

$$m_1 = 6.696 \times 10^{-27} \text{ kg}$$

$$m_2 = 3.348 \times 10^{-25} \text{ kg}$$

$$v_{1i} = 1.500 \times 10^7 \frac{\text{m}}{\text{s}}$$

$$v_{1f} = 1.441 \times 10^7 \frac{\text{m}}{\text{s}}$$

$$p_{1i} = -p_{1f} + p_{2f}$$

$$p_{2f} = p_{1i} + p_{1f} = m_1 v_{1i} + m_1 v_{1f} = m_1 (v_{1i} + v_{1f})$$

$$p_{2f} = 6.696 \times 10^{-27} \text{ kg} \left(1.500 \times 10^7 \frac{\text{m}}{\text{s}} + 1.441 \times 10^7 \frac{\text{m}}{\text{s}} \right) = 1.9693 \times 10^{-19} \text{ kg} \cdot \frac{\text{m}}{\text{s}}$$

$$p_{2f} = m_2 v_{2f}$$

$$v_{2f} = \frac{p_{2f}}{m_2} = \frac{1.9693 \times 10^{-19} \text{ kg} \cdot \frac{\text{m}}{\text{s}}}{3.348 \times 10^{-25} \text{ kg}} = 588,200 \frac{\text{m}}{\text{s}}$$

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Chapter III

Exercises

7. 1.64 m/s²

Chapter VI

Text

p. 126 Example problem - the dimensions of the block should be 4.0 in x 2.5 in x 9.0 in.

Volume Mass and Weight Exercises

7. Correct significant digits make the answer 1.0 x 10⁵ lb.

Density Exercises

11. Correct significant digits make the answer 25,000,000 lb.

Chapter VIII

Exercises

Pressure Problems

12. 36,000 Pa, 5.2 psi

13. 5,200,000 Pa, 750 psi

Buoyancy Problems

3. $1.90 \times 10^3 \text{ N}$

Chapter IX

Text

Figure 9-4: The direction of rotation for the floating object shown in the figure should be clockwise.

Chapter XI

Exercises

Multi Resistor Circuit Calculations III

2. $I = 0.9071 \text{ mA}$, $P = 0.4526 \text{ mW}$

4. $V = 2.8001$, $I = 3.0770 \text{ }\mu\text{A}$, $P = 8.6159 \text{ }\mu\text{W}$

Weekly Review Guide

WRG 12, Question 4. $p = 2.07 \times 10^{-20} \text{ kg}\cdot\text{m/s}$