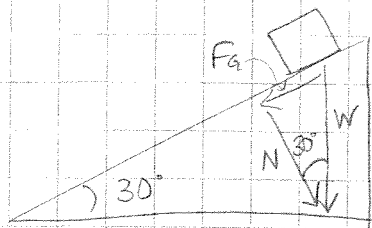


P#5

Ch 5 - pg 146



$$d = 2.5 \text{ m}$$

$$m = 5.0 \text{ kg}$$

$$W = m \cdot g = (5.0 \text{ kg})(9.8 \text{ m/s}^2)$$

$$W = 49 \text{ N}$$

$$N = W \cdot \cos 30^\circ$$

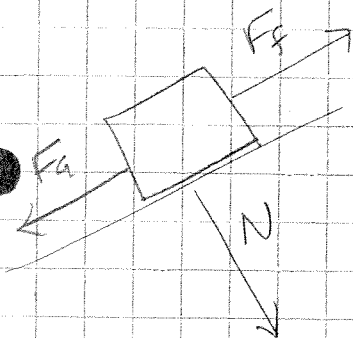
$$= (49 \text{ N}) \cdot \cos 30^\circ$$

$$N = 42.4 \text{ N}$$

$$F_g = W \cdot \sin 30^\circ$$

$$= (49 \text{ N}) \cdot \sin 30^\circ$$

$$F_g = 24.5 \text{ N}$$



a) Work by gravity is done by  $F_g$  comp =

$$W = F_g \cdot d$$

$$= (24.5 \text{ N})(2.5 \text{ m})$$

$$W = 61 \text{ J}$$

b)

$$W = F_f \cdot d$$

$$= (\mu \cdot N) \cdot d$$

$$= (.436)(42.4 \text{ N})(2.5 \text{ m})$$

$$W = -46 \text{ J}$$

(Negative work b/c force is opposite displacement)

c) Normal is perpendicular to displacement...

$$W = \text{zero}$$