

Useful equations: $\Sigma F = ma$ $F_g = mg$

Use the weight equation to solve these:

- a) What is the mass of an 89.5 N wagon?
- b) What is the weight of a 25.4 N rock?
- c) What is the weight of a 70 kg person?
- d) What is the mass of a 7.55 kg ball?

$$F_g = mg$$

$$M = \frac{F_g}{g}$$

$$= \frac{89.5 \text{ N}}{9.8 \frac{\text{m}}{\text{s}^2}}$$

a) $M = 9.13 \text{ kg}$

$$F_g = mg$$

$$= 70 \text{ kg} (9.8 \frac{\text{m}}{\text{s}^2})$$

c) $F_g = 686 \text{ N}$

d) $M = 7.55 \text{ kg}$

b) $F_g = 25.4 \text{ N}$

For problems such as b and d, just because you didn't have to do a calculation doesn't mean you can leave the symbol off.

Also, when I say symbol, don't use words such as "weight" and "mass". Use F_g and m .