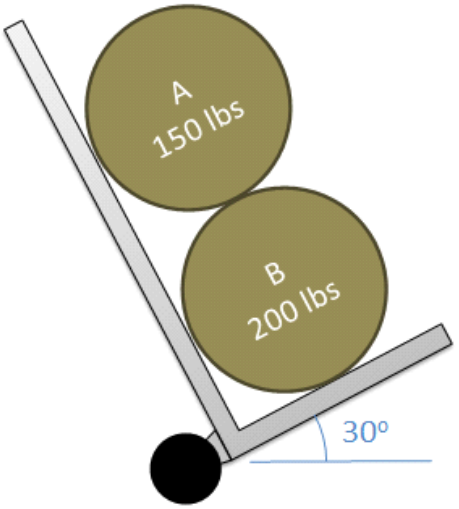
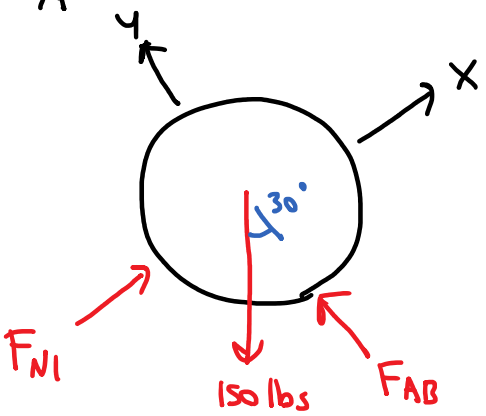
Question 5

Two barrels are being carried on a handcart as shown below. Determine all forces acting on the bottom barrel.



A

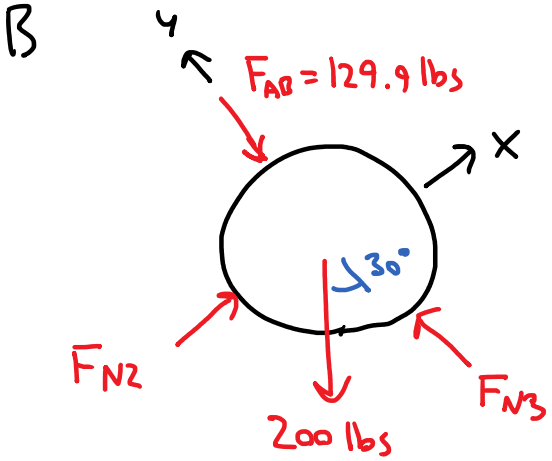


$$\Sigma F_x = F_{N_1} - 150\sin(30) = 0$$

$$\Sigma F_y = F_{AB} - 150\cos(30) = 0$$

$$\boxed{F_{AB} = 129.9 \text{ lbs}}$$

B



$$\Sigma F_x = F_{N_2} - 200\sin(30) = 0$$

$$\Sigma F_y = F_{N_3} - 129.9 - 200\cos(30) = 0$$

$$\boxed{F_{N_2} = 100 \text{ lbs}}$$

$$\boxed{F_{N_3} = 303.1 \text{ lbs}}$$