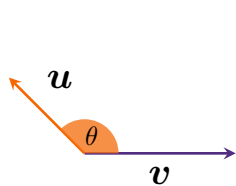
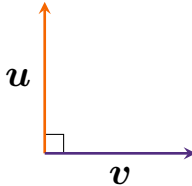


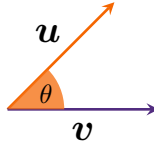
$$\theta = \pi, \quad u \cdot v = -|u||v|$$



$$u \cdot v = |u||v| \cos \theta < 0$$



$$\theta = \frac{\pi}{2}, \quad u \cdot v = 0$$



$$u \cdot v = |u||v| \cos \theta > 0$$



$$\theta = 0, \quad u \cdot v = |u||v|$$