4-6. A cart is moving on a smooth floor as shown in the figure. Two independently and normally distributed horizontal forces $P_1 \sim N(200, 2^2)$ N and $P_2 \sim N(500, 5^2)$ N are applied to the cart. The total mass of the cart, including the load, is $m = 100$ kg. Find the acceleration of the cart and the normal forces acting on the wheels at points A and B.

Solutions: $a_x \sim N(7, 0.05^2)$ m/s^2 , $N_B \sim N(710.75, 1.60^2)$ N , $N_A \sim N(270.25, 1.60^2)$ N