



Coef. of Rest = 1, so $V_B' - V_A' = V_A - V_B$

$$V_B' - V_A' = 2\text{m/s} - (-3\text{m/s}) = 5\text{m/s}$$

$$V_B' = 5\text{m/s} + V_A'$$

Cons. of P. $\rightarrow P_i = P_f$

$$(6\text{kg})(2\text{m/s}) + (2\text{kg})(-3\text{m/s}) = 6\text{kg}(V_A') + 2\text{kg}(V_B')$$

$$12\text{kg m/s} - 6\text{kg m/s} = 6\text{kg}(V_A') + 2\text{kg}(5\text{m/s} + V_A')$$

$$6\text{kg m/s} = 6\text{kg}(V_A') + 10\text{kg m/s} + 2\text{kg}(V_A')$$

$$-4\text{kg m/s} = 8\text{kg}(V_A')$$

$$V_A' = -0.5\text{m/s}$$

$$V_B' = 5\text{m/s} + (-0.5\text{m/s}) = 4.5\text{m/s}$$