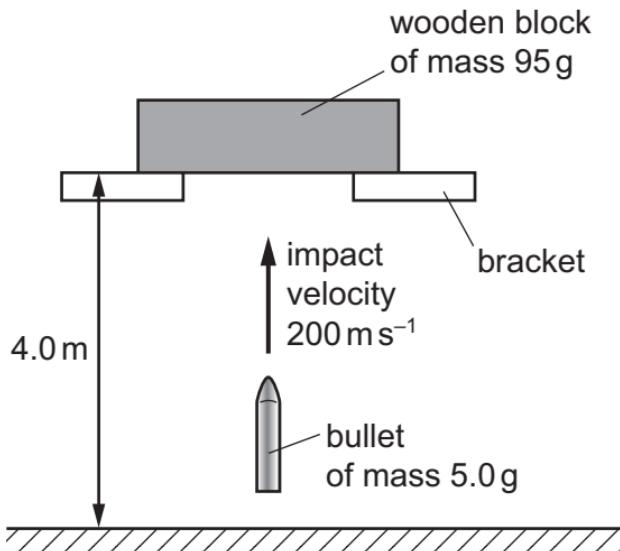


13 A wooden block is freely supported on brackets at a height of 4.0 m above the ground, as shown.



A bullet of mass 5.0 g is shot vertically upwards into the wooden block of mass 95 g. It embeds itself in the block. The impact causes the block to rise above its supporting brackets.

The bullet hits the block with a velocity of 200 m s^{-1} . How far above the ground will the block be at the maximum height of its path?

- A** 5.1 m
- B** 5.6 m
- C** 9.1 m
- D** 9.6 m

14 Four cuboids with identical length, breadth and height are immersed in water. The cuboids are