6 An object moves with a velocity v.

The kinetic energy of the object is doubled.

Which of the following is an expression for the new velocity of the object?

☒ **A** $\sqrt{2}v$

☒ **B** $2v$

☒ **C** $2\sqrt{2}v$

☒ **D** $4v$

(Total for Question 6 = 1 mark)