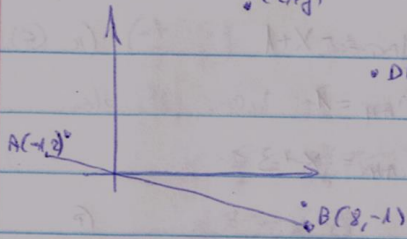


3.7.
5



$$m_{AB} = \frac{3}{-9} = -\frac{1}{3}$$

$$CD: y = -\frac{1}{3}x + 10$$

$$m_{BD} = \frac{10}{-5} = -2$$

$$m_{AC} = \frac{1}{2}$$

$$AC: y = \frac{1}{2}x + 2\frac{1}{2}$$

AC \perp CD \Rightarrow $\angle C = 90^\circ$

$$\frac{1}{2}x + 2\frac{1}{2} = -\frac{1}{3}x + 10$$

$$\frac{5}{6}x + 7\frac{1}{2} \rightarrow x = 9$$

$$C(9, 7)$$

$$AD = \sqrt{4^2 + 7^2} = \sqrt{65}$$

$$BC = \sqrt{1^2 + 8^2} = \sqrt{65}$$