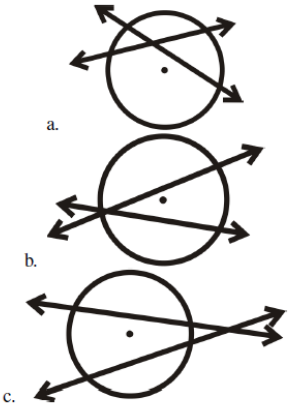
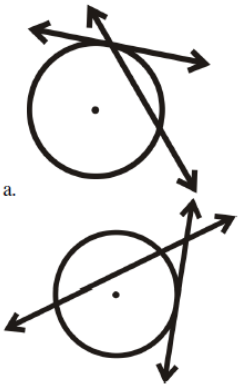
Geometry 9.5 *(updated. 9/30/14)*

1.



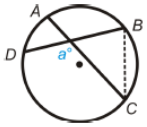
2. No, by definition a tangent line cannot pass through a circle, so it can never intersect with any line inside of one.
3.



4. center, equal
5. inside, intercepted
6. on, half
7. outside, half
8. $x = 103°$
9. $x = 25°$
10. $x = 100°$
11. $x = 44°$
12. $x = 38°$
13. $x = 54.5°$
14. $x = 63°, y = 243°$
15. $x = 216°$
16. $x = 42°$
17. $x = 150°$
18. $x = 66°$
19. $x = 113°$
20. $x = 60, y = 40°, z = 80°$
21. $x = 60°, y = 25°$
22. $x = 35°, y = 55°$
23. $x = 75°$
24. $x = 45°$
25. $x = 35°, y = 35°$
26. $x = 60°$
27. $x = 47°, y = 78°$
28. $x = 84°, y = 156°$
29. $x = 10°$
30. $x = 3°$
31. See the following table:

TABLE 9.4:

Statement	*Reason*
1. Intersecting chords $\overline{AC}$ and $\overline{BD}$.	Given
2. Draw $\overline{BC}$	Construction

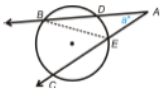


3. $m\angle DBC = \frac{1}{2}m\widehat{DC}$	Inscribed Angle Theorem
4. $m\angle ACB = \frac{1}{2}m\widehat{AB}$	Inscribed Angle Theorem
5. $m\angle a = m\angle DBC + m\angle ACB$	Exterior Angle Theorem
6. $m\angle a = \frac{1}{2}m\widehat{DC} + \frac{1}{2}m\widehat{AB}$	Substitution

32. See the following table:

TABLE 9.5:

Statement	*Reason*
1. Intersecting secants $\overrightarrow{AB}$ and $\overrightarrow{AC}$.	Given
2. Draw $\overline{BE}$.	Construction



3. $m\angle BEC = \frac{1}{2}m\widehat{BC}$	Inscribed Angle Theorem
4. $m\angle DBE = \frac{1}{2}m\widehat{DE}$	Inscribed Angle Theorem
5. $m\angle a + m\angle DBE = m\angle BEC$	Exterior Angle Theorem
6. $m\angle a = m\angle BEC - m\angle DBE$	Subtraction PoE
7. $m\angle a = \frac{1}{2}m\widehat{BC} - \frac{1}{2}m\widehat{DE}$	Substitution
8. $m\angle a = \frac{1}{2}\left(m\widehat{BC} - m\widehat{DE}\right)$	Distributive Property