Chapter 6 Problem 29 [†]

Given
$m = 60\ kg$
$v_0 = 5.0\ m/s$
$v_f = 10.0\ m/s$

Solution
Find the work done on the skateboarder.

Work done is equal to the change in kinetic energy; therefore,

$$W_{net} = \Delta K = \tfrac{1}{2}mv_f^2 - \tfrac{1}{2}mv_0^2 = \tfrac{1}{2}m\left(v_f^2 - v_f^2\right)$$

$$W_{net} = \tfrac{1}{2}(60\ kg)\left((10.0\ m/s)^2 - (5.0\ m/s)^2\right) = 2250\ J$$

$$W_{net} = 2.25\ kJ$$

[†]Problem from Essential University Physics, Wolfson