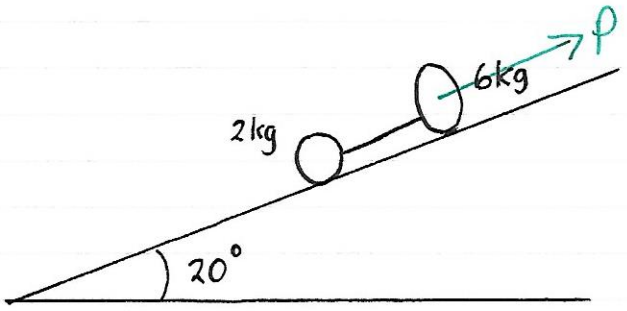
Connected Particles on Inclined Planes

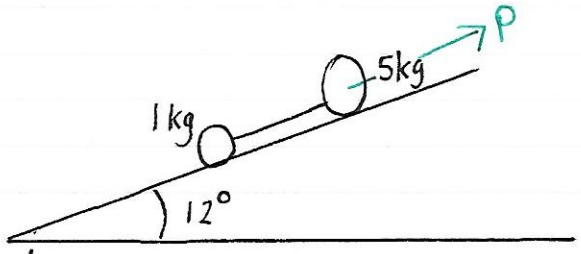
1)



A 6kg mass is connected by a light inextensible string to a 2 kg mass on a smooth slope as shown.
A driving force P is applied to the 6kg mass, causing an acceleration up the slope of 2 m/s².
Calculate

a) the driving force P
b) the tension in the string.

2)



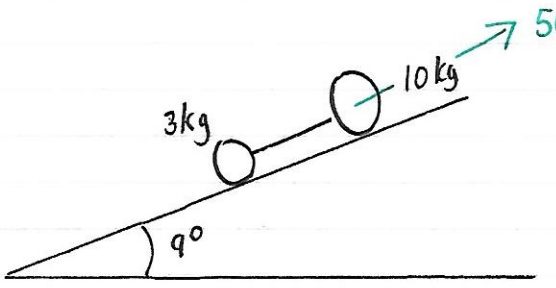
smooth slope

As above except

- Acceleration up slope is 1 m/s²

a) find the driving force P
b) find the tension in the string

3)



smooth slope

As Q① except a) Calculate the acceleration

b) Calculate the tension.