

Geometry

Chapter 12

Section 12-4

What angles measure 33° ?

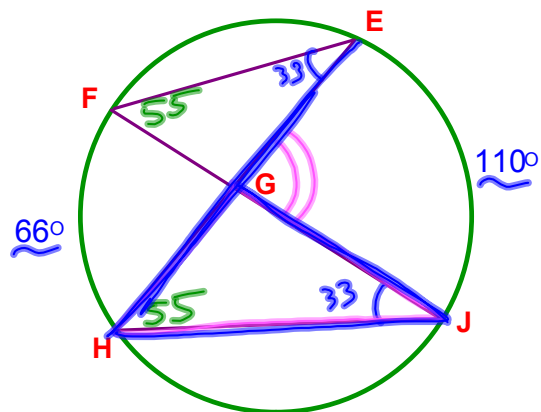
$\angle E, \angle J$

What angles measure 55° ?

$\angle H, \angle F$

What is the measure of $\angle EGJ$?

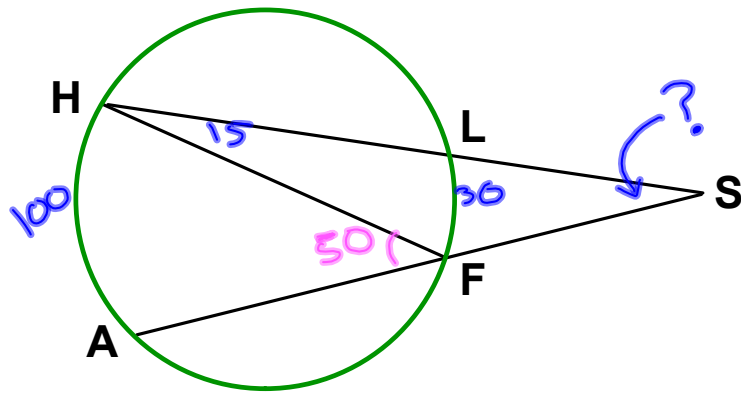
$$m\angle EGJ = 55 + 33 = 88$$



$$m\widehat{HA} = 100$$

$$m\widehat{LF} = 30$$

What is $m\angle S$?



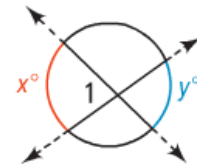
$$50 = 15 + m\angle S$$

$$35 = m\angle S$$

Theorem 12-13

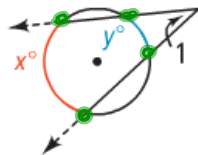
The measure of an angle formed by two lines that intersect inside a circle is half the sum of the measures of the intercepted arcs.

$$m\angle 1 = \frac{1}{2}(x + y)$$

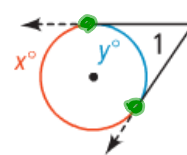
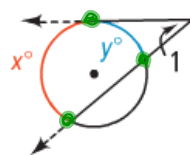


Theorem 12-14

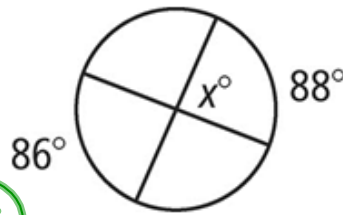
The measure of an angle formed by two lines that intersect outside a circle is half the difference of the measures of the intercepted arcs.



$$m\angle 1 = \frac{1}{2}(x - y)$$



Find the value of x .

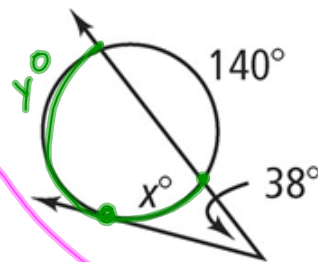


$$x = \frac{1}{2}(86 + 88)$$

$$x = \frac{1}{2}(174)$$

$$x = 87$$

Find the value of x .



$$38 = \frac{1}{2}(y - x)$$

$$38 = \frac{1}{2}(220 - x - x)$$

$$76 = 220 - 2x$$

$$\begin{array}{r} -220 \\ -220 \end{array}$$

$$\begin{array}{r} -144 \\ -2 \end{array} = \begin{array}{r} -2x \\ -2 \end{array}$$

$$72 = x$$

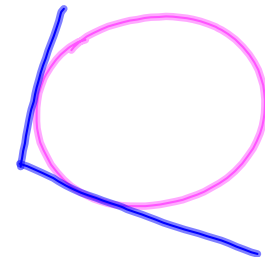
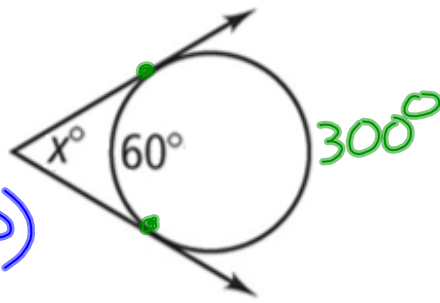
$$360 - 140 - x = y$$

$$220 - x = y$$

Find the value of x.

$$x = \frac{1}{2}(300 - 60)$$

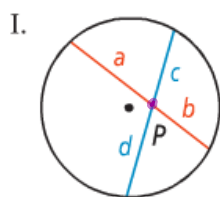
$$x = 120$$



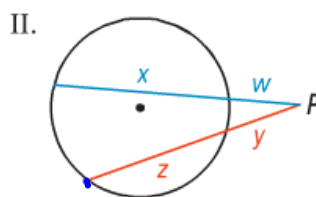
take note

Theorem 12-15

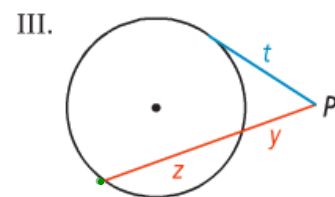
For a given point and circle, the product of the lengths of the two segments from the point to the circle is constant along any line through the point and circle.



$$a \cdot b = c \cdot d$$



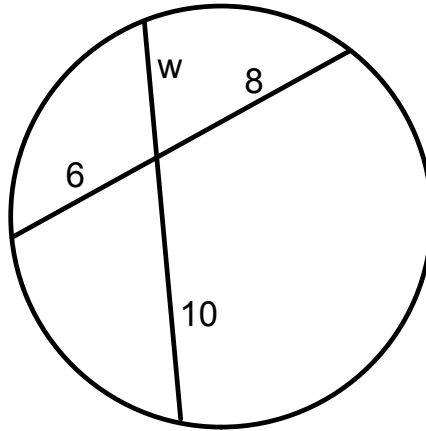
$$(w + x)w = (y + z)y$$



$$(y + z)y = t^2$$

Find the value of each variable.

If necessary, round to the nearest hundredth.



$$6 \cdot 8 = 10 \cdot w$$

$$\frac{48}{10} = \frac{10w}{10}$$

$$4.8 = w$$

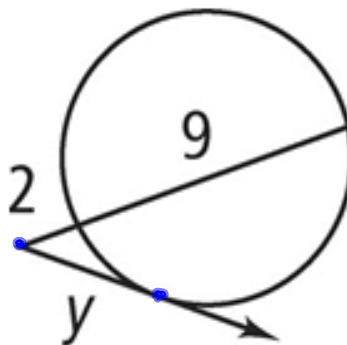
Find the value of each variable.

If necessary, round to the nearest hundredth.

$$(2+9)^2 = y^2$$

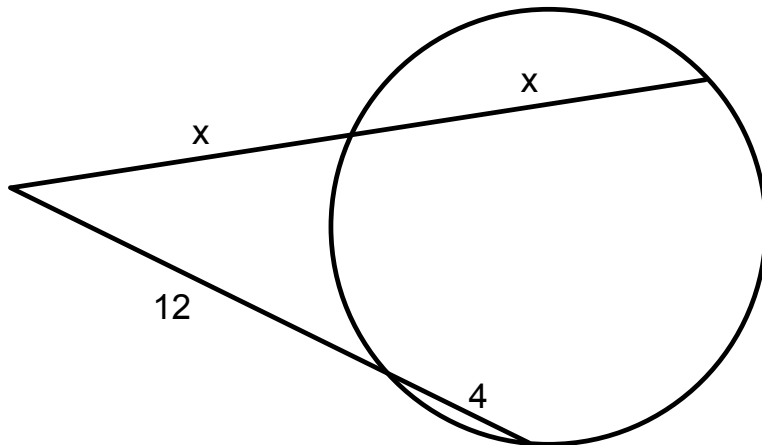
$$\sqrt{22^2} = \sqrt{y^2}$$

$$y \approx 4.69$$



Find the value of each variable.

If necessary, round to the nearest hundredth.



$$(x+x)x = (2+4)12$$

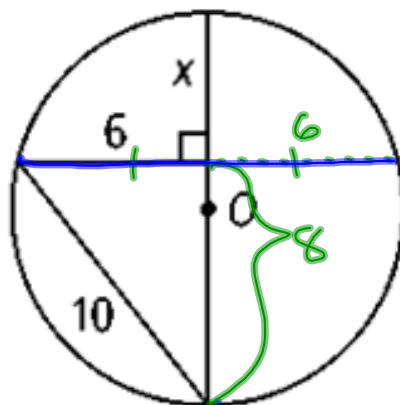
$$2x^2 = 192$$

$$\sqrt{x^2} = \sqrt{96}$$

$$x \approx 9.80$$

Find the value of each variable.

If necessary, round to the nearest hundredth.

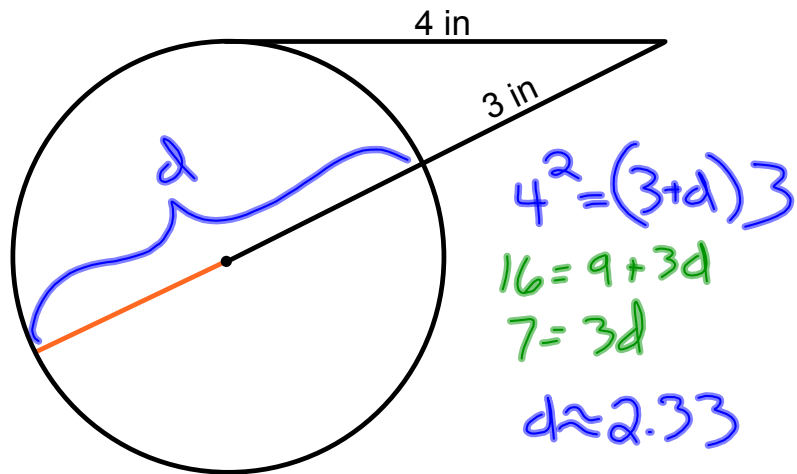


$$8x = 6 \cdot 6$$

$$x = \frac{36}{8} = 4.5$$

Find the diameter's length if the 4 in. segment is tangent.

If necessary, round to the nearest hundredth.



Homework

Pages 794 -796

9 - 33 odd