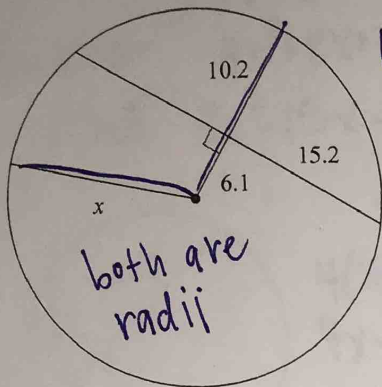


Segments in Circles

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

Key

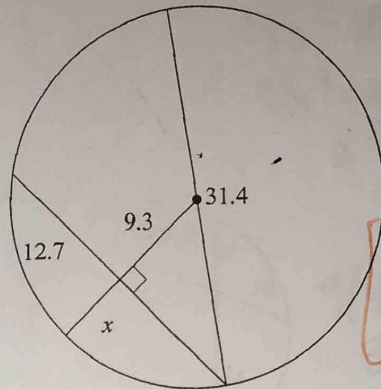
1)



$$6.1 + 10.2$$

$$x = 16.3$$

2)

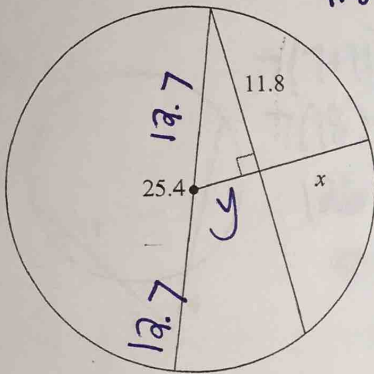


$$\frac{31.4}{2} = 15.7$$

$$x + 9.3 = 15.7$$

$$x = 6.4$$

3)



$$11.8^2 + y^2 = 12.7^2$$

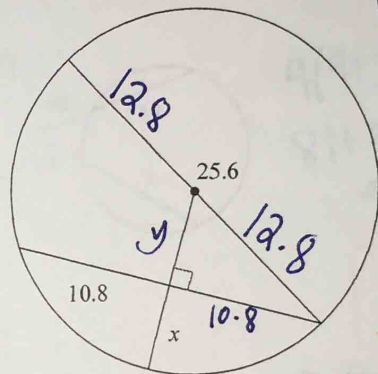
$$y^2 = 22.05$$

$$y \approx 4.7$$

$$4.7 + x = 12.7$$

$$x \approx 8$$

4)



$$10.8^2 + y^2 = 12.8^2$$

$$y^2 = 47.2$$

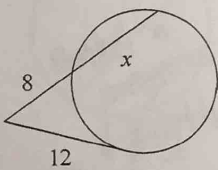
$$y \approx 6.9$$

$$x + 6.9 = 12.8$$

$$x = 5.9$$

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

5)



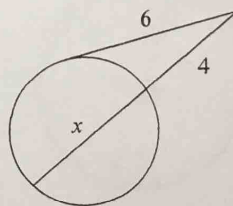
$$12^2 = 8(x+8)$$

$$144 = 8x + 64$$

$$80 = 8x$$

$$x = 10$$

6)



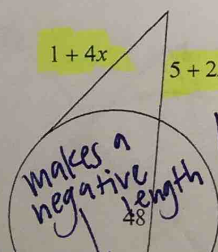
$$6^2 = 4(x+4)$$

$$36 = 4x + 16$$

$$20 = 4x$$

$$x = 5$$

7)



$$(1+4x)^2 = (5+2x)(5+2x+48)$$

$$16x^2 + 8x + 1 = (5+2x)(2x+53)$$

$$16x^2 + 8x + 1 = 10x + 265 + 4x^2 + 106x$$

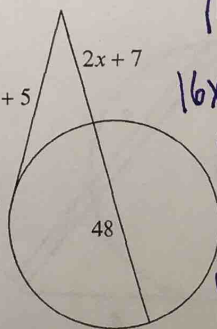
$$16x^2 + 8x + 1 = 4x^2 + 116x + 265$$

$$12x^2 - 108x - 264 = 0$$

$$x^2 - 9x - 22 = 0$$

$$x = 11$$

$$(x-11)(x+2) = 0$$



$$(4x+5)^2 = (2x+7)(2x+7+48)$$

$$16x^2 + 40x + 25 = (2x+7)(2x+55)$$

$$16x^2 + 40x + 25 = 4x^2 + 110x + 385$$

$$16x^2 + 40x + 25 = 4x^2 + 124x + 385$$

$$12x^2 - 84x - 360 = 0$$

$$x^2 - 7x - 30 = 0$$

$$(x-10)(x+3) = 0$$

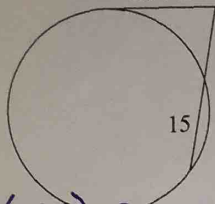
$$x = 10$$

$$x = 3$$

9)

$2x+2$

$$(2x+2)^2 = (x+4)(x+4+15) \quad 10)$$



$$4x^2 + 8x + 4 = (x+4)(x+19)$$

$$4x^2 + 8x + 4 = x^2 + 19x + 4x + 76$$

$$4x^2 + 8x + 4 = x^2 + 23x + 76$$

$$(x-8)(x+3) = 0$$

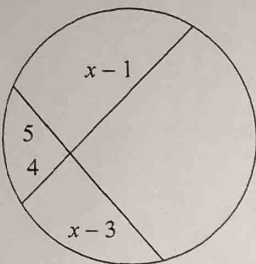
$$x = 8$$

$$x = -3$$

$$3x^2 - 15x - 72 = 0$$

$$x^2 - 5x - 24 = 0$$

11)

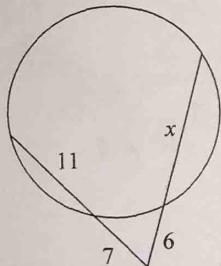


$$4(x-1) = 5(x-3)$$

$$4x - 4 = 5x - 15$$

$$11 = x$$

13)



$$7(7+11) = 6(6+x)$$

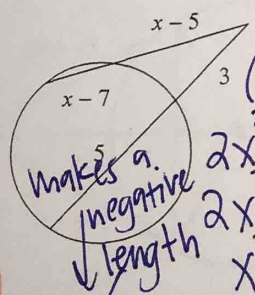
$$7(18) = 6(6+x)$$

$$126 = 36 + 6x$$

$$90 = 6x$$

$$x = 15$$

15)



$$(x-5)(x-5+x-7) = 3(3+5) \quad 6)$$

$$(x-5)(2x-12) = 3(8)$$

$$2x^2 - 12x - 10x + 60 = 24$$

$$2x^2 - 22x + 36 = 0$$

$$x^2 - 11x + 18 = 0$$

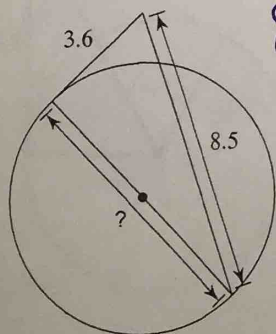
$$(x-9)(x-2) = 0$$

$$x = 9$$

$$x = 2$$

Find the segment length indicated. Assume that lines which appear to be tangent are tangent.

17)



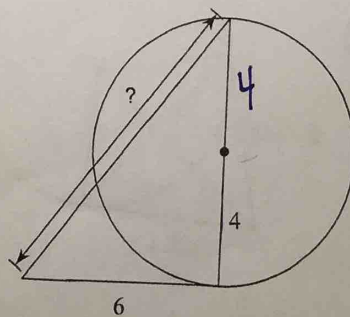
$$8.5^2 = 3.6^2 + x^2$$

$$72.25 = 12.96 + x^2$$

$$59.29 = x^2$$

$$x = 7.7$$

18)



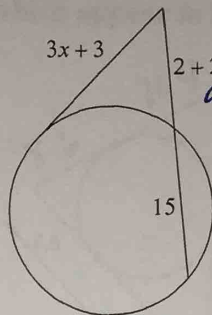
$$6^2 + 4^2 = x^2$$

$$36 + 16 = x^2$$

$$52 = x^2$$

$$x = 7.2$$

$$(3x+3)^2 = (2+2x)(2+2x+15)$$



$$9x^2 + 18x + 9 = (2+2x)(2+2x+15)$$

$$9x^2 + 18x + 9 = 4x + 34 + 4x^2 + 34x$$

$$9x^2 + 18x + 9 = 4x^2 + 38x + 34$$

$$5x^2 - 20x - 25 = 0$$

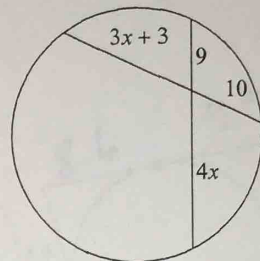
$$x^2 - 4x - 5 = 0$$

$$(x-5)(x+1) = 0$$

$$x = 5$$

$$x = -1$$

12)



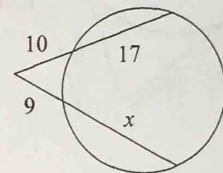
$$9(4x) = 10(3x+3)$$

$$36x = 30x + 30$$

$$6x = 30$$

$$x = 5$$

14)



$$9(9+x) = 10(27)$$

$$81 + 9x = 270$$

$$9x = 189$$

$$x = 21$$

$$2x(2x+x) = 3(3+5)$$

$$2x(3x) = 3(8)$$

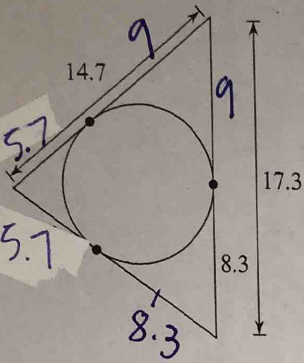
$$6x^2 = 24$$

$$x^2 = 4$$

$$x = 2$$

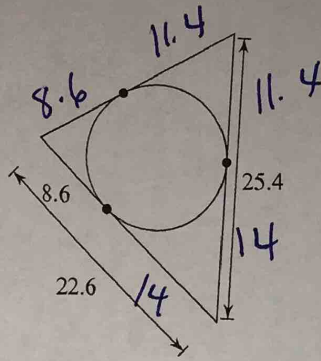
Find the perimeter of each polygon. Assume that lines which appear to be tangent are tangent.

19)



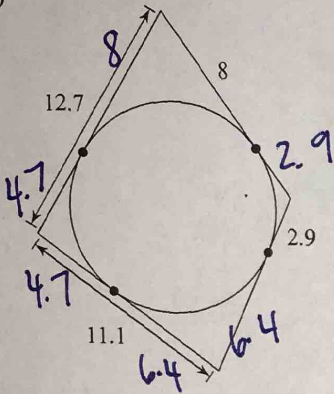
46

20)



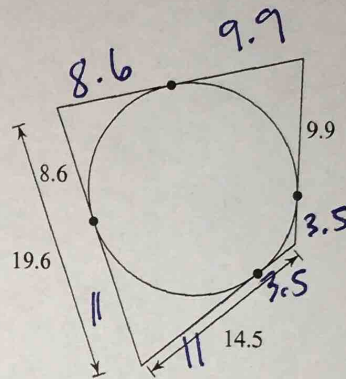
68

21)



44

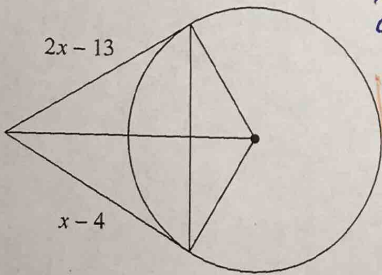
22)



66

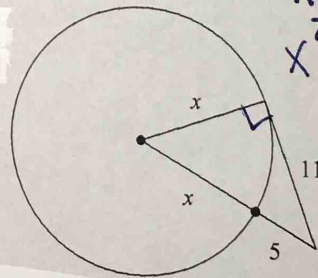
Solve for x . Assume that lines which appear to be tangent are tangent.

23)



$$2x-13 = x-4$$

$x=9$



$$x^2 + 11^2 = (x+5)^2$$

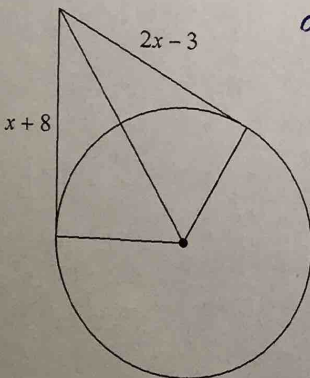
$$x^2 + 121 = x^2 + 10x + 25$$

$$121 = 10x + 25$$

$$96 = 10x$$

$x=9.6$

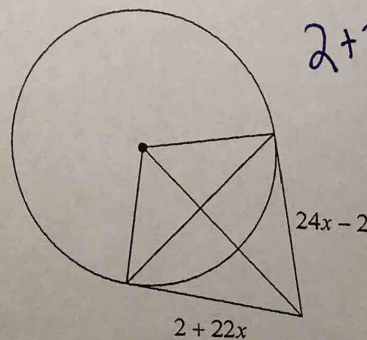
25)



$$2x-3 = x+8$$

$x=11$

26)



$$2+22x = 24x-2$$

$$4 = 2x$$

$x=2$