Phys	1	2
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Name:					
Forces	and D	ynamics	Review	Assignment	t

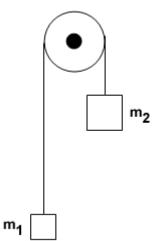
Show all your work for each question, making sure you draw a free-body diagram. Hand in at the end of class.

- 1) A person pushes a 5.0kg block across the floor using 7.98N. Find:
 - a) The acceleration of the block (2 marks)
 - b) The normal force acting on the block (2 marks)
 - c) The acceleration of the block if the coefficient of the kinetic friction is $u_k = 0.12$ (3 marks)

2) You are trying to lift a sack of potatoes off the ground. You exert 39N upwards in attempt to lift the sack of potatoes. If the sack of potatoes has a mass of 4.9kg, what is the normal force acting on the sack of potatoes? (3 marks)



3) Below is a diagram of an Atwood's Machine where m_2 and m_1 are tied by a massless rope hanging from a frictionless pulley. If m_2 = 4.2kg and m_1 = 2.5kg, calculate the acceleration of m_1 . (4 marks)



- 4) Jamie (78kg) is riding on an elevator while standing on a scale. Calculate the reading on the scale given each situation: (8 marks)
 - a) When the elevator isn't moving
 - b) When the elevator is moving upwards at constant velocity
 - c) When the elevator is accelerating upwards at 1.2m/s
 - d) When the elevator is accelerating downwards at 0.85m/s
 - e) When the cable of the elevator breaks and James + elevator are in free fall (oh no!)

Make sure to show all your work.

