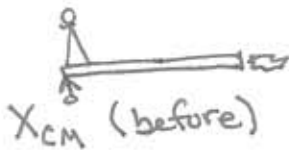
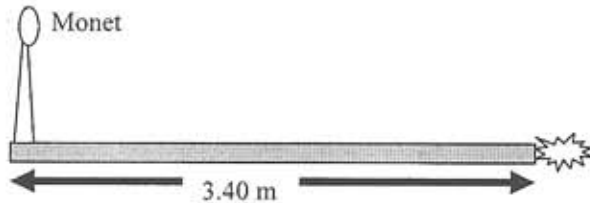


PHY 105  
Homework 11

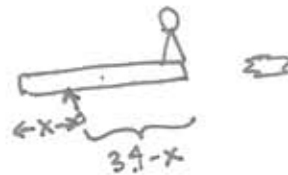
Name: \_\_\_\_\_  
November 23, 2009  
(Due November 30)

1. Monet (who has a mass of 70.0-kg) stands at one end of a 120.0-kg raft that is 3.40 m long. At the other end of the raft is a water lily. Monet walks toward the lily in order to pick it. When Monet reaches the other side of the raft, how close is he to the lily? Assume that there is no friction between the raft and the water and that the lily does not move.



$$= \frac{70(0) + 120(1.70)}{70 + 120}$$

$$= 1.07368 \text{ m}$$



$$\frac{70(3.4 - x) + 120(1.7 - x)}{70 + 120}$$

$$\frac{238 - 70x + 204 - 120x}{190}$$

$$\frac{442 - 190x}{190}$$

$$2.32632 - x$$

$$X_{CM, \text{ before}} = X_{CM, \text{ after}}$$

$$1.07368 = 2.32632 - x$$

~~1.87526 - x~~

$$x = 1.25 \text{ m}$$