

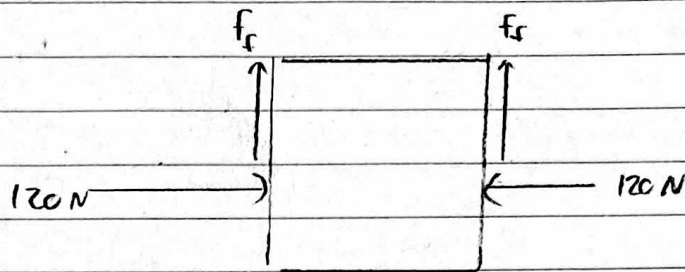
Solutions: 21-S-MK-E12-04

$$\mu_{sf} = 0.4$$

$$\mu_{sh} = 0.6$$

$$F = 120\text{ N}$$

$$m = 0.95$$



Scenario 1 books between the feet for books  $= n'$

$$\sum F_y = 0 = 0.4(120)(2) - n'(0.95\text{ kg})(9.81\text{ m/s}^2) = 0$$

$$n' = 10.30 \xrightarrow[\text{outside books}]{\text{add 2}} n = 12.30 \rightarrow n = 12 \text{ books}$$

Scenario 2  $n$  books between hands, books slip @ hands

$$\sum F_y = 0 = 0.6(120)(2) - n(0.95)(9.81) = 0 \rightarrow n = 15.45$$

$n = 10$   
Choose lowest scenario  $\therefore$  12 books