**5C (Part 1) Friction**

1. A block of mass 5kg is lying at rest on rough horizontal ground. The coefficient of friction between the block and the ground is 0.4. A horizontal force, P, is applied to the block. Find the magnitude of the frictional force acting on the block and its acceleration when:
2. P = 10N
3. P = 19.6N
4. P = 30N
5. A 5kg box lies at rest on a rough horizontal floor. The coefficient of friction between the box and the floor is 0.5. A force P is applied to the box. Calculate the value of P required to cause the box to accelerate if:
6. P is applied horizontally
7. P is applied at an angle of θ above the horizontal, where tanθ = 3/4