
Worksheet 10: Work

Objective

- Evaluate the work done by a force.

Summary

$$dW = \vec{F} \cdot d\vec{s}$$

Problems

A luggage handler at the Laramie Airport pulls a 20-kg suitcase from rest up a ramp inclined at 25° above the horizontal with a force of 140 N parallel to the ramp. The coefficient of kinetic friction between the ramp and the box is $\mu_k = 0.30$. The suitcase travels 3.80 m along the ramp. Find

- a. the work done on the suitcase by the handler
- b. the work done on the suitcase by gravity
- c. the work done on the suitcase by the normal force
- d. the work done on the suitcase by friction
- e. the total work done on the suitcase

f. the final speed of the suitcase