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.

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