Answer on Question #73680, Physics / Atomic and Nuclear Physics

Find ratio of their kinetic energy when one body has mass m and other one has mass 7m.

Answer:

The kinetic energy of the body is determined

$$KE = \frac{1}{2}mv^2$$

The mass of the first body is m.
The mass of the second body is 7 times greater than the first one.

So,

$$\frac{KE_1}{KE_2} = \frac{2mv_1{}^2}{2 \times 7mv_2{}^2} = \frac{v_1{}^2}{7v_2{}^2}$$

$$\frac{KE_1}{KE_2} = \frac{v_1{}^2}{7v_2{}^2}$$