

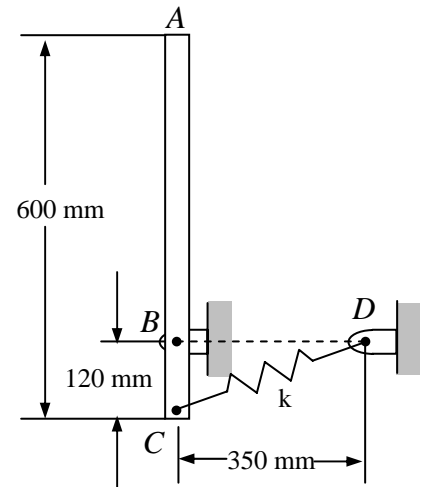
Homework (LE 12)

Problem 12.1

Do problem 4.6 in the text except modified as follows:

Determine

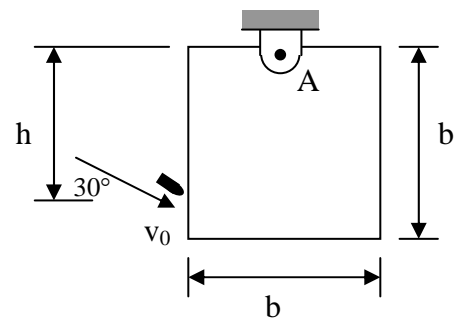
- a) the angular velocity of the rod after it has rotated through 90°
- b) the reactions at point B after the rod has rotated through 90°



Problem 12.2 (This is a modified version of problem 4.7 in the text)

A 45-g bullet is fired with a velocity of 400 m/s into a 9-kg panel of side $b = 0.2$ m as shown. Knowing that the bullet strikes the plate at a height $h = 190$ mm and that the panel is initially at rest, determine

- a) the velocity of the center of the panel immediately after the bullet becomes imbedded,
- b) the impulsive reaction at A, assuming that the bullet becomes imbedded in 2 ms.
- c) the reaction at A after the plate has swung through an angle of 90 degrees



Note: For part c) neglect the mass of the bullet since you do not know exactly where it will become lodged in the plate.