Relationship between tangent, Secant Side Lengths

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The Formulas

$$C^2 = E \cdot (A + E)$$

$$(A+B) \cdot B = (C + D) \cdot D$$

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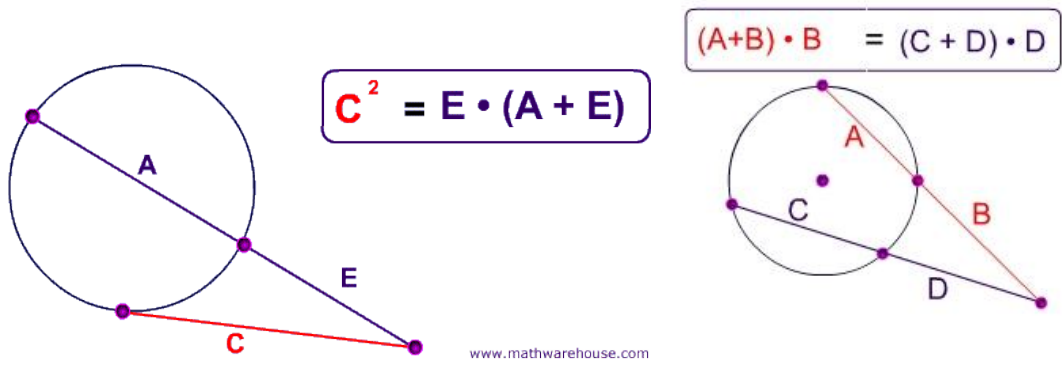
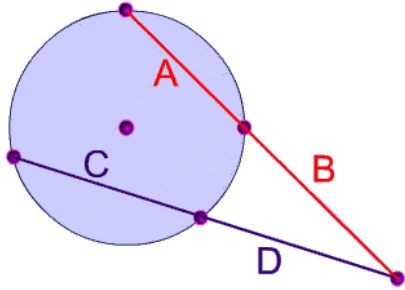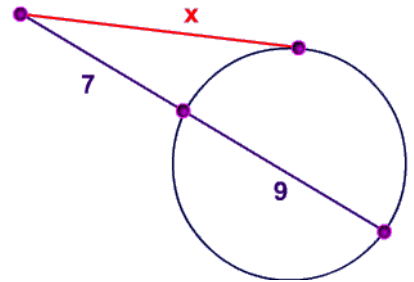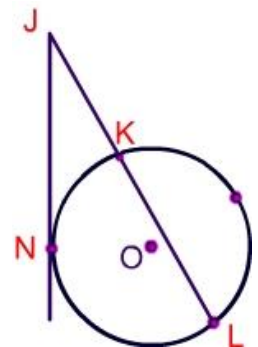1) What is the value of X below?
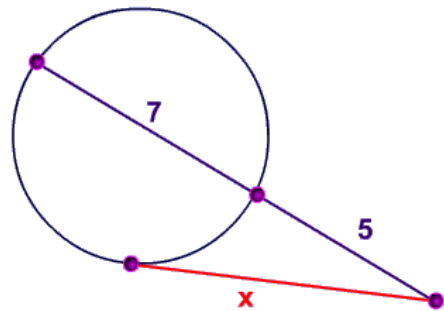
2) In the picture below B= 4, C=8, and D = 5. What is A?
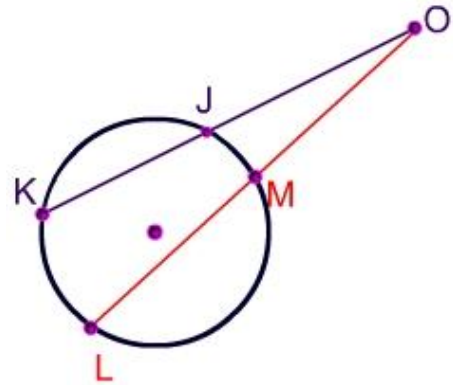

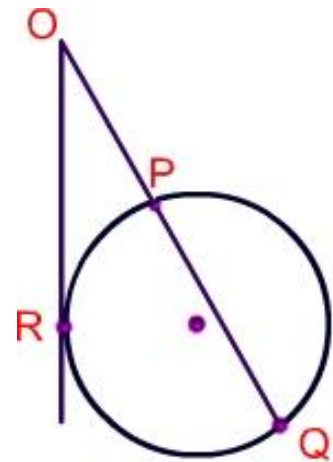**3)** What is the value of x in the picture on the right?

4) $\overline{JN}$ =12 and $\overline{KL}$ is 3 times $\overline{JK}$. Find the values of $\overline{JN}$, $\overline{KL}$ and $\overline{JK}$
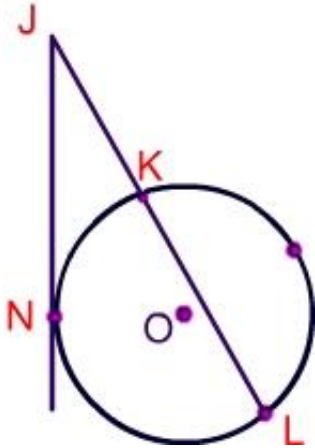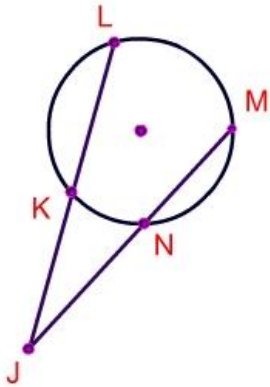
5) What is the value of A if B= 8, C=16, and D = 10?

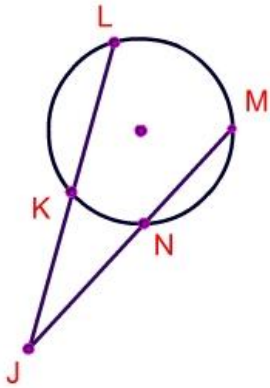**6)** $\overline{OR}$ =8, $\overline{PQ}$ = 12 find $\overline{OQ}$

7) $\overline{JN}$ =8, $\overline{JK}$ =4 find $\overline{JL}$

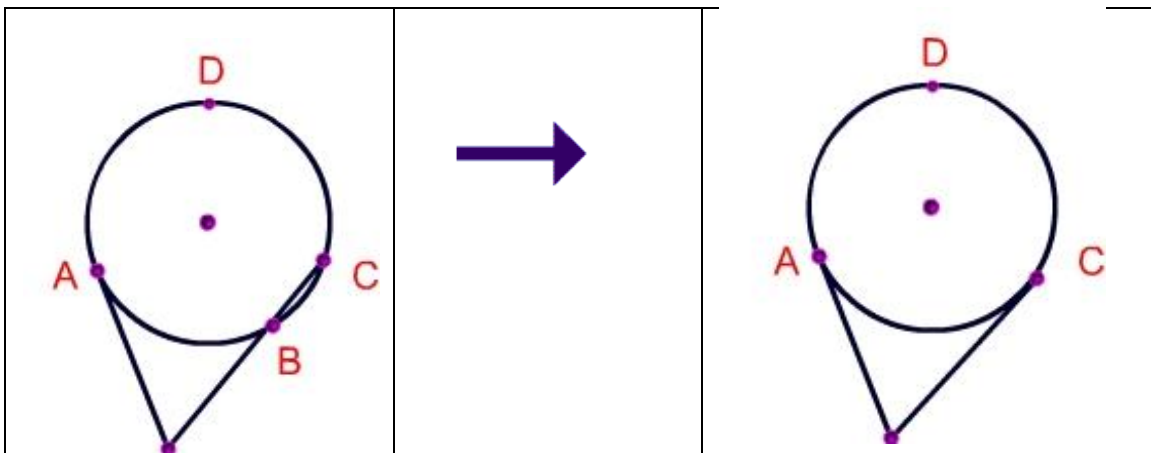**8)** $\overline{JK}$ =8, $\overline{JL}$ = 25find $\overline{JN}$ =10

9) $\overline{JN}$ = 9 , $\overline{JM}$ =21, $\overline{JL}$ is 5 times JK

Think Pair Share
We have learned the formula for a tangent and secant (see the picture on the right).
Consider what would happen if point B and Point C are colliear. What do you think might be the relationship between the two line segments?

Explain your reasoning: _____

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