



2.00 kg
3.00 m/s



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$$2(3) + 3(-2) = 2v + 3v$$

$$0 = 5v$$

$$0 = v$$

$$KE = \frac{1}{2}(2)(3^2)$$
$$= 9 \text{ J}$$

bc

$$KE = \frac{1}{2}3(2^2)$$
$$= 6 \text{ J}$$



$$\frac{1}{2}(2)v^2 = 0$$
$$\frac{1}{2}(3)v^2 = 0$$

elastic collision - Energy conserved

p 189 #22.

$$mv + mv = mv + mv$$

$$.44(3.3) + .22(0) = .44v_1 + .22v_2 \quad \boxed{3.3 + v_1} = v_2$$

$$1.452 = .44v_1 + .22(3.3 + v_1)$$

$$1.452 = .44v_1 + .726 + .22v_1$$

$$.726 = .66v_1$$

$$1.1 \text{ m/s} = v_1$$

$$v_2 = 3.3 + 1.1 = 4.4 \text{ m/s}$$

$$\text{b.c.} \quad \text{a.c.}$$
$$v_1 - v_2 = v_2 - v_1$$

$$3.3 - 0 = v_2 - v_1$$

$$1.452 = .44v_1 + .22v_2$$

$$1.452 - .44v_1 = .22v_2$$

$$.06(2.5) + .09(1.15) = .06V_1 + .09V_2$$

$$.2535 = .06V_1 + .09(1.35 + V_1)$$

$$.2535 = .06V_1 + .1215 + .09V_1$$

$$.1320 = .15V_1$$

$$V_1 = .88 \text{ m/s}$$

$$V_2 = 1.35 + .88$$

$$V_2 = 2.23 \text{ m/s}$$

$$2.5 - 1.15 =$$

$$V_2 - V_1$$

$$1.35 = V_2 - V_1$$

$$\boxed{1.35 + V_1} = V_2$$