

- 5** An object is fired upwards from horizontal ground. The object has an initial velocity of  $20 \text{ m s}^{-1}$  at an angle of  $45^\circ$  to the horizontal. Air resistance is negligible.

Which statement describes the speed of the object after it is fired until immediately before it reaches the ground again?

- A** Its speed decreases to a value greater than zero, then increases to  $20 \text{ m s}^{-1}$ .
- B** Its speed decreases to a value greater than zero, then increases to a value greater than  $20 \text{ m s}^{-1}$ .
- C** Its speed decreases to zero, then increases to  $20 \text{ m s}^{-1}$ .
- D** Its speed decreases to zero, then increases to a value less than  $20 \text{ m s}^{-1}$ .