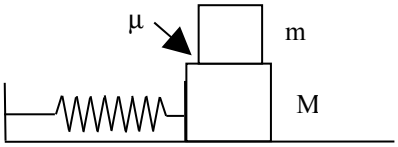
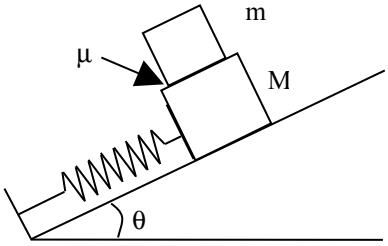
Name Surname:	Signature:
Department:	Number:

3) A block with mass *M* rests on a frictionless surface and is connected to a horizontal spring of force constant *k*. The other end of the spring is attached to a wall. A second block with mass *m* rests on top of the first block. The coefficient of static friction between the blocks is μ_s.

a) What is the *maximum amplitude* of the oscillations such that the top block will not slip on the bottom block if the surface is along the horizontal direction?

b) What is the *maximum amplitude* of the oscillations such that the top block will not slip on the bottom block if the surface makes a small angle θ with the horizontal?





 Solution continues on the back side of the page **Yes** □ **No** □