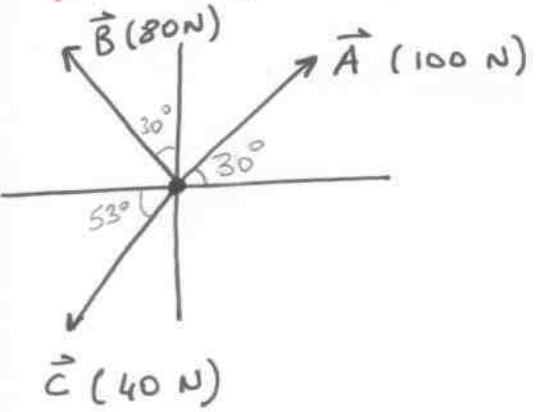
5) John throws a ball straight upward and after 1 second, it reaches its maximum height. Then it does free fall motion which takes 2 seconds. Calculate the maximum height (h_{max}) and velocity of the ball before it crashes the ground. ($g = 10\ m/sn^2$)

6) (Young Freedman 13th edition p 1.66)



Find the magnitude and direction of a fourth force on the stone which makes the system to come to equilibrium.