

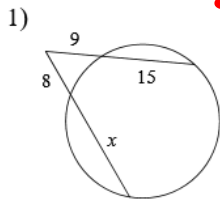
Geometry

Name _____ ID: 1

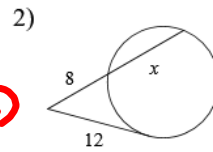
Secants and Tangents

Date _____ Period _____

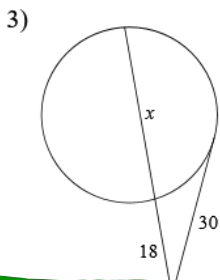
Solve for x . Assume that lines which appear tangent are tangent.



Secant Secant
 $OW = OW$
 $9(24) = 8(8+x)$
 $216 = 64 + 8x$
 $-64 \quad -64$
 $\frac{152}{8} = \frac{8x}{8}$
 $x = 19$

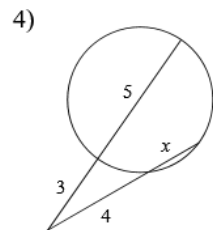


Sec tan
 $OW = tan^2$
 $8(8+x) = 12^2$
 $64 + 8x = 144$
 $-64 \quad -64$
 $\frac{8x}{8} = \frac{80}{8}$
 $x = 10$



$x = 32$

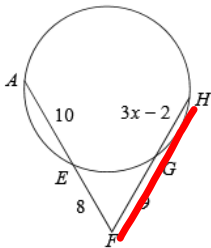
Sec tan
 $OW = tan^2$
 $18(18+x) = 30^2$
 $324 + 18x = 900$
 $-324 \quad -324$
 $\frac{18x}{18} = \frac{576}{18}$
 $x = 32$



Sec Sec
 $OW = OW$
 $3(8) = 4(x+4)$
 $24 = 4x + 16$
 $-16 \quad -16$
 $\frac{8}{4} = \frac{4x}{4}$
 $x = 2$

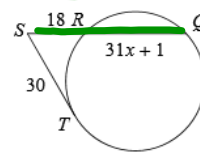
Find the measure of the line segment indicated. Assume that lines which appear tangent are tangent.

5) Find HF



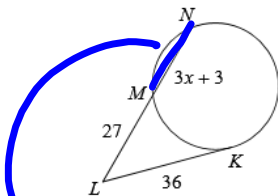
$x = 3$
 $HF = 9 + 3x - 2$
 $= 9 + 3(3) - 2$
 $= 9 + 9 - 2$
 $HF = 16$

6) Find SQ



Sec tan
 $OW = tan^2$
 $18(18 + 31x + 1) = 30^2$
 $18(19 + 31x) = 900$
 $342 + 558x = 900$
 $-342 \quad -342$
 $\frac{558x}{558} = \frac{558}{558}$
 $x = 1$

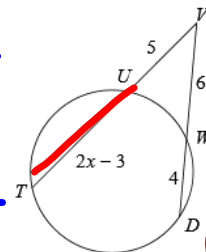
7) Find MN



$MN = 3(6) + 3$
 $= 18 + 3$
 $MN = 21$

Sec tan
 $OW = tan^2$
 $(27)(27 + 3x + 3) = 36^2$
 $27(30 + 3x) = 1296$
 $810 + 81x = 1296$
 $-810 \quad -810$
 $\frac{81x}{81} = \frac{486}{81}$
 $x = 6$

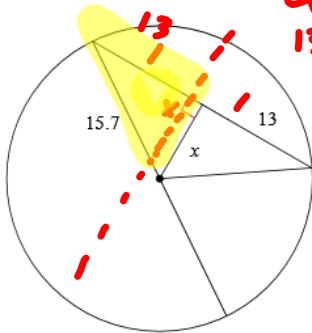
8) Find TU



$SQ = 19 + 31x$
 $= 19 + 31(1)$
 $SQ = 50$
 $x = 5$
 $TU = 7$

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

9)



$$a^2 + b^2 = c^2$$

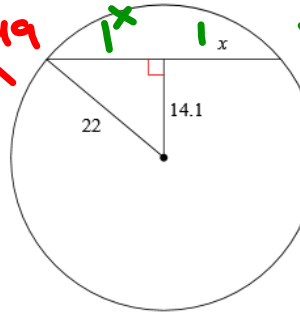
$$13^2 + x^2 = 15.7^2$$

$$169 + x^2 = 246.49$$

$$-169 \quad -169$$

$$\hline \sqrt{x^2} = \sqrt{77.49}$$

$$x = 8.8$$



$$a^2 + b^2 = c^2$$

$$x^2 + 14.1^2 = 22^2$$

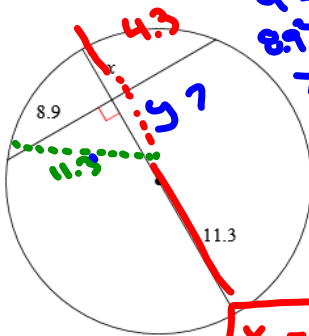
$$x^2 + 198.81 = 484$$

$$-198.81 \quad -198.81$$

$$\hline \sqrt{x^2} = \sqrt{285.19}$$

$$x = 16.9$$

11)



$$a^2 + b^2 = c^2$$

$$8.9^2 + x^2 = 11.3^2$$

$$79.21 + x^2 = 127.69$$

$$-79.21 \quad -79.21$$

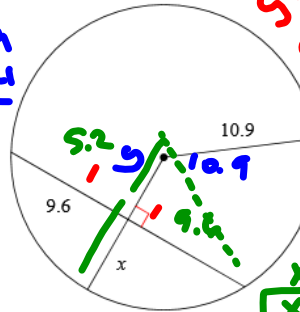
$$\hline \sqrt{x^2} = \sqrt{48.48}$$

$$x = 6.95$$

$$x \approx 7.0$$

$$x = 4.3$$

12)



$$a^2 + b^2 = c^2$$

$$x^2 + 9.6^2 = 10.9^2$$

$$x^2 + 92.16 = 118.81$$

$$-92.16 \quad -92.16$$

$$\hline \sqrt{x^2} = \sqrt{26.65}$$

$$x = 5.16$$

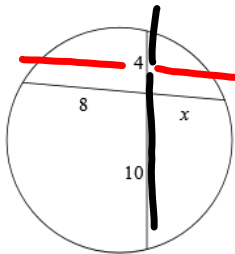
$$x \approx 5.2$$

$$x = 10.9 - 5.2$$

$$x = 5.7$$

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

13)

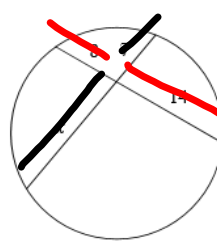


$$8x = 10(4)$$

$$8x = 40$$

$$x = 5$$

14)

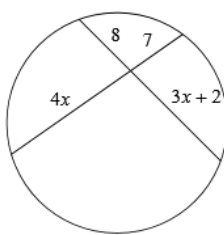


$$\frac{8(14)}{7} = \frac{7x}{7}$$

$$x = 16$$

oio

15)



$$8(3x+2) = 7(4x)$$

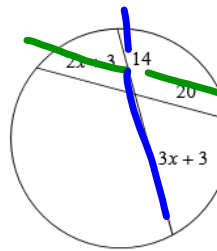
$$24x+16 = 28x$$

$$-24x \quad -24x$$

$$\hline 4x = 16$$

$$x = 4$$

16)



$$14(2x+3) = 20(2x+3)$$

$$42x+42 = 40x+60$$

$$-40x \quad -40x$$

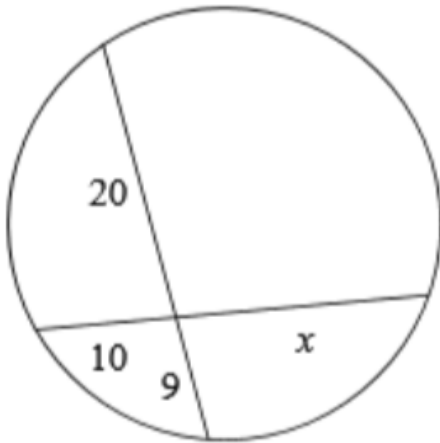
$$\hline 2x+42 = 60$$

$$-42 \quad -42$$

$$\hline 2x = 18$$

$$\frac{2x}{2} = \frac{18}{2}$$

$$x = 9$$



Find x . Say less.

Review for Segments In Circles

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

1) **Chord**
 $(Part)(Part) = (part)(part)$
 $9x = (6)(6)$
 $9x = 36$
 $x = 4$

2) $15(x-6) = 9(x-2)$
 $15x - 90 = 9x - 18$
 $-9x \quad -9x$
 $6x - 90 = -18$
 $+90 \quad +90$
 $6x = 72$
 $x = 12$

3) **Secant Secant**
 $OW = OW$
 $9(x+9) = 10(18)$
 $9x + 81 = 180$
 $-81 \quad -81$
 $9x = 99$
 $x = 11$

4) $x = 12$

5) $x = 11$

6) $x = 12$

7) **Secant Tangent**
 $OW = \tan^2$
 $8(18) = x^2$
 $\sqrt{144} = \sqrt{x^2}$
 $x = 12$

8) $x = 12$

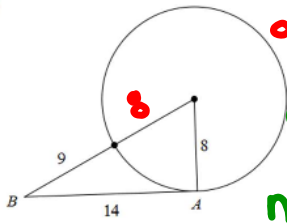
Find the perimeter of each polygon. Assume that lines which appear to be tangent are tangent.

9) $8.1 + 8.1 + 12.5 + 4.4 + 4.4 + 9 + 3.5 + 3.5 + 12.5 = 50$

10) $13 + 13 + 7.5 + 7.5 + 10.9 + 10.9 + 20.8 + 9.9 + 9.9 + 7.5 = 82.6$

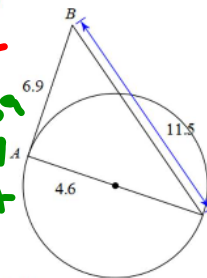
Determine if line AB is tangent to the circle.

11)



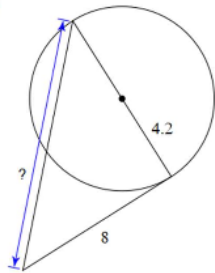
$a^2 + b^2 = c^2$
 $8^2 + 14^2 = 17^2$
 $64 + 196 = 260$
 $260 \neq 289$
 not tangent

12)

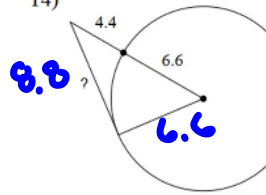


Find the segment length indicated. Assume that lines which appear to be tangent are tangent.

13)

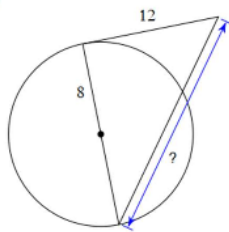


14)

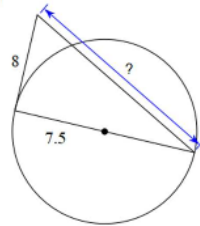


$a^2 + b^2 = c^2$
 $a^2 + 6.6^2 = 11^2$
 $a^2 + 43.56 = 121$
 $-43.56 \quad -43.56$
 $a^2 = 77.44$
 $a = 8.8$

15)

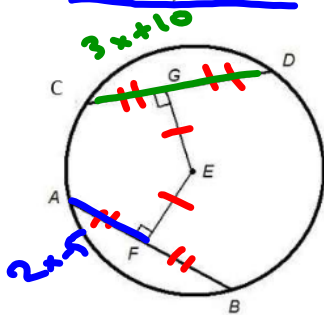


16)



17. If $EG \cong EF$, $CD = 3x + 10$, and $AF = 2x - 5$,

what is the length of AB ?



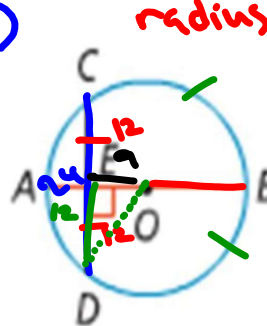
$3x + 10 = 2(2x - 5)$
 $3x + 10 = 4x - 10$
 $-3x \quad -3x$
 $10 = x - 10$
 $+10 \quad +10$
 $20 = x$

$AB = CD = 3(20) + 10$

$AB = 70$

18. If $\widehat{CB} \cong \widehat{DB}$, $m\widehat{DC} = 24$, and $m\widehat{OE} = 9$,

What is the $m\widehat{OB}$?



$a^2 + b^2 = c^2$
 $9^2 + 12^2 = c^2$
 $81 + 144$
 $\sqrt{225} = \sqrt{c^2}$
 $15 = c$

$OB = 15$

Answers to Review for Segments In Circles

1) 4

5) 4

9) 50

13) 11.6

2) 12

6) 11

10) 82.6

14) 8.8

3) 11

7) 12

11) Not tangent

15) 20

4) 11

8) 6

12) Tangent

16) 17

Geometry

Name _____

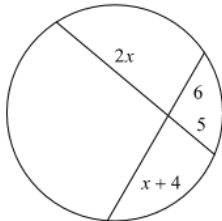
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Segments of Circles Review

Date _____ Period _____

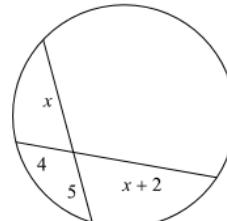
Solve for x . Assume that lines which appear tangent are tangent.

1)



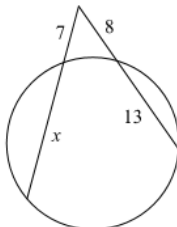
- A) 0 B) 6
- C) 5 D) 2

2)



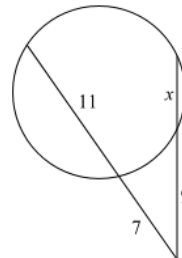
- A) 4 B) 3
- C) 12 D) 8

3)



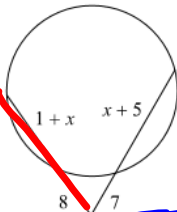
- A) 17 B) 22
- C) 23 D) 14

4)



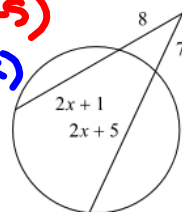
- A) 4 B) 5
- C) 7 D) 3

5)



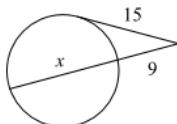
- A) 8 B) 12
- C) 6 D) 3

$OW = OW$
 $8(1+x+8) = 7(7+x+5)$
 $8(9+x) = 7(12+x)$
 $72 + 8x = 84 + 7x$
 $\quad -7x \quad -7x$
 $\hline 72 + x = 84$
 $\quad -72 \quad -72$
 $\hline \boxed{X = 12}$



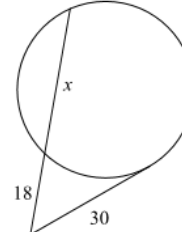
- A) 6 B) 2
- C) 1 D) 5

7)



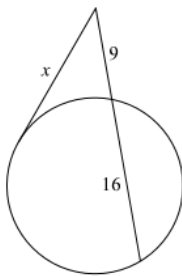
- A) 21 B) 18
- C) 19 D) 16

8)



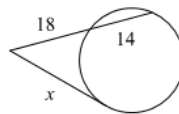
- A) 32 B) 33
- C) 22 D) 36

9)



- A) 8
- B) 3
- C) 10
- D) 15

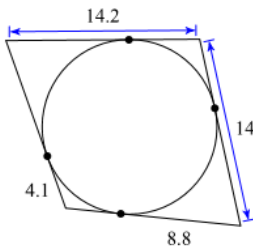
10)



- A) 8
- B) 24
- C) 0
- D) 5

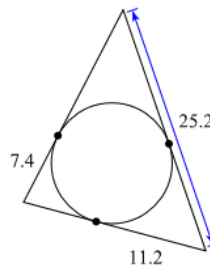
Find the perimeter of each polygon. Assume that lines which appear to be tangent are tangent.

11)



- A) 75.4
- B) 57.2
- C) 54.2
- D) 29.2

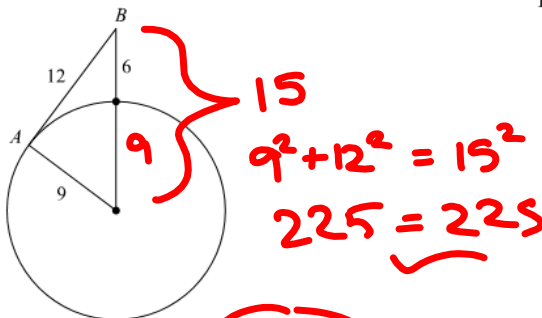
12)



- A) 89.8
- B) 82.1
- C) 39.4
- D) 65.2

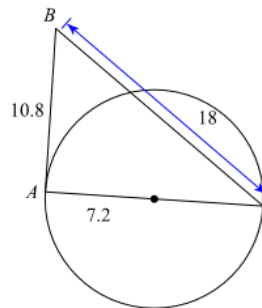
Determine if line AB is tangent to the circle.

13)



- A) Not tangent
- B) Tangent**

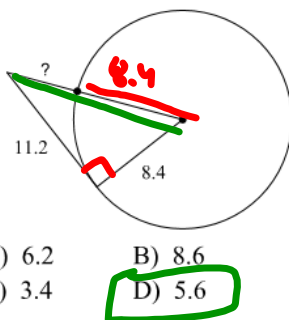
14)



- A) Not tangent
- B) Tangent

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

15)



- A) 6.2
- B) 8.6
- C) 3.4
- D) 5.6**

Handwritten red work for problem 15:

$$8.4^2 + 11.2^2 = c^2$$

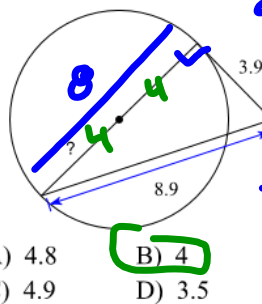
$$\sqrt{196} = \sqrt{c^2}$$

$$14 = c$$

$$\underline{-8.4}$$

$$5.6 = x$$

16)



- A) 4.8
- B) 4**
- C) 4.9
- D) 3.5

Handwritten blue work for problem 16:

$$a^2 + b^2 = c^2$$

$$3.9^2 + b^2 = 8.9^2$$

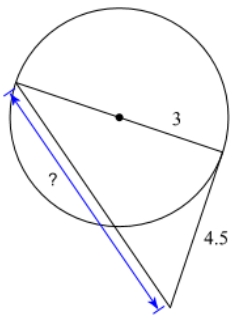
$$15.21 + b^2 = 79.21$$

$$\underline{-15.21} \quad \underline{-15.21}$$

$$\sqrt{b^2} = \sqrt{64}$$

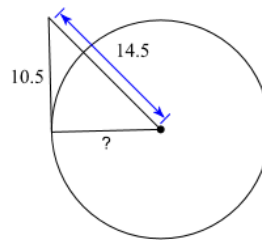
$$b = 8$$

17)



- A) 9.1
- B) 10.3
- C) 7.5
- D) 4.6

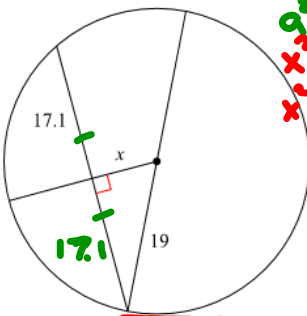
18)



- A) 6
- B) 15.8
- C) 14.8
- D) 10

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

19)



$$a^2 + b^2 = c^2$$

$$x^2 + 17.1^2 = 19^2$$

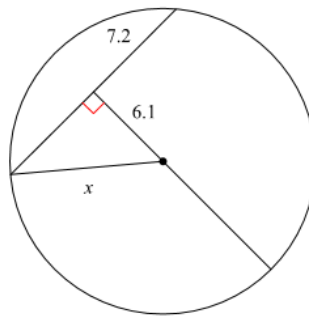
$$x^2 + 292.41 = 361$$

$$x^2 = 68.59$$

$$x = 8.3$$

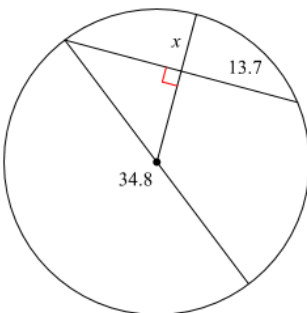
- A) 9.5
- B) 8.3**
- C) 7.6
- D) 10.5

20)



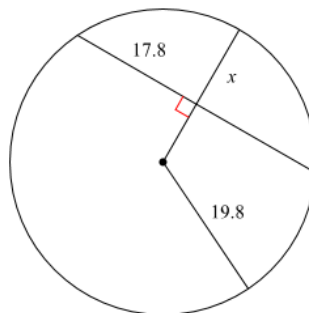
- A) 6
- B) 13.1
- C) 9.4
- D) 5.8

21)



- A) 6.2
- B) 4.8
- C) 7.4
- D) 6.7

22)



- A) 15.7
- B) 11.1
- C) 5.7
- D) 9

Answers to Segments of Circles Review

- | | | | |
|-------|-------|-------|-------|
| 1) B | 2) D | 3) A | 4) B |
| 5) B | 6) A | 7) D | 8) A |
| 9) D | 10) B | 11) C | 12) D |
| 13) B | 14) B | 15) D | 16) B |
| 17) C | 18) D | 19) B | 20) C |
| 21) D | 22) B | | |

