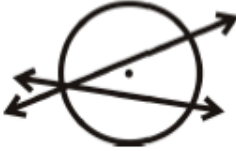


## 9.5 Geometry - Second Edition, Angles of Chords, Secants, and Tangents, Review Answers

1. (a)



(b)

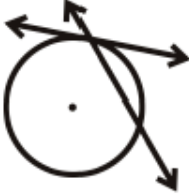


(c)

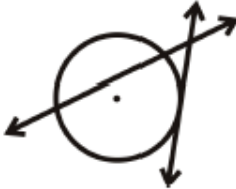


2. No, by definition a tangent line cannot pass through a circle, so it can never intersect with any line inside of one.

3. (a)



(b)



4. center, equal

5. inside, intercepted

6. on, half

7. outside, half

8.  $x = 103^\circ$

9.  $x = 25^\circ$

10.  $x = 100^\circ$

11.  $x = 44^\circ$

12.  $x = 38^\circ$

13.  $x = 54.5^\circ$

14.  $x = 63^\circ, y = 243^\circ$

15.  $x = 216^\circ$

16.  $x = 42^\circ$

17.  $x = 150^\circ$

18.  $x = 66^\circ$

19.  $x = 113^\circ$

20.  $x = 60^\circ, y = 40^\circ, z = 80^\circ$

21.  $x = 60^\circ, y = 25^\circ$

22.  $x = 35^\circ, y = 55^\circ$

23.  $x = 75^\circ$

24.  $x = 45^\circ$

25.  $x = 35^\circ, y = 35^\circ$

26.  $x = 60^\circ$

27.  $x = 47^\circ, y = 78^\circ$

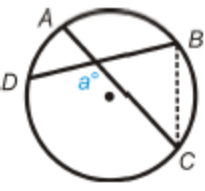
28.  $x = 84^\circ, y = 156^\circ$

29.  $x = 10^\circ$

30.  $x = 3^\circ$

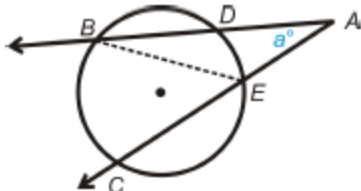
31.

Table 9.4:

<i>Statement</i>	<i>Reason</i>
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.

Table 9.5:

<i>Statement</i>	<i>Reason</i>
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. $m\angle a = \frac{1}{2}(m\widehat{BC} - m\widehat{DE})$	Distributive Property