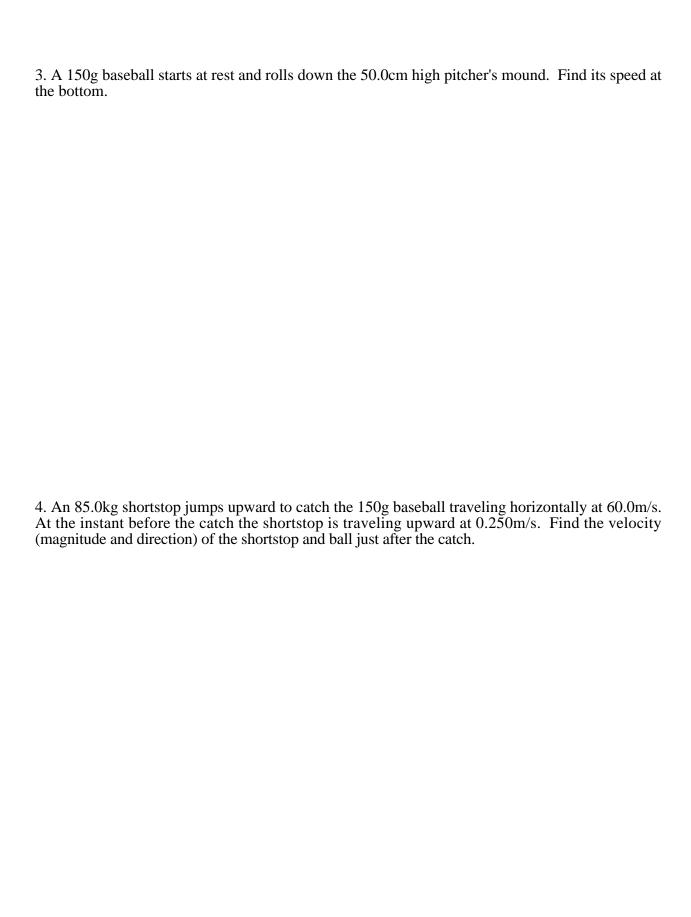
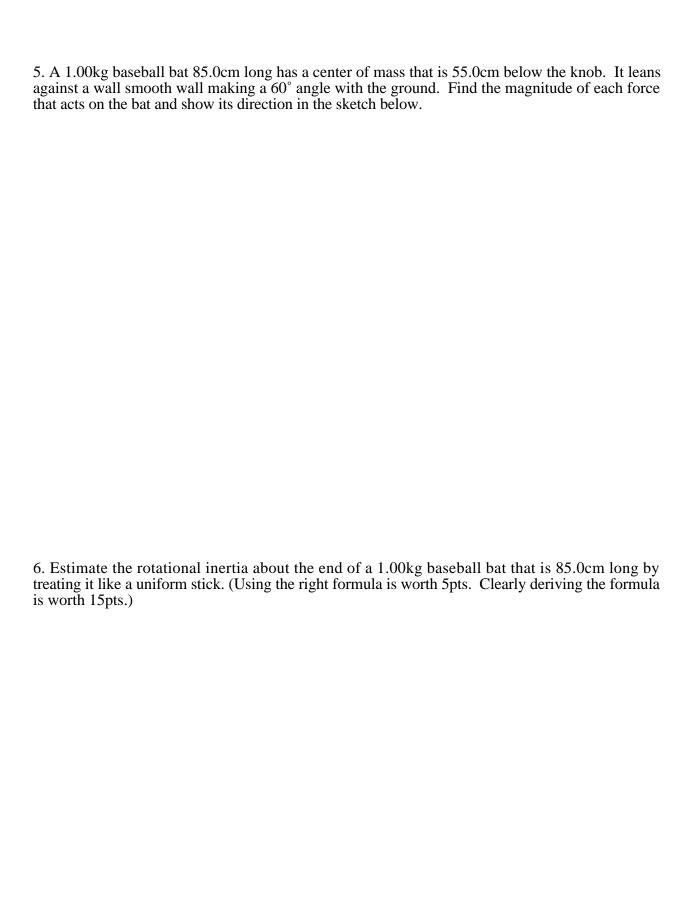
Name:		Posting Code:		
Physics 4A	FINAL EXAM -	"Take Me Out to t	the Ball Game"	Spring 1992
problem is worth correctly applied	n 10 points. You <u>m</u> physical principles w	space provided. Use the space provided. Use the space which are on the last partial credit will be aware.	n a logical fashion s age. Your score will	starting with the
horizontally from	a height of 2.00m w	mound toward home payith a velocity of 40.00 ght above the ground w	m/s. Find (a)the tim	
2 An 95 Olay has	omanon tuios to stool s	see and hase. When he	is 2 00m from the h	asa ha haaina his
slide at a speed o		second base. When he s to rest just as he touc and the ground.		





7. A physics of a batter striking a pitched ball can be modeled as shown below. The bat is rotating about the knob as the ball approaches. After the collision, the ball heads off as the rotation rate of the bat drops. We assume that the collision time is so short that effectively no torque is exerted on the bat by the batter during the collision. Given the mass of the bat is 1.00kg, the rotational inertia of the bat about the knob end is 0.350kg·m², the mass of the ball is 150g, the initial rotation rate of the bat is 600rpm, the speed of the incoming pitch is 40.0m/s, the final rotation rate of the bat is 300rpm, find the resulting velocity of the batted ball if it strikes the bat 60.0cm from the knob.

8. A  $1.000\pm.001$ kg baseball bat is  $85.0\pm.2$ cm long and its center of mass is  $55.0\pm.2$ cm from the knob end. When held at the knob end and allowed to oscillate, it is found to have a period of  $1.60\pm.05$ s. Find the rotational inertia of the bat about the knob end and find the uncertainty in this value.

