

- 14** A train of mass $3.3 \times 10^6 \text{ kg}$ is moving at a constant speed up a slope inclined at an angle of 0.64° to the horizontal. The engine of the train is producing a useful output power of 14 MW.

Assume that there are no frictional forces opposing the motion of the train.

What is the speed of the train?

- A** 0.43 m s^{-1} **B** 4.2 m s^{-1} **C** 39 m s^{-1} **D** 380 m s^{-1}

- 15** A cannon ball of mass 2.50 kg is fired at a speed of 22.0 m s^{-1} from a gun on a ship at a height of