

P # J

Ch 7

$$m_1 = 2.14 \times 10^{22} \text{ kg}$$

$$m_2 = 1.02 \times 10^{26} \text{ kg}$$

$$r = 3.55 \times 10^8 \text{ m}$$

$$PE = \frac{m_1 \cdot m_2 \cdot G}{r} = \frac{(2.14 \times 10^{22} \text{ kg}) (1.02 \times 10^{26} \text{ kg}) (6.67 \times 10^{-11} \text{ N} \cdot \text{m}^2 / \text{kg}^2)}{(3.55 \times 10^8 \text{ m})}$$

$$PE = 4.1 \times 10^{29} \text{ J}$$