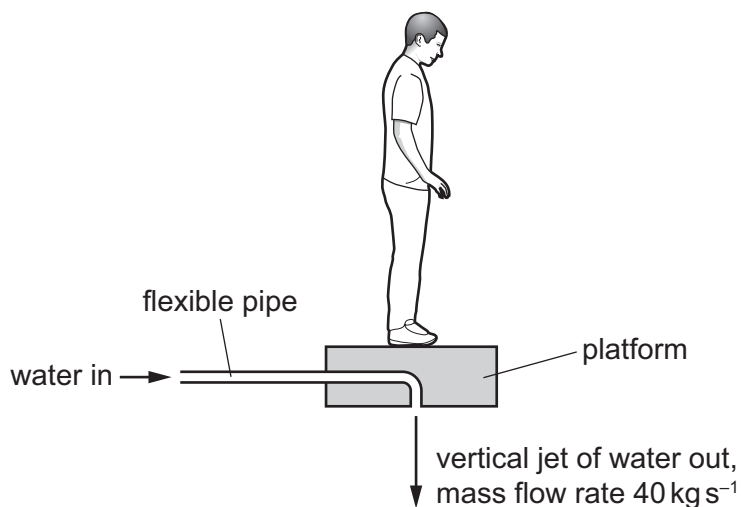11 The diagram shows a man standing on a platform that is attached to a flexible pipe. Water is pumped through the pipe so that the man and platform remain at a constant height.

flexible pipe

water in →

platform

vertical jet of water out,
mass flow rate 40 kg s^{-1}

The resultant vertical force on the platform is zero. The combined mass of the man and platform is 96 kg. The mass of water that is discharged vertically downwards from the platform each second is 40 kg.

What is the speed of the water leaving the platform?

A 2.4 m s^{-1} **B** 6.9 m s^{-1} **C** 24 m s^{-1} **D** 47 m s^{-1}

12 Forces are applied to a rigid body. The forces all act in the same plane.

In which diagram is the body in equilibrium?

A   B   C   D