FREE BODY PROBLEM Name

A 1.0kg mass is on a flat, horizontal surface. The mass is being accelerated to the right at 15 m/s2. If the coefficient of friction between the mass and the surface is .51, answer the following questions.

1) Calculate the ***force weight*** that the mass has.

2) Since the mass is on a flat, horizontal surface; what must the ***force normal*** be?

3) Calculate the ***force friction*** felt by the mass.

4) Calculate the ***net force*** felt by the mass.

5) Using the scale 1cm = 5.0N; draw a free body diagram to show all of the forces acting on this mass. ***THINK CAREFULLY!*** Also remember that all forces are drawn from the center of the object.