

Answer on Question #73127- Physics / Mechanics | Relativity

A student is pushing a $m = 35$ kg desk across a floor at a constant speed of $v_1 = 4$ m/s. How much work, to the nearest whole joule, must the student do on the desk to change the speed to $v_2 = 6$ m/s?

Solution:

Work done = change of energy

$$W = \frac{mv_2^2}{2} - \frac{mv_1^2}{2}$$

$$W = \frac{35 \times 36}{2} - \frac{35 \times 16}{2} = 630 - 280 = 350 \text{ J}$$

Answer $W = 350$ J

Answer provided by <https://www.AssignmentExpert.com>