

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

$$p = mv \quad p^2 = m^2v^2$$

So

$$K = \frac{p^2}{2m}$$

Coefficient of restitution

- (can be used to indicate types of collisions and elasticity of them)

$$e = \frac{V_{1f} - V_{2f}}{V_{1i} - V_{2i}} = \left. \begin{array}{l} 1 \rightarrow \text{elastic} \\ \text{collision} \\ \text{inelastic} \\ \text{coll.} \end{array} \right\} \text{usual case}$$

0 \rightarrow perfectly inelastic