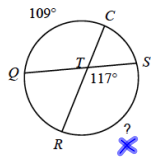
Practice Solutions 11.4

Find the measure of the arc or angle indicated. Assume that lines which appear tangent are tangent.

11.4 Practice Solutions

1)



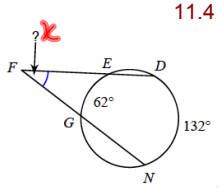
$117 = \frac{1}{2}(109 + x)$

$117 = 54.5 + \frac{1}{2}x$

$62.5 = \frac{1}{2}x$

$125 = x$

2)

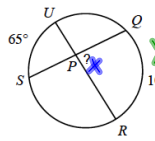


$x = \frac{1}{2}(132 - 62)$

$x = \frac{1}{2}(70)$

$x = 35°$

3)

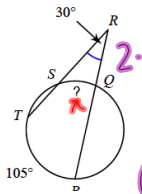


$x = \frac{1}{2}(65 + 103)$

$x = \frac{1}{2}(168)$

$x = 84°$

4)

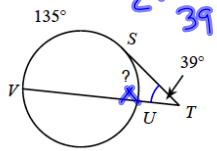


$2 \cdot 30 = \frac{1}{2}(105 - x) \cdot 2$

$60 = 105 - x$

$x = 45$

5)

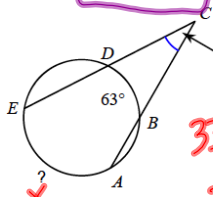


$2 \cdot 39 = \frac{1}{2}(135 - x) \cdot 2$

$78 = 135 - x$

$x = 57°$

6)

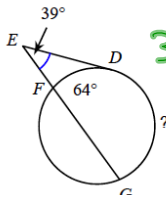


$33 = \frac{1}{2}(x - 63)$

$33 = \frac{1}{2}x - 1$

$129 = x$

7)



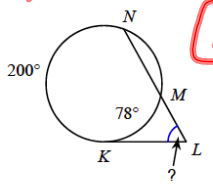
$39 = \frac{1}{2}(x - 64)$

$139 = \frac{1}{2}x - 32$

$71 = \frac{1}{2}x$

$x = 142$

8)



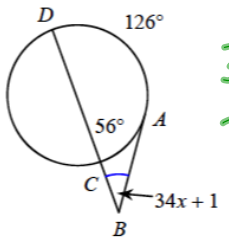
$x = \frac{1}{2}(200 - ?)$

$x = \frac{1}{2}(122)$

$x = 61°$

Solve for *x*. Assume that lines which appear tangent are tangent.

9)



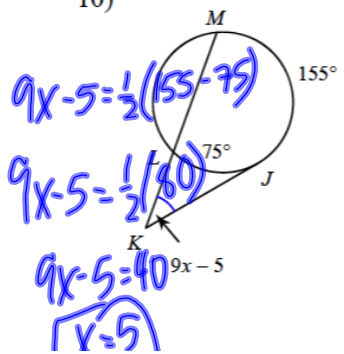
$34x + 1 = \frac{1}{2}(126 - 56)$

$34x + 1 = \frac{1}{2}(70)$

$34x + 1 = 35$

$x = 1$

10)



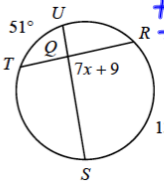
$9x - 5 = \frac{1}{2}(155 - 75)$

$9x - 5 = \frac{1}{2}(80)$

$9x - 5 = 40$

$x = 5$

11)



$7x + 9 = \frac{1}{2}(51 + 135)$

$7x + 9 = 93$

$7x = 84$

$x = 12$

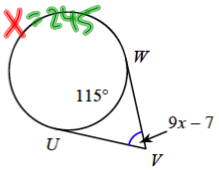
$9x - 7 = \frac{1}{2}(245 - 115)$

$9x - 7 = 65$

$9x = 72$

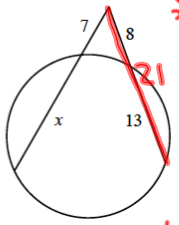
$x = 8$

12)



$x = 245$

13)



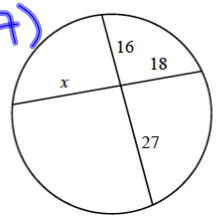
$7(x + 7) = 8(21)$

$7x + 49 = 168$

$7x = 119$

$x = 17$

14)

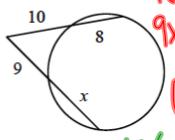


$18x = 16(27)$

$18x = 432$

$x = 24$

15)



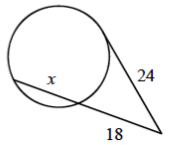
$9(x + 9) = 10(18)$

$9x + 81 = 180$

$9x = 99$

$x = 11$

16)



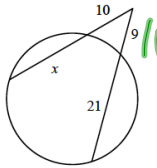
$18(x + 18) = 24^2$

$18x + 324 = 576$

$18x = 252$

$x = 14$

17)

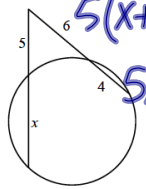


$10(x + 10) = 9(9 + 21)$

$10x + 100 = 270$

$x = 17$

18)



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

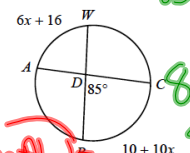
$5x + 25 = 60$

$5x = 35$

$x = 7$

Find the measure of the arc or angle indicated. Assume that lines which appear tangent are tangent.

19) Find $m\overset{\frown}{AW}$



$85 = \frac{1}{2}(6x + 16 + 10 + 10x)$

$85 = \frac{1}{2}(16x + 26)$

$85 = 8x + 13$

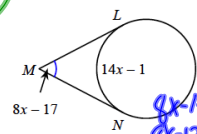
$72 = 8x$

$9 = x$

$m\overset{\frown}{AW} = 6(9) + 16$

$= 70°$

20) Find $m\angle NML$



Use Parenthesis!

$m\angle NML = 8(9) - 17$

$= 55°$

$8x - 17 = \frac{1}{2}(27x - 8 - (14x - 1))$

$8x - 17 = \frac{1}{2}(27x - 8 - 14x + 1)$

$8x - 17 = \frac{1}{2}(13x - 7)$

$8x - 17 = 6.5x - 3.5$

$1.5x = 13.5$

$x = 9$