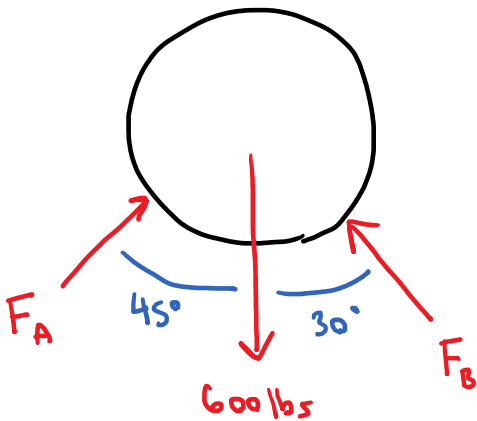
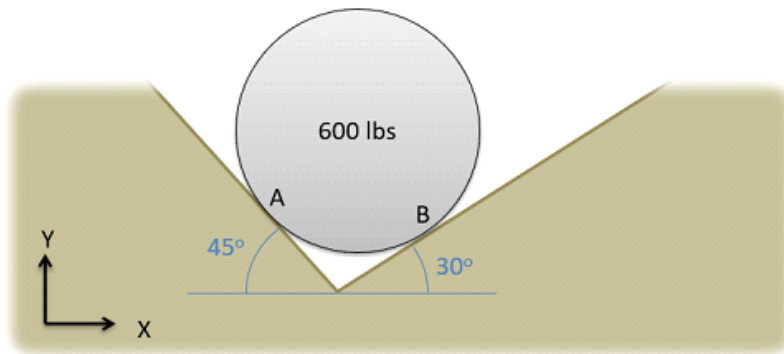


Question 2

A 600 lb barrel is sitting in a groove as shown below. Determine normal forces acting on the barrel at points A and B.



$$\sum F_x = F_A \sin(45) - F_B \sin(30) = 0$$

$$\sum F_y = F_A \cos(45) + F_B \cos(30) - 600 = 0$$

$$F_A = \frac{\sin(30)}{\sin(45)} F_B$$

$$\left(\frac{\sin(30)}{\sin(45)} F_B \right) \cos(45) + F_B \cos(30) = 600$$

$$F_B = 439.2 \text{ lbs}$$

$$F_A = 310.6 \text{ lbs}$$