

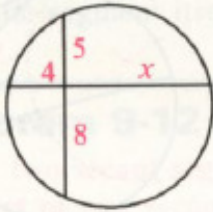
Name: \_\_\_\_\_

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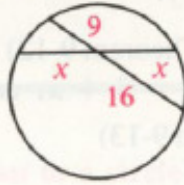
### Section 5.11 Power of a Point

Chords, secants, and tangents are shown. Find the value of  $x$ .

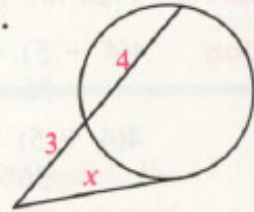
1.



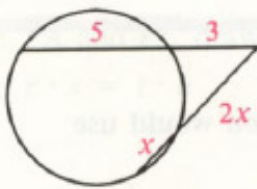
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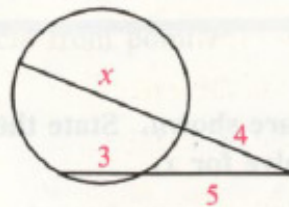
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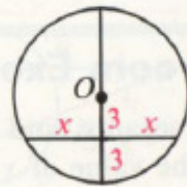
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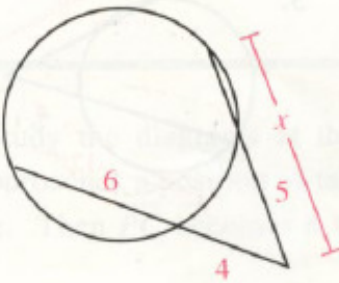
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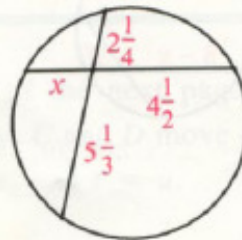
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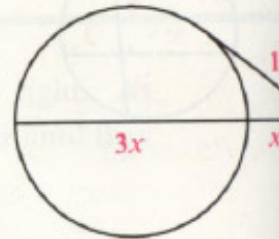
7.



8.



9.



Name: \_\_\_\_\_

Period: \_\_\_\_\_

Show all work for problems 13-20 in the extra space provided at the bottom of the page.

**Example**  $AP = 5$ ;  $BP = 4$ ;  $CD = 12$ ;  $CP = \underline{\quad?}$

**Solution** Let  $CP = x$ . Then  $DP = 12 - x$ .

$$x(12 - x) = 5 \cdot 4$$

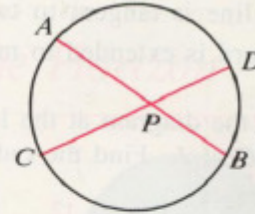
$$12x - x^2 = 20$$

$$x^2 - 12x + 20 = 0$$

$$(x - 2)(x - 10) = 0$$

$$x = 2 \text{ or } x = 10$$

$$CP = 2 \text{ or } 10$$



13.  $AP = 6$ ;  $BP = 8$ ;  $CD = 16$ ;  $DP = \underline{\quad?}$

14.  $CD = 10$ ;  $CP = 6$ ;  $AB = 11$ ;  $AP = \underline{\quad?}$

15.  $AB = 12$ ;  $CP = 9$ ;  $DP = 4$ ;  $BP = \underline{\quad?}$

16.  $AP = 6$ ;  $BP = 5$ ;  $CP = 3 \cdot DP$ ;  $DP = \underline{\quad?}$

$\overline{PT}$  is tangent to the circle. Find the lengths indicated.

17.  $PT = 6$ ;  $PB = 3$ ;  $AB = \underline{\quad?}$

18.  $PT = 12$ ;  $CD = 18$ ;  $PC = \underline{\quad?}$

19.  $PD = 5$ ;  $CD = 7$ ;  $AB = 11$ ;  $PB = \underline{\quad?}$

20.  $PB = AB = 5$ ;  $PD = 4$ ;  $PT = \underline{\quad?}$  and  $PC = \underline{\quad?}$

