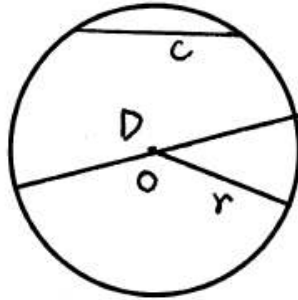## Chapter 10 Properties of Circles
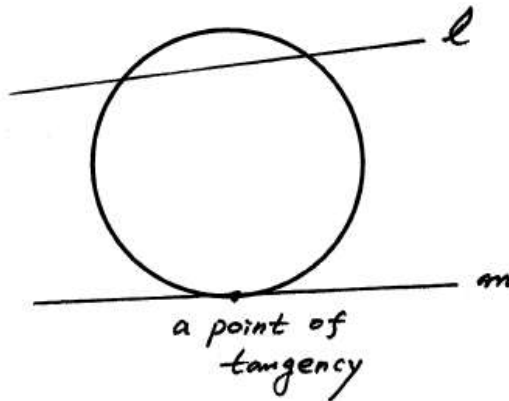
1. basic circle

1) center: O
2) radius: r
3) chord: c
4) diameter: D
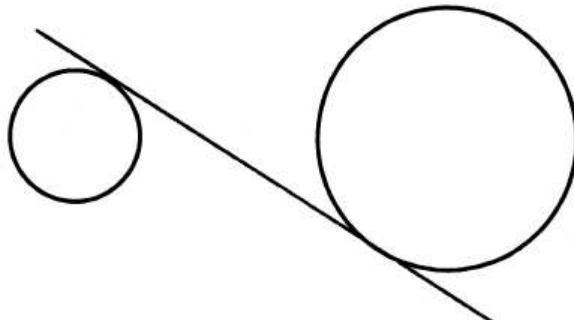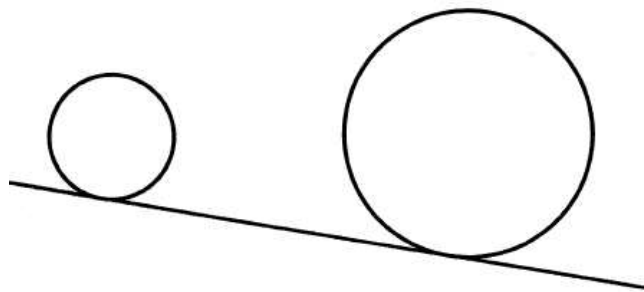
2. lines with circle

a point of
tangency

1) secant line: l
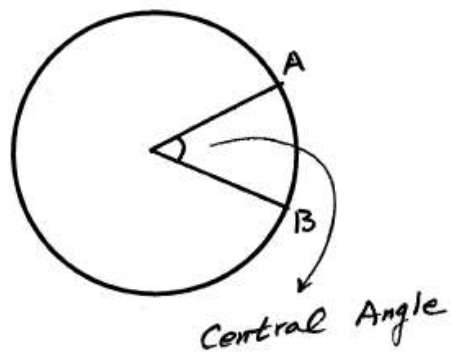2) tangent line: m

3) common tangent
   (1) internal common tangent

   (2) external common tangent

3. **angles**

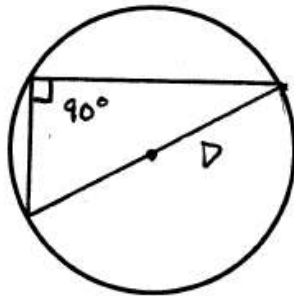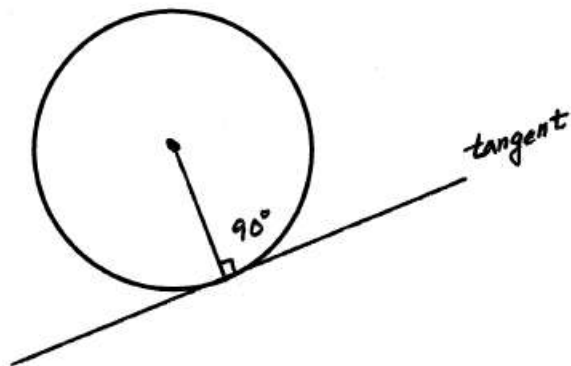   1) central angle: $m\overset{\frown}{AB}$ is read "the measure of arc AB"

2)

3)

4)

5)

$$\angle ① = \tfrac{1}{2}(\overset{\frown}{a}+\overset{\frown}{b})$$

6)

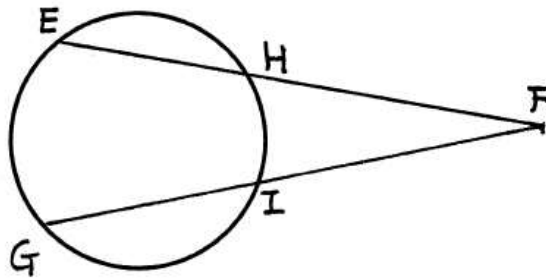$$\angle① = \frac{1}{2}\overset{\frown}{CD} \qquad \angle② = \frac{1}{2}\overset{\frown}{CFD}$$

7)

$$\angle EFG = \frac{1}{2}\left(\overset{\frown}{EG} - \overset{\frown}{HI}\right)$$

8)

$$\overset{\frown}{AB} = \overset{\frown}{BC}$$

$$\overline{AE} = \overline{EC}$$

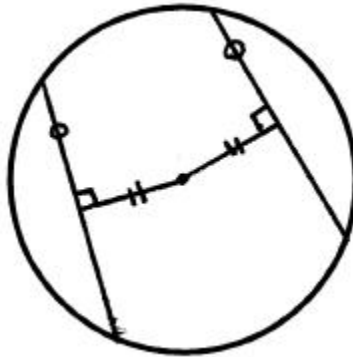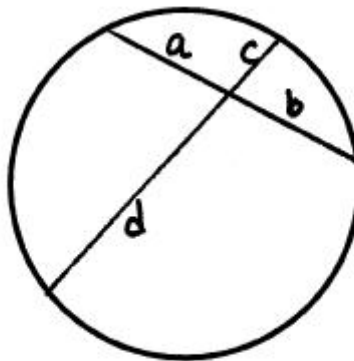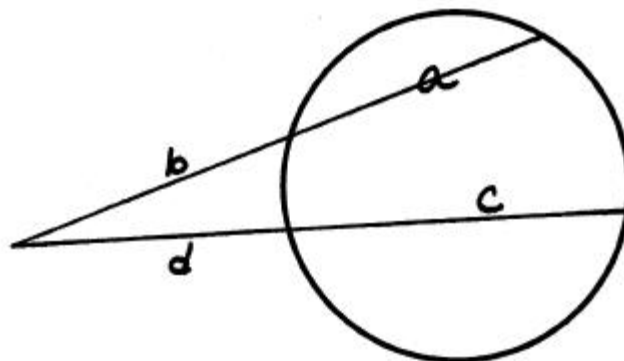**4. length**
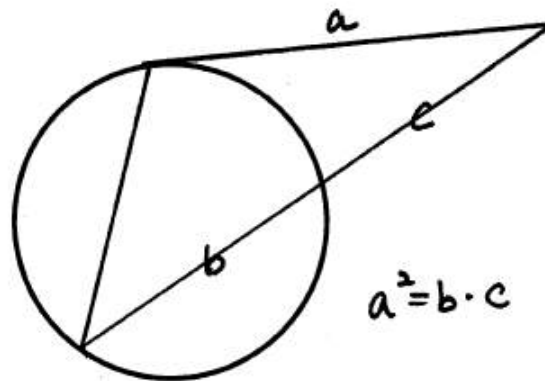
  1)

  2)

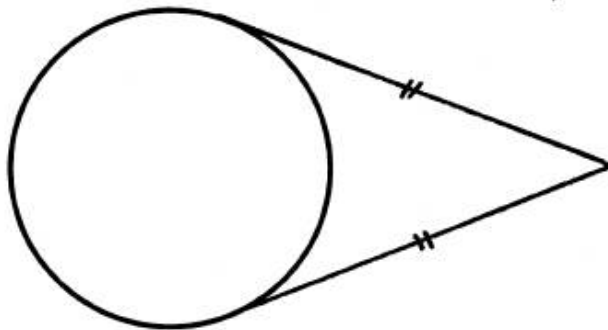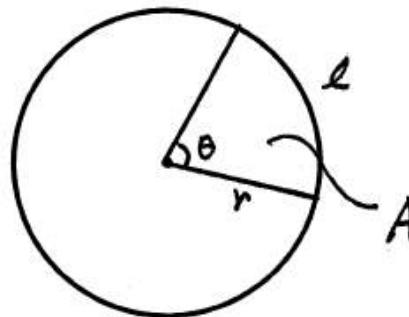$$a \cdot b = c \cdot d$$

  3)

$$a \cdot b = c \cdot d$$

4)

$$a^2 = b \cdot c$$

5)

5. arc length and section area

$$\frac{\theta}{360°} = \frac{\ell}{2\pi r}$$

$$\frac{\theta}{360°} = \frac{A}{\pi r^2}$$