**10E Connected Particles**

1. Two particles, P and Q, of masses 5kg and 3kg respectively, are connected by a light inextensible string. Particle P is pulled by a horizontal force of magnitude 40N along a rough horizontal plane. Particle P experiences a frictional force of 10N and particle Q experiences a frictional force of 6N.
2. Find the acceleration of the particles
3. Find the tension in the string
4. Explain how the modelling assumptions that the string is light and inextensible have been used