

MOMENTUM

1

A bullet of mass 0.10 kg travels horizontally at a speed of 600 m/s . It strikes a stationary wooden block of mass 1.90 kg resting on a frictionless, horizontal surface.

The bullet stays in the block.

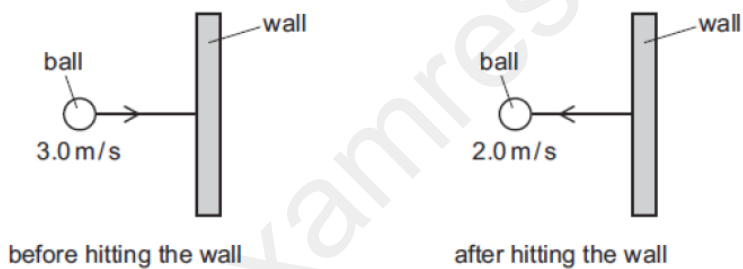
What is the speed of the bullet and the block immediately after the impact?

- A 30 m/s B 32 m/s C 60 m/s D 134 m/s
-

2

A ball has a mass of 0.30 kg . It moves horizontally with a speed of 3.0 m/s in the direction shown.

The ball hits a wall.



The ball rebounds from the wall with a horizontal speed of 2.0 m/s .

What is the change in momentum of the ball?

- A 0.30 kgm/s B 1.0 kgm/s C 1.5 kgm/s D 5.0 kgm/s
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3

A ball of mass 2.0 kg is travelling at a speed of 12 m/s. It moves towards an object of mass 3.0 kg which is at rest.



The ball hits the object and sticks to it.

Which row gives the total momentum, and the speed of both objects immediately after the collision?

	<u>total momentum</u> kg m/s	<u>speed</u> m/s
A	0	4.8
B	0	8.0
C	24	4.8
D	24	8.0