

4. We will refer to the arrangement as a “table.” We locate the coordinate origin at the center of the tabletop and note that the center of mass of each “leg” is a distance $L/2$ below the top. With $+x$ rightward and $+y$ upward, then the center of mass of the right leg is at $(x, y) = (+L/2, -L/2)$ and the center of mass of the left leg is at $(x, y) = (-L/2, -L/2)$. Thus, the x coordinate of the (whole table) center of mass is

$$x_{\text{com}} = \frac{M(+L/2) + M(-L/2)}{M + M + 3M} = 0$$

as expected. And the y coordinate of the (whole table) center of mass is

$$y_{\text{com}} = \frac{M(-L/2) + M(-L/2)}{M + M + 3M} = -\frac{L}{5}$$

so that the whole table center of mass is a small distance ($0.2L$) directly below the middle of the tabletop.