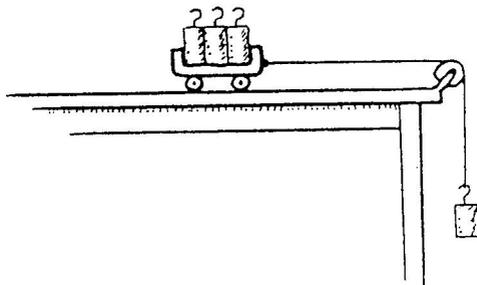


**Chapter 2: Newton's Laws of Motion**

**Dropping Masses and Accelerating Cart—continued**

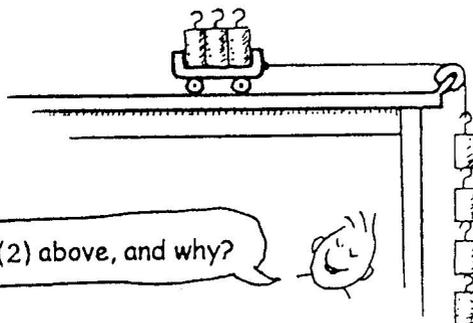
- (f) Find the acceleration of the cart when it carries 3 pieces of iron and only one iron piece dangles from the pulley.

$$a = \frac{F}{m} = \frac{\text{unbalanced force}}{\text{total mass}} = \underline{\hspace{2cm}} = \underline{\hspace{1cm}} \text{ m/s}^2.$$



- (g) Find the acceleration of the cart when it carries 3 pieces of iron and 4 iron pieces dangle from the pulley.

$$a = \frac{F}{m} = \frac{\text{unbalanced force}}{\text{total mass}} = \underline{\hspace{2cm}} = \underline{\hspace{1cm}} \text{ m/s}^2.$$

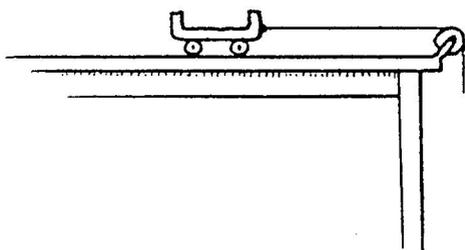


How does this compare with the acceleration of (2) above, and why?



Mass of cart is 1 kg. Mass of 10-N iron is also 1 kg.

- (h) Draw your own combination of masses and find the acceleration.



$$a = \frac{F}{m} = \frac{\text{unbalanced force}}{\text{total mass}} = \underline{\hspace{2cm}} = \underline{\hspace{1cm}} \text{ m/s}^2.$$

Hewitt  
Drift!