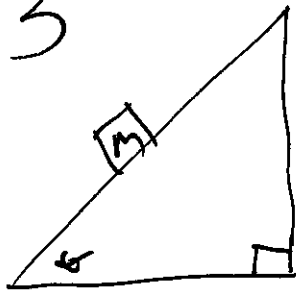3

-A block of mass m is on a ramp with angle of incline θ. The surface of the ramp and the block have a coefficient of kinetic friction μ_k and coefficient of static friction μ_s.

- Determine a condition for the block to move in terms of m, g, θ, and μ_s.

- Draw two free-body diagrams for each condition in terms of m, g, θ, and μ_k. Relate them with an if-else statement.

- Determine two possible expressions for net force in terms of m, g, θ, and μ_k, related by an if-else statement.

- Determine two possible expression for acceleration of the block in terms of g, θ, and μ_k, related by an if-else statement.