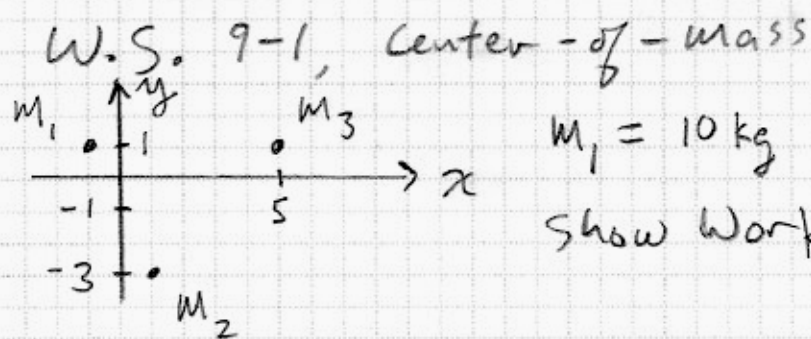


Name:

Section:

Date:



$$m_1 = 10 \text{ kg}$$

$$m_2 = 5 \text{ kg}$$

$$m_3 = 5 \text{ kg}$$

Show Work!

$$1) X_{cm} =$$

$$2) Y_{cm} =$$

$$3) \vec{r}_{cm} =$$

(4) Draw the C.M. location

Suppose the masses are moving:  $\vec{v}_1 = -2\hat{i} + 0\hat{j} \text{ m/s}$   
 $\vec{v}_2 = 2\hat{i} + 2\hat{j} \text{ m/s}$   $\vec{v}_3 = \hat{i} - \hat{j}$

5) Draw the velocity vectors on a scale of one m/s per square. (Add them to the graph above.)

$$6) V_{x, cm} =$$

$$7) V_{y, cm} =$$

$$8) \vec{v}_{cm} =$$

(9) Draw  $\vec{v}_{cm}$  in the graph above.

10) Calculate  $\vec{p}_{Total}$