}\pi \text{ in}^3$$



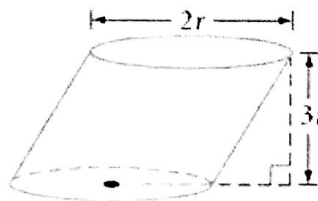
Express the volume of each solid.

36. Right rectangular prism



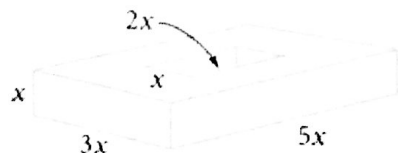
$$2x^3 \text{ units}^3$$

37. Oblique cylinder



$$3\pi r^3 \text{ units}^3$$

38. Right rectangular prism with a rectangular hole



$$13x^3 \text{ units}^3$$