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.