

① The largest piece of equipment that is allowed to be lifted is 3500 N. On the other side of the scale, the acceleration due to gravity is only 1.6g. What is the weight of the scale? (1.6g)

$$\frac{F_g}{m} = 1.6g$$

$$\frac{3500 \text{ N}}{m} = 1.6g$$

$$m = \frac{3500 \text{ N}}{1.6g}$$

$$m = 218.75 \text{ kg}$$

$$F_g = mg$$

$$F_g = (218.75 \text{ kg})(1.6g)$$

$$F_g = 4500 \text{ N on the moon}$$

② Suppose a weight of 600N on Earth is 100N on Planet Z. What is the acceleration due to gravity on Planet Z?

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

$$\frac{600 \text{ N}}{m} = g$$

$$\frac{100 \text{ N}}{m} = g$$

$$\frac{600 \text{ N}}{m} = \frac{100 \text{ N}}{m}$$

$$600 \text{ N} = 100 \text{ N}$$

Planet Z

$$F_g = mg$$

$$100 \text{ N} = m \cdot g$$

$$m = \frac{100 \text{ N}}{g}$$

Oct 5-8:10 AM