

- 6 A ball is thrown horizontally with a speed of 10.0 m s^{-1} above horizontal ground. The ball hits the ground after a time of 3.0 s .

Air resistance is negligible.

What is the speed of the ball just before it hits the ground?

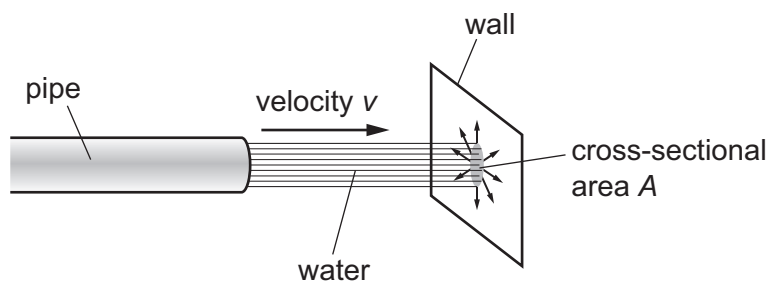
- A** 10 m s^{-1} **B** 29 m s^{-1} **C** 31 m s^{-1} **D** 39 m s^{-1}

- 7 An object is moving along the ground in a straight line at a constant speed.

Which statement about the resultant force acting on the object is correct?

- A** The resultant force acting on the object is equal to its weight.
B The resultant force acting on the object is equal to the product of its mass and its velocity.
C The resultant force acting on the object is equal to the resistive force.
D The resultant force acting on the object is equal to zero.

- 8 Water flows out of a pipe and hits a wall.



When the jet of water hits the wall, it has horizontal velocity v and cross-sectional area A .

The density of the water is ρ . The water does not rebound from the wall.

What is the force exerted on the wall by the water?

- A** $\frac{\rho v}{A}$ **B** $\frac{\rho v^2}{A}$ **C** $\rho A v$ **D** $\rho A v^2$