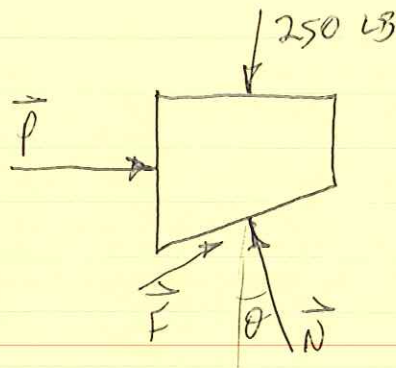


PROB. 8.2

FBD:



$$\theta = 35^\circ, \vec{P} = 100 \text{ LB}$$

EQUILIBRIUM?  
FIND F

$$\sum F_x = 0: 100 + F \cos 35^\circ - N \sin 35^\circ = 0$$

$$0.819 F - 0.573 N = -100$$

$$\sum F_y = 0: -250 + F \sin 35^\circ + N \cos 35^\circ = 0$$

$$0.573 F + 0.819 N = 250$$

$$N = 262 \text{ LB}, \quad F = 61.5 \text{ LB}$$

$$F_{\max} = \mu_s N = (0.3)(262 \text{ LB}) = 78.6 \text{ LB}$$

SINCE  $F < F_{\max}$ , BLOCK IS IN EQUILIBRIUM.