



Consider a letter “C”, which is obtained by cutting a large square plate of  $(2a \times 2a)$  by an  $(a \times a)$ -square. See the sketch.

Determine the  $x$ -coordinate of the center of mass,  $x_{cm}$ .

- A)  $x_{cm} < a$ .
- B)  $x_{cm} = a$ .
- C)  $x_{cm} > a$ .

---

With the hole, we expect the  $x$ -coordinate of the center of mass to be less than  $a$ , which is the location of the center of mass when there is no hole. Answer **B**.