

Answer on Question # 59161 – Physics – Mechanics | Relativity

A 1250 kg car increases its speed from 15.0m/s to 20.0m/s . How much work was done on the car?

Solution:

Work done on the car can be calculated as the change of the kinetic energy of the car:

$$A = K_2 - K_1 = \frac{mv_2^2}{2} - \frac{mv_1^2}{2} = \frac{m(v_2^2 - v_1^2)}{2} = \frac{1250 \times (20^2 - 15^2)}{2} = 109375 \text{ [J]}.$$

Answer: $A = 109375 \text{ [J]}.$