



$$m = 7.05 \text{ kg}$$

$$v = 5.00 \text{ m/s}$$

$$p = 35.3 \text{ kg}\cdot\text{m/s}$$

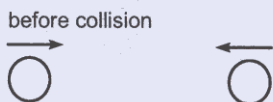
$$p_{\text{after}} = 35.3 \text{ kg}\cdot\text{m/s}$$

$$v = \frac{p}{m}$$

$$= \frac{35.3 \text{ kg}\cdot\text{m/s}}{0.050 \text{ kg}}$$

$$= 706 \text{ m/s}$$

5



$$m = 40.0 \text{ g} \quad m = 55.0 \text{ g}$$

$$v = 9.00 \text{ m/s} \quad v = -6.00 \text{ m/s}$$

$$p = 3.60 \times 10^2 \text{ g}\cdot\text{m/s} \quad p = -3.30 \times 10^2 \text{ g}\cdot\text{m/s}$$

$$p_{\text{before}} = 3.0 \times 10^1 \text{ g}\cdot\text{m/s}$$

after collision



$$m = 95.0 \text{ g}$$

$$v = ?$$

$$p = 3.0 \times 10^1 \text{ g}\cdot\text{m/s}$$

$$p_{\text{after}} = 3.0 \times 10^1 \text{ g}\cdot\text{m/s}$$

$$v = \frac{p}{m}$$

$$= \frac{3.0 \times 10^1 \text{ g}\cdot\text{m/s}}{95 \text{ g}}$$

$$= 0.316 \text{ m/s right}$$

6.

before



$$m = 76.2 \text{ kg}$$

$$v = 0$$

$$p = 0$$

$$p_{\text{before}} = 0$$

after



$$m = 0.20 \text{ kg} \quad m = 76 \text{ kg}$$

$$v = -22 \text{ m/s} \quad v = ?$$

$$p = -4.4 \text{ kg}\cdot\text{m/s} \quad p = 4.4 \text{ kg}\cdot\text{m/s}$$

$$p_{\text{after}} = 0$$

$$v = \frac{p}{m}$$

$$= \frac{4.4 \text{ kg}\cdot\text{m/s}}{76 \text{ kg}}$$

$$= 0.058 \text{ m/s right}$$

7.

before



$$m = 1.13 \times 10^3 \text{ kg}$$

$$v = 0$$

$$p = 0$$

$$p_{\text{before}} = 0$$

after



$$m = 1.1 \times 10^3 \text{ kg} \quad m = 25 \text{ kg}$$

$$v = ? \quad v = 325 \text{ m/s}$$

$$p = -8.13 \times 10^2 \text{ kg}\cdot\text{m/s} \quad p = 8.13 \times 10^2 \text{ kg}\cdot\text{m/s}$$

$$p_{\text{after}} = 0$$

$$v = \frac{p}{m}$$

$$= \frac{-8.13 \times 10^3 \text{ kg}\cdot\text{m/s}}{1.1 \times 10^3 \text{ kg}}$$

$$= -7.4 \text{ m/s west}$$

8.

before



$$m = ?$$

$$v = 0$$

$$p = 0$$

$$p_{\text{before}} = 0$$