**7C Limiting Friction**

1. A block of mass 3kg rests on a rough horizontal plane. The coefficient of friction between the block and the plane is 0.4. When a horizontal force P N is applied to the block, the block remains in equilibrium.
2. Find the value for P for which the equilibrium is limiting
3. Find the value of F when P = 8N
4. A mass of 8kg rests on a rough horizontal plane. The mass may be modelled as a particle, and the coefficient of friction between the mass and the plane is 0.5.

Find the magnitude of the maximum force PN, which acts on this mass without causing it to move if P acts at an angle of 60° above the horizontal.