10.7 Notes

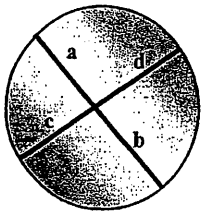
1)

Analytic Geometry
Chapter 10.7

Secant and Tangent Segment Measures

2)

Type 1: Two chords intersect INSIDE the circle

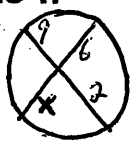


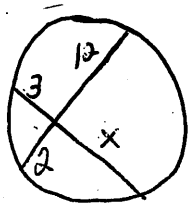
ab = cd

part • part = part • part

3)

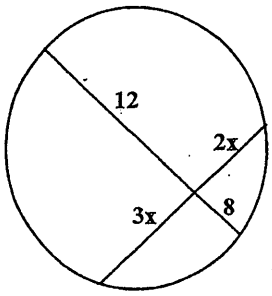
Example 1:





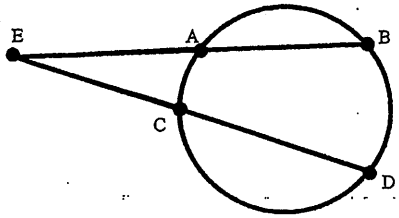
4)

Example 2: Find x



5)

Type 2: Two secants intersect OUTSIDE the circle

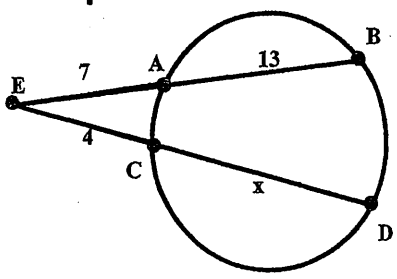


EA * EB = EC * ED

outside • whole = outside • whole

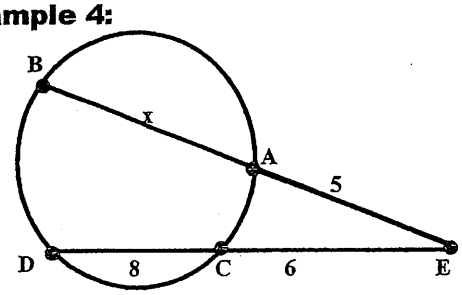
6)

Example 3:

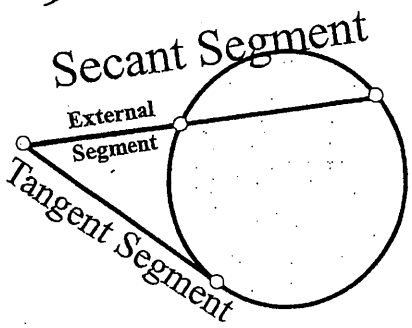


7)

Example 4:



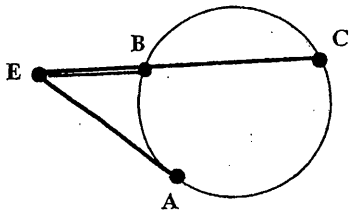
8)



Notice that on the tangent segment, the **outside is the whole!**

9)

Type 2 (with a twist): Secant and Tangent

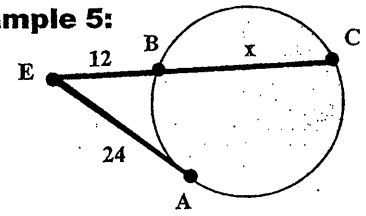


outside • whole = outside • whole

$$EA^2 = EB * EC$$

10)

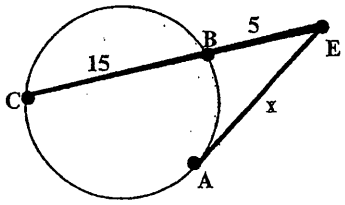
Example 5:



outside • whole = outside • whole

11)

Example 6:



outside • whole = outside • whole

12)

What you should know by now...

part • part = part • part

outside • whole = outside • whole

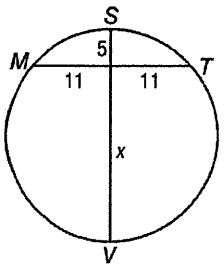
NAME _____ DATE _____ PERIOD _____

10-7 Practice
Special Segments in a Circle

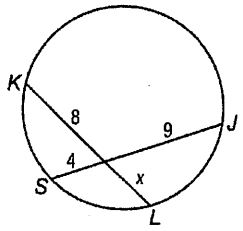
Recall Rules: 1) part * part = part * part
2) outside * whole = outside * whole

Find x. Assume that segments that appear to be tangent are tangent. Round to the nearest tenth if necessary.

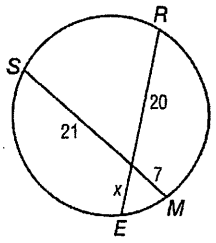
1.



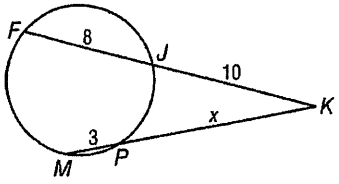
2.



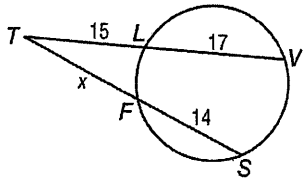
3.



4.



5.



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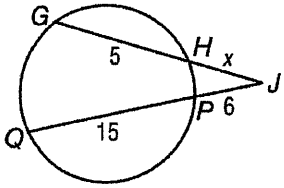

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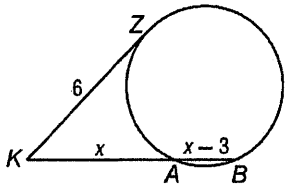

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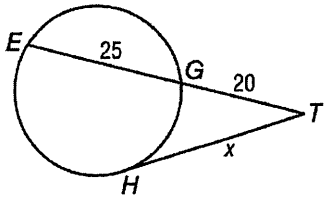
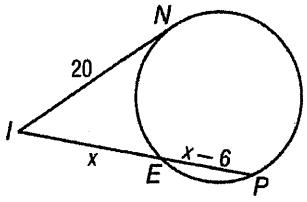
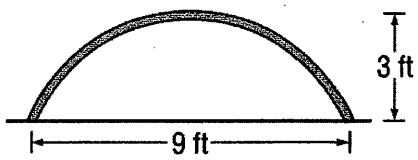


9.



10. CONSTRUCTION An arch over an apartment entrance is 3 feet high and 9 feet wide. Find the radius of the circle containing the arc of the arch.

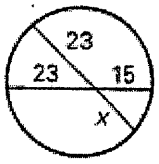


NAME _____ DATE _____ PERIOD _____

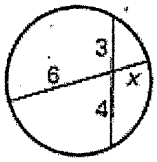
Recall Rules: 1) part * part = part * part
2) outside * whole = outside * whole

Find the value of *x*.

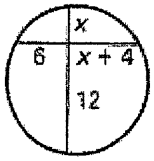
11.



12.

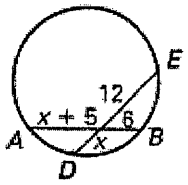


13.



Find *AB* and *DE*.

14.



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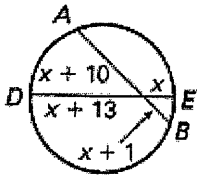

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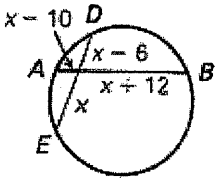
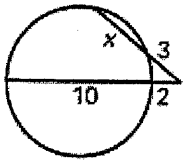


Find the value of *x*.

17.



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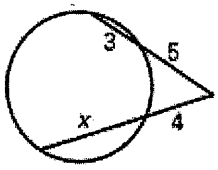

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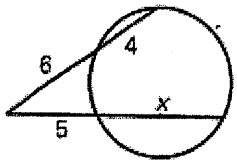
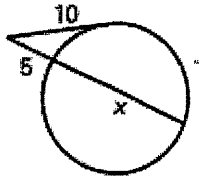


Find the value of *x*.

13.



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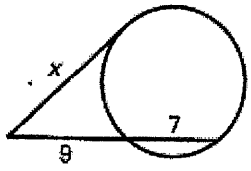

15.