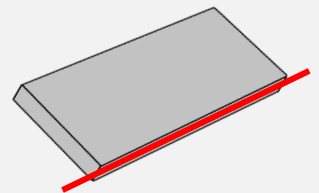
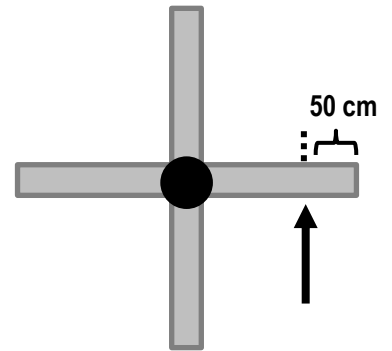


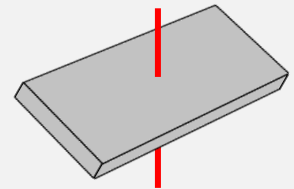
PRACTICE: BIRD COLLIDES AGAINST ROTATING DOORS

PRACTICE: Two rotating doors, each 4 kg in mass and 6 m long, are fixed to the same central axis of rotation, as shown above (top view). Suppose a 4 kg bird flying with 30 m/s horizontal collides against the door and stays stuck to it, at a point 50 cm from one end. Calculate the angular speed with which the system (doors + bird) spin together.



$$I = \frac{1}{3} m A^2$$

A = side that extends away from axis



$$I = \frac{1}{12} m (A^2 + B^2)$$

A and B = sides on face of rectangle