

Exercise 8-6

(a) $F_G = mg$

$$\therefore m = \frac{F_G}{g} = \frac{590 \text{ N}}{9.80 \text{ m/s}^2} = 60.2 \text{ kg} \quad (60.20 \text{ kg})$$

(b) On Mars, $m = 60.2 \text{ kg}$

$$\text{but } F_G = mg = (60.2 \text{ kg})(3.72 \text{ m/s}^2) = 224 \text{ N}$$