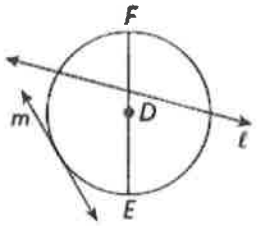
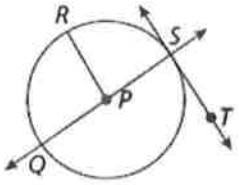
Name: Key Block: _____ Date: _____

Geometry 10.1 – 10.5 Review

1. Use the circles to find an example of each:

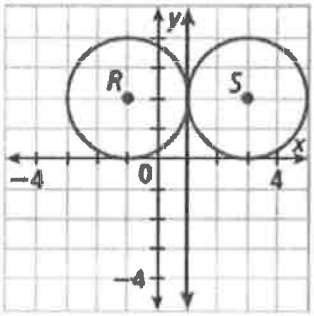


   a. Chord $\overline{EF}$
   Radius $\overline{DE}$, $\overline{DF}$
   Diameter $\overline{EF}$
   Secant ℓ
   Tangent m



   b. Chord $\overline{QS}$
   Radius $\overline{RP}$
   Diameter $\overline{QS}$
   Secant $\overleftrightarrow{QT}$
   Tangent $\overleftrightarrow{ST}$

2. Use the picture to the right to determine:



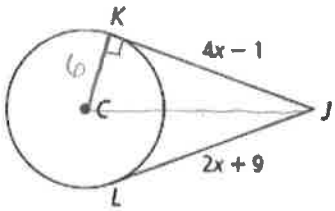
   Radius of Circle R 2

   Radius of Circle S 2

   Point of Tangency (1, 2)

   Equation of Tangent Line $x = 1$

3. JK and JL are tangent to Circle C. Use the figure to the right to find:

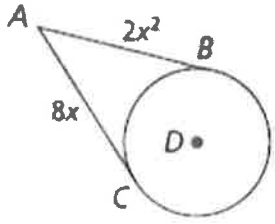


   a. JK $4x - 1 = 2x + 9$
   $-2x \quad -2x$
   $2x - 1 = 9$
   $+1 \quad +1$
   $2x = 10$
   $x = 5$
   $4(5) - 1$
   $JK = 19$

   b. Using your answer from part a, if the radius is 6, find JC.

   $6^2 + 19^2 = c^2$
   $\sqrt{397} = c^2$
   $c = 19.92$

4. AB and AC are tangent to Circle D. Find the length of AB.

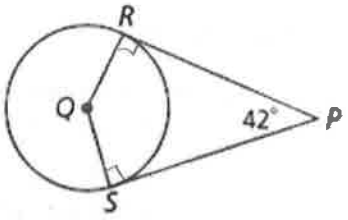


   $2x^2 = 8x$
   $-8x \quad -8x$
   $2x^2 - 8x = 0$
   $2x(x - 4) = 0$
   $2x = 0 \quad x - 4 = 0$
   $x = 0 \quad x = 4$
   $2(4)^2 = 2(16) = 32$
   $AB = 32$

5. Find $m\angle Q$.

$m\angle Q = 180 - 42$

$m\angle Q = 138°$



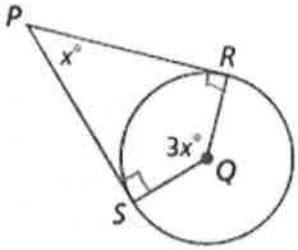
6. Find $m\angle P$.

$x + 3x = 180$

$4x = 180$

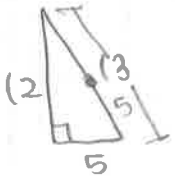
$x = 45$

$m\angle P = 45°$

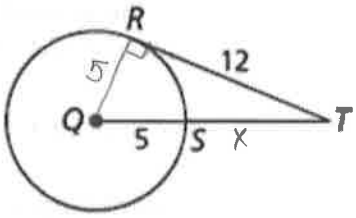


7. RT is tangent to Circle Q. Find ST.

5, 12, 13



$ST = 8$



8. Find each measure:

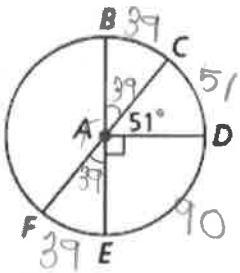
$m\angle BAC$ $90 - 51 = 39°$

$m\widehat{FE}$ $= 39°$

$m\widehat{BFE}$ $= 180°$

$m\angle BAF$

$180 - 39 = 141°$



9. Find QR.

$6y = 8y - 8$

$-8y \quad -8y$

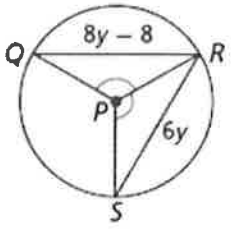
$-2y = -8$

$y = 4$

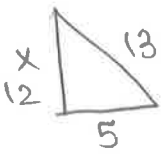
$8(4) - 8$

$32 - 8$

$QR = 24$



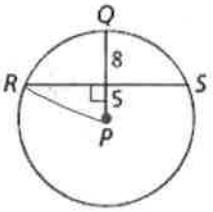
10. Find RS.



5, 12, 13

12 + 12 = 24

RS = 24



11. Find $m\widehat{JL}$.

4x − 2 + 7x − 18 + 6x + 6 = 360

17x − 14 = 360

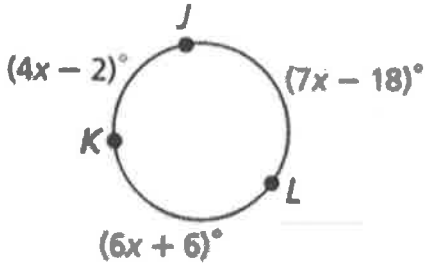
+14 +14

17x = 374

x = 22

7(22) − 18

$m\widehat{JL}$ = 136



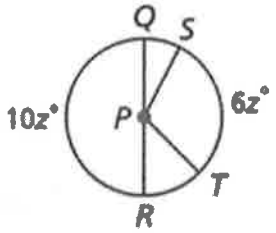
12. Find $\angle SPT$.

10z = 180

z = 18

6(18) = 108

m∠SPT = 108°

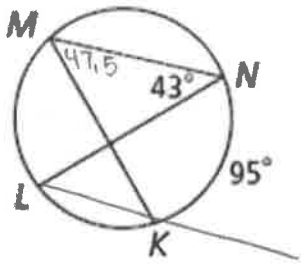


13. Find the following:

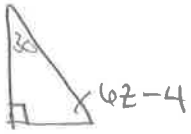
$m\widehat{ML}$ 43(2) = 86°

$m\angle NMK$ $\frac{1}{2}(95)$ = 47.5°

$m\angle NLK$ $\frac{1}{2}(95)$ = 47.5°



14. Solve for z.



6z − 4 + 30 = 90

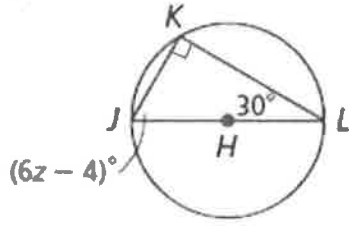
6z + 26 = 90

−26 −26

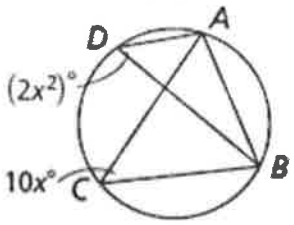
6z = 64

z = 10.67

$\frac{32}{3}$



15. Find $m\widehat{AB}$.



$2x^2 = 10x$

$-10x \quad -10x$

$2x^2 - 10x = 0$

$2x(x-5) = 0$

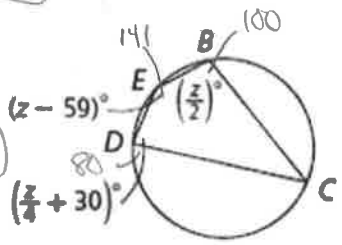
$2x = 0 \quad x - 5 = 0$

$x = 0 \quad x = 5$

$10(5) = 50$

$m\widehat{AB} = 2(50) = 100°$

16. Find $m\angle DCB$.



$\frac{z}{2} + \frac{z}{4} + 30 = 180$

$-30 \quad -30$

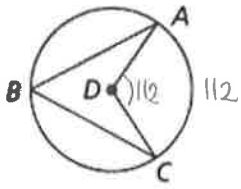
$0.75z = 150$

$z = 200$

$360 - (80 + 141 + 100)$

$m\angle DCB = 39°$

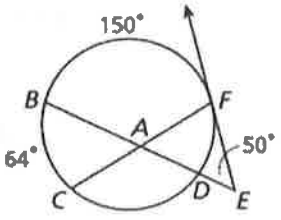
17. Find $m\angle ABC$ if $m\angle ADC = 112°$



$m\angle ABC = \frac{1}{2}(112)$

$= 56°$

18. Find the following:



$m\widehat{DF}$ $\quad 50 = \frac{1}{2}(150 - x)$

$50 = 75 - 0.5x$

$m\widehat{CD}$ $\quad -25 = -0.5x$

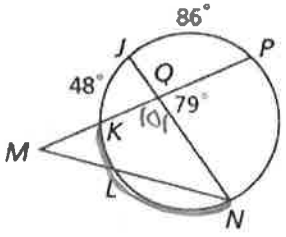
$x = 50$

$m\widehat{DF} = 50°$

$360 - (150 + 50 + 64) = 96$

$m\widehat{CD} = 96°$

19. Find the following:



$m\widehat{PN}$ $\quad 79 = \frac{1}{2}(x + 48)$

$79 = 0.5x + 24$

$m\widehat{KN}$ $\quad 55 = 0.5x$

$x = 110$

$m\widehat{PN} = 110°$

$180 - 79 = 101$

$101 = \frac{1}{2}(x + 86)$

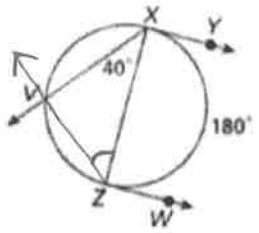
$101 = 0.5x + 43$

$\frac{58}{0.5} = \frac{0.5x}{0.5} \quad x = 116$

$m\widehat{KN} = 116°$

20. Find the following:

$m\angle XZW$ = 90° XZ is diameter b/c $\overset{\frown}{XZ} = 180°$ so $\overrightarrow{ZW}$ is tangent line



$m\overset{\frown}{XZV}$

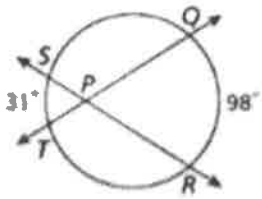
$m\overset{\frown}{XZ} = 80$

$m\overset{\frown}{XZV} = 180 + 80 = 260°$

21. Find $m\angle QPR$

$m\angle QPR = \frac{1}{2}(98 + 31)$

$= 64.5°$

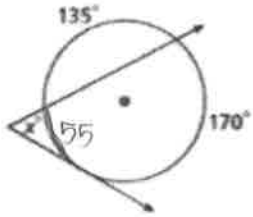


22. Solve for x.

$360 - (135 + 170)$

$x = \frac{1}{2}(170 - 55)$

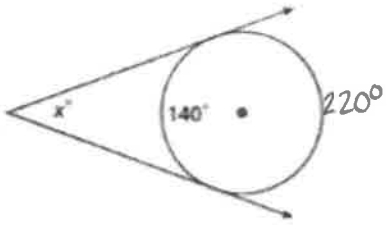
$= 57.5°$



23. Solve for x. $360 - 140 = 220$

$x = \frac{1}{2}(220 - 140)$

$= 40°$



24. Find the following:

$m\overset{\frown}{EG}$ $m\angle EJG = 91$

$91 = \frac{1}{2}(x + 137)$

$91 = 0.5x + 68.5$

$0.5x = 22.5$

$x = 45$

$m\overset{\frown}{EG} = 45°$

$m\overset{\frown}{DE}$

$89 = \frac{1}{2}(x + 61)$

$89 = 0.5x + 30.5$

$\frac{58.5}{0.5} = \frac{0.5x}{0.5}$ $x = 117$

$m\overset{\frown}{DE} = 117°$