

$W_{\text{moon}} ?$

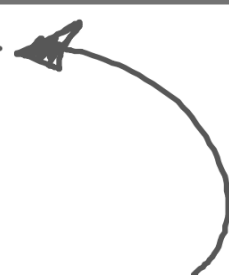
①  $m = 91.81 \text{ kg}$   
 $g_{\text{moon}} = 1.6 \text{ m/s}^2$

②  $W_{\text{moon}} = m g$

③  $W_{\text{moon}} = (91.81 \text{ kg})(1.6 \text{ m/s}^2)$

④/⑤  $W_{\text{moon}} = 146.90 \text{ N} \downarrow$

$W_{\text{earth}} = 899.74 \text{ N} \downarrow$

$m = \text{YOUR MASS in kg}$  

$$g_{\text{earth}} = 9.8 \text{ m/s}^2$$

$$g_{\text{moon}} = 1.6 \text{ m/s}^2$$

$$g_{\text{merc}} = 3.6 \text{ m/s}^2$$

$$152 \text{ lbs} \times \frac{\text{kg}}{2.2 \text{ lbs}} = 69.1 \text{ kg}$$

$$W_e = m g_e = (69.1 \text{ kg})(9.8 \text{ m/s}^2) = 667.8 \text{ N} \downarrow$$

$$W_{\text{merc}} = m g_{\text{merc}} = (69.1 \text{ kg})(3.6 \text{ m/s}^2) = 248.7 \text{ N} \downarrow$$

$$m_{\text{probe}} = 8,450 \text{ kg}$$

send it to MARS, JUPITER + mercury  
moon

Weight on various places.

$$\text{Weight MARS?} = 32,110 \text{ N} \downarrow$$

$$W_{\text{jup}} = 236,600 \text{ N} \downarrow$$

$$W_{\text{merc}} = 30,420 \text{ N} \downarrow$$

$$W_{\text{moon}} = 13,520 \text{ N} \downarrow$$

$$m = 3120 \text{ kg}$$

Send to Saturn

$$\text{gravity} = 11.1 \text{ m/s}^2$$

$$W = mg$$

$$W = (3120 \text{ kg})(11.1 \text{ m/s}^2)$$

$$W = 34632 \text{ N} \downarrow$$