

p 44 # 6-9.

	Mass	Weight
Type	Scalar	Vector
Definition	the amount of an object, does not change	the force of gravity on an object; changes depending on where you are
Symbol	m	F_g
Unit	kg	N
Method	Balance	Spring Scale

7a) $m = 19 \text{ kg}$
 $g = 9.8 \text{ m/s}^2$
 $F_g = ?$

$$F_g = mg$$
$$= (19 \text{ kg})(9.8 \text{ m/s}^2)$$
$$= 186.2 \text{ N}$$

b) 186.2 N

8 $m = 54 \text{ kg}$
 $g = 8.9 \text{ N/kg}$
 $F_g = ?$

$$F_g = mg$$
$$= (54 \text{ kg})(8.9 \text{ N/kg})$$
$$= 480.6 \text{ N}$$

9. $m = ?$
 $F_g = 180 \text{ N}$
 $g = 9.8 \text{ m/s}^2$

$$F_g = mg \Rightarrow m = \frac{F_g}{g}$$

$$m = \frac{180 \text{ N}}{9.8 \text{ m/s}^2}$$

$$m = 18.37 \text{ kg}$$