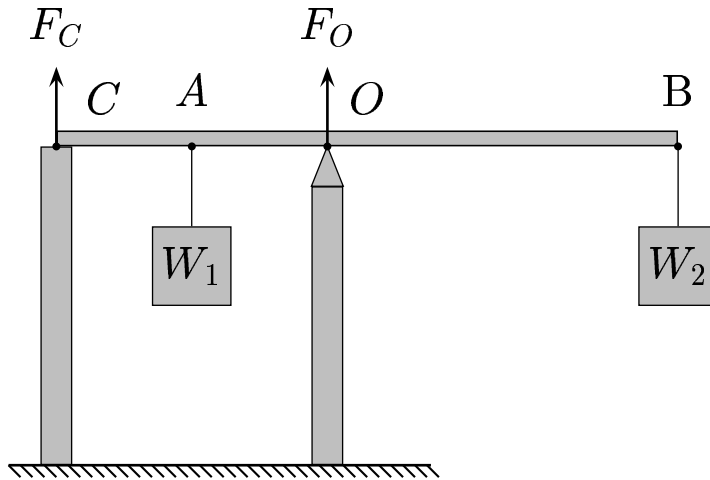


Given: $W_1 = 1000 \text{ N}$, $\overline{CA} = \overline{AO} = \frac{L}{4}$, and $\overline{OB} = \frac{L}{2}$.

Vary W_2 such that the supporting force $F_c = 0$.



At this moment, W_2 is given by

- A) $W_2 = 500 \text{ N}$.
- B) $W_2 = 1000 \text{ N}$.
- C) $W_2 = 1500 \text{ N}$.

When $F_c = 0$, at equilibrium about the point O , the clockwise torque equals the counterclockwise torque, *i.e.*

$$W_1 \frac{L}{4} = W_2 \frac{L}{2},$$

which implies $W_2 = \frac{W_1}{2} = 500 \text{ N}$.

Answer **A**.