

**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>