

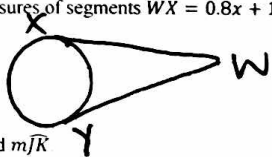
Name: key

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HW #10-11: Test Review

1. Given the measures of segments $WX = 0.8x + 1.2$ and $WY = 2.4x$ that are tangent to a circle, find WY .

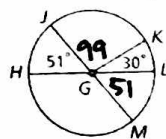


$$0.8x + 1.2 = 2.4x$$

$$x = 0.75$$

$$WY = 1.8$$

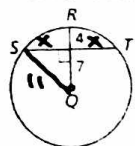
2. Find $m\widehat{KM}$ and $m\widehat{JK}$.



$$m\widehat{LM} = 81^\circ$$

$$m\widehat{JK} = 99^\circ$$

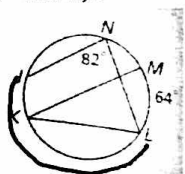
3. Find ST . Give exact answers and also round to two decimal places.



$$11^2 = 7^2 + x^2$$

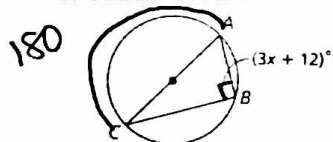
$$x \approx 8.49 \rightarrow ST \approx 16.97$$

4. Find $m\widehat{L}$.



$$2 \cdot 82 = 164^\circ$$

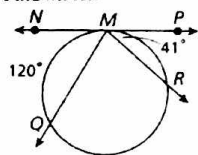
5. Find the value of x .



$$3x + 12 = 90$$

$$x = 26$$

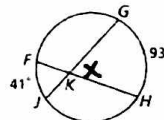
6. Find $m\widehat{MR}$.



$$m\widehat{MR} = 2 \cdot 41 = 82^\circ$$

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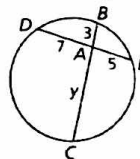
7. Find $m\angle GKH$.



$$x = \frac{1}{2}(93 + 41)$$

$$m\angle GKH = 67^\circ$$

8. Find the length of each chord.



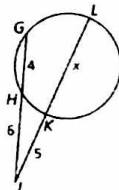
$$7.5 = 3 \cdot y$$

$$y = \frac{35}{3}$$

$$BC = \frac{35}{3} + 3$$

$$= \frac{35}{3} + \frac{9}{3} = \frac{44}{3}$$

9. Find the value of x and the length of each secant segment.



$$(6)(10) = (5)(5 + x)$$

$$60 = 25 + 5x$$

$$x = 7$$

$$JK = 12$$

$$GJ = 10$$

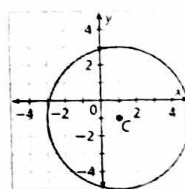
10. Write the equation of a circle that has a center of $(-4, -3)$ and a radius of 3.

$$(x + 4)^2 + (y + 3)^2 = 9$$

11. Write the equation of the circle that passes through $(-2, -2)$ and has a center of $(-2, 0)$.

$$r = 2 \quad (x + 2)^2 + y^2 = 4$$

12. Write the equation for the circle, given in the graph below.



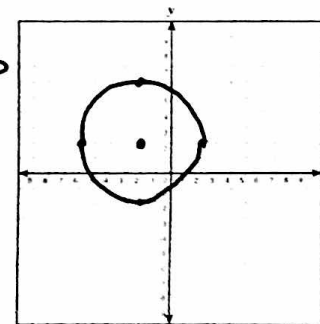
$$C: (1, -1) \quad r = 4$$

$$(x - 1)^2 + (y + 1)^2 = 16$$

13. Graph $(x + 2)^2 + (y - 2)^2 = 16$ in the coordinate plane at right.

$$C: (-2, 2)$$

$$r = 4$$



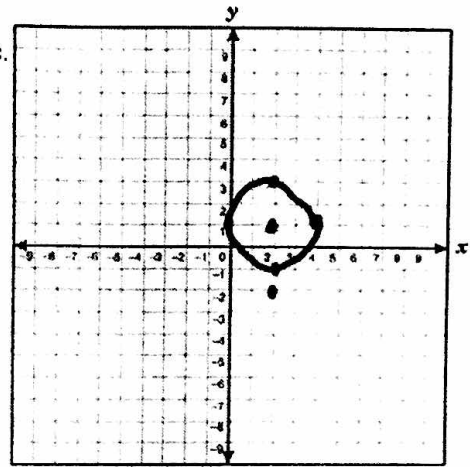
14. Rewrite the equation of the circle in standard form. Then graph the circle.

$$x^2 + y^2 - 4x - 2y = -1$$

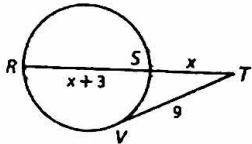
$$x^2 - 4x + \frac{4}{+4} + y^2 - 2y + \frac{1}{+1} = -1 + \frac{4}{+4} + \frac{1}{+1}$$

$$(x-2)(x-2) + (y-1)(y-1) = 4$$

$$(x-2)^2 + (y-1)^2 = 4$$



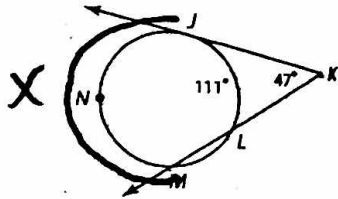
15. Find the value of x . Round to hundredth.



$$(x+x+3)(x) = 9^2$$

$$(2x+3)(x) = 81 \quad \text{*see next pg.}$$

16. Find $m\widehat{LM}$



$$47 = \frac{1}{2}(x - 111)$$

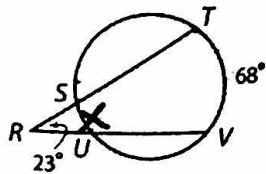
$$94 = x - 111$$

$$x = 205$$

$$m\widehat{ML} = 360 - 111 - 205$$

$$\boxed{m\widehat{ML} = 44^\circ}$$

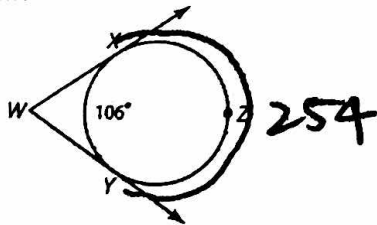
17. Find $m\widehat{SU}$



$$23 = \frac{1}{2}(68 - x)$$

$$46 = 68 - x \rightarrow \boxed{x = 22}$$

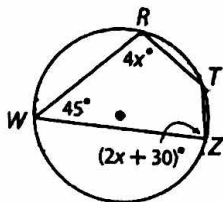
18. Find $m\angle W$



$$m\angle W = \frac{1}{2}(254 - 106)$$

$$\boxed{m\angle W = 74^\circ}$$

19. Find $m\angle R$



$$4x + 2x + 30 = 180$$

$$6x = 150$$

$$x = 25$$

$$\boxed{m\angle R = 100^\circ}$$

15

$$2x^2 + 3x = 81$$

$$2x^2 + 3x - 81 = 0$$

$$x = \frac{-3 \pm \sqrt{3^2 - 4(2)(-81)}}{2(2)}$$

$$x = \frac{-3 \pm \sqrt{9 + 648}}{4}$$

$$x = \frac{-3 \pm \sqrt{657}}{4}$$

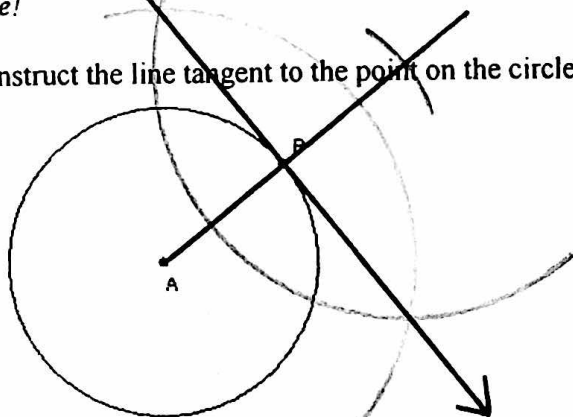
$$x = \frac{-3 + \sqrt{657}}{4}$$

$$x \approx 5.66$$

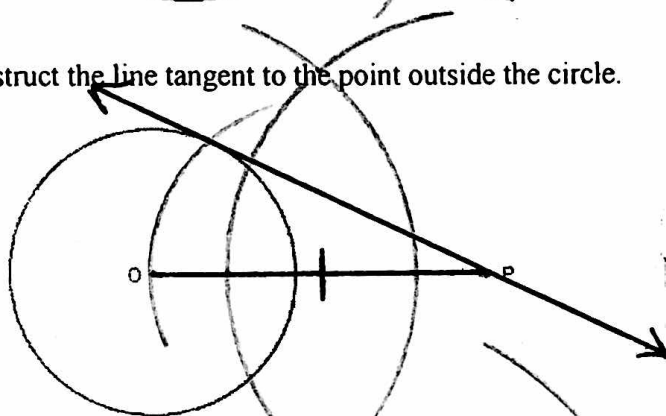
* not the "-" b/c
cannot have
negative
lengths!

20. Complete the following constructions! You can find YouTube links on the classroom calendar. *Remember, for the construction of a circle through 3 noncollinear points, it is the construction for the CIRCUMCENTER of a triangle!*

- a. Construct the line tangent to the point on the circle.



- b. Construct the line tangent to the point outside the circle.



- c. Construct the circle that passes through all three points given.

