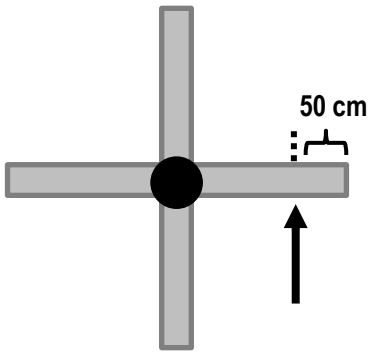
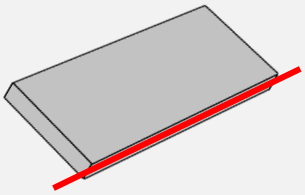
PRACTICE: BIRD COLLIDES AGAINST ROTATING DOORS

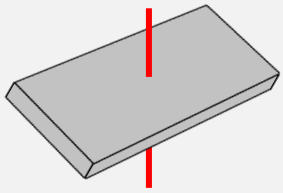
PRACTICE: Two rotating doors, each 4 kg in mass and 6 m long, are fixed to the same central axis of rotation, as shown above (top view). Suppose a 4 kg bird flying with 30 m/s horizontal collides against the door and stays stuck to it, at a point 50 cm from one end. Calculate the angular speed with which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





$I = 1/3\ m\ A^2$

A = side that extends away from axis



$I = 1/12\ m\ (A^2 + B^2)$

A and B = sides on face of rectangle