

PHYS 111 K

HOMEWORK #7

Due : 29 Oct. 2015

1. Consider figure EX 7.6 on page 186 of your text. Block A has a mass of M and block B has a mass of m ($M > m$). Block A lies on an incline of angle θ and block B lies on an incline of angle ϕ .
 - a) Find the acceleration of the blocks if both surfaces are frictionless.
 - b) Write Newton's second law for each block if the coefficient of friction between the surfaces is μ . (10 pts for each part).
2. Problem 8 page 186.
3. Problem 20 page 187.
4. Problem 21 page 187.
5. Problem 28, p. 187.
6. Problem 32, p. 187
7. Problem 40, p. 187. Write out explicitly Newton's second law for each mass, then solve for the acceleration of the system. Assume the ropes are massless, taut and frictionless.