

Chapter 9 Review

Solve for x and y .

1)

$$x + 73 + 8y - 13 = 180$$

$$x + 8y = 107$$

$$x = -8y + 107$$

$$2x + 102 + 5y + 3 = 180$$

$$2x + 5y = 75$$

$$2(-8y + 107) + 5y = 75$$

$$-16y + 214 + 5y = 75$$

$$-11y = -139$$

$$y = 12.64$$

$$x = -8(12.64) + 107 = -97.12 + 107 = 9.88$$

$x = 9.88$ $y = 12.64$

2)

$$y + 55 + 10x - 5 = 180$$

$$10x + y = 130$$

$$5x + 4 + 2y + 111 = 180$$

$$5x + 2y = 65$$

$$-20x - 2y = -260$$

$$\hline -15x = -195$$

$$x = 13$$

$$y = 0$$

Find the measure of the arc or central angle indicated. Assume that lines which appear to be diameters are actual diameters.

3) $m\angle IEJ$

$$7x - 1 = 6x + 7$$

$$x = 8$$

$$7(8) - 1 = 55$$

$m\angle IEJ = 55$

4) $m\widehat{WX}$

$$13x + 5 + 9x - 1 = 180$$

$$22x + 4 = 180$$

$$22x = 176$$

$$x = 8$$

$$9(8) - 1 = 71$$

$$180 - 142 = 38$$

Find the length of the segment indicated. Round your answer to the nearest tenth if necessary.

5)

$$15.7^2 + y^2 = 17.5^2$$

$$246.49 + y^2 = 306.25$$

$$y^2 = 59.76$$

$$y = 7.73$$

$$17.5 - 7.73 = 9.8$$

6)

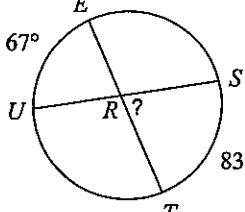
$$18.3^2 - 15.2^2 = y^2$$

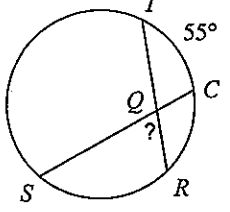
$$103.85 = y^2$$

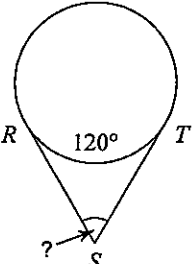
$$10.2 = y$$

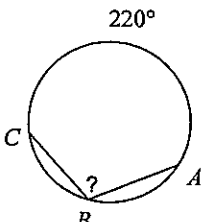
$$18.3 - 10.2 = 8.1$$

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

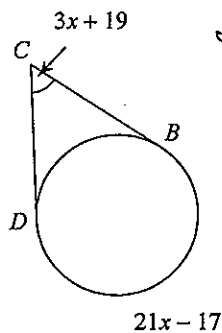
7) 
$$\frac{67 + 83}{2} = \boxed{75}$$

8) 
$$\frac{55 + 85}{2} = \boxed{70}$$

9) 
$$\frac{240 - 120}{2} = \boxed{60}$$

10) 
$$\frac{1}{2}(220) = \boxed{110}$$

11) Find $m\angle BCD$



12) Find $m\angle QPR$

$$360 - 21x + 17 = 21x - 17 - (360 - (21x - 17))$$

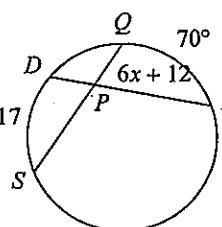
$$6x + 38 = 21x - 17 - (377 - 21x)$$

$$6x + 38 = 42x - 394$$

$$432 = 36x$$

$$12 = x$$

$m\angle BCD = 55$



$$\frac{5x + 17 + 70}{2} = 6x + 12$$

$$\frac{5x + 87}{2} = 6x + 12$$

$$5x + 87 = 12x + 24$$

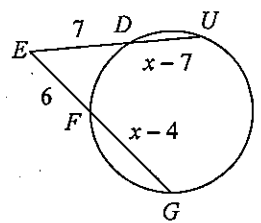
$$63 = 7x$$

$$9 = x$$

$$m\angle QPR = 6(9) + 12 = \boxed{66}$$

Find the measure of the line segment indicated. Assume that lines which appear tangent are tangent.

13) Find GE



$$6(6 + x - 4) = 7(7 + x - 7)$$

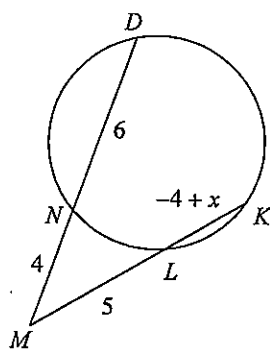
$$6(x + 2) = 7(x)$$

$$6x + 12 = 7x$$

$$12 = x$$

$$6 + 8 = \boxed{14}$$

14) Find KL



$$4(10) = 5(5 + -4 + x)$$

$$40 = 5(1 + x)$$

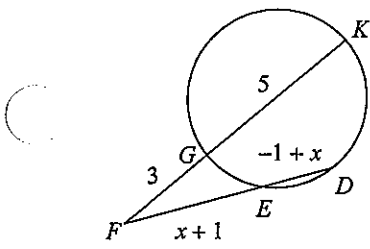
$$40 = 5 + 5x$$

$$35 = 5x$$

$$7 = x$$

$$-4 + 7 = \boxed{3}$$

15) Find EF



$EF = 4$

3(8) = x+1(x+1+(-1+x)) Find KQ

$$24 = x+1(2x)$$

$$24 = 2x^2 + 2x$$

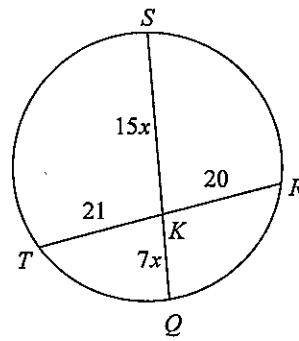
$$2x^2 + 2x - 24 = 0$$

$$2(x^2 + x - 12) = 0$$

$$2(x+4)(x-3) = 0$$

$$x = -4, 3$$

$15x(7x) = 21(20)$



$$105x^2 = 420$$

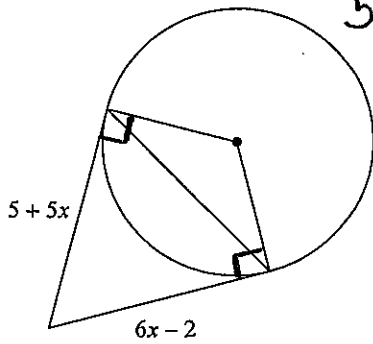
$$x^2 = 4$$

$$x = \pm 2$$

$KQ = 7(2) = 14$

Solve for x . Assume that lines which appear to be tangent are tangent.

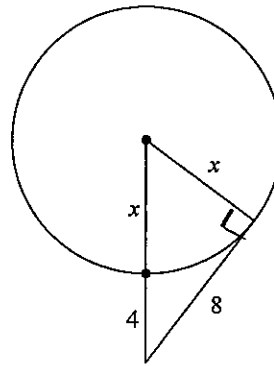
17)



$5+5x = 6x-2$

$7 = x$

18)



$$x^2 + 8^2 = (x+4)^2$$

$$x^2 + 64 = x^2 + 8x + 16$$

$$64 = 8x + 16$$

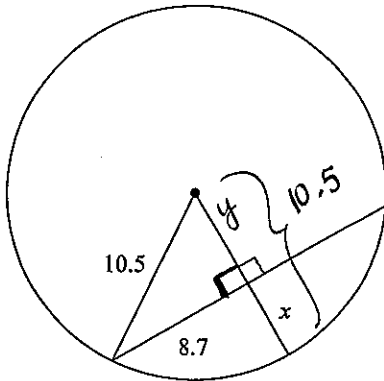
$$48 = 8x$$

$6 = x$

Find the length of the segment indicated. Round your answer to the nearest tenth if necessary.

19)

4.6



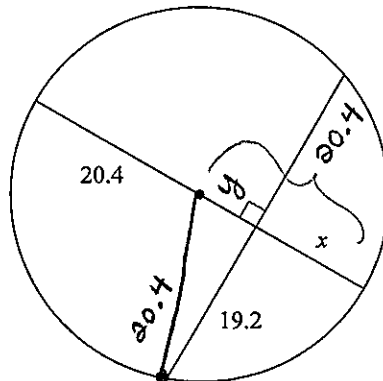
$$10.5^2 = 8.7^2 + y^2$$

$$5.88 = y$$

$$x = 10.5 - 5.9 = 4.6$$

20)

13.5



$$20.4^2 = 19.2^2 + y^2$$

$$47.52 = y^2$$

$$6.9 = y$$

$$x = 20.4 - 6.9$$

$x = 13.5$

