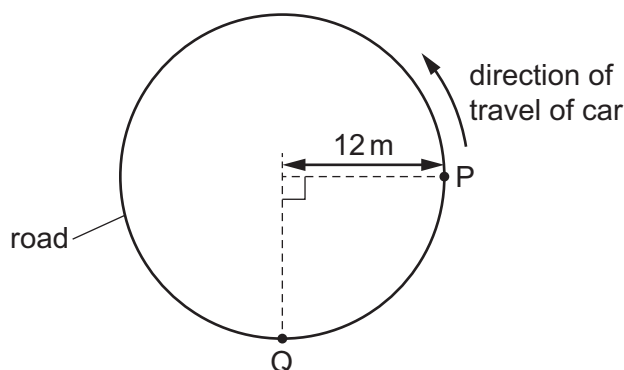**5**   A car travels anticlockwise along a horizontal circular road of radius 12 m, as shown.

The car takes a time of 4.0 s to move from position P to position Q.

What is the magnitude of the average velocity of the car for the journey from P to Q?

A $4.2\,\text{m s}^{-1}$ **B** $4.7\,\text{m s}^{-1}$ **C** $6.0\,\text{m s}^{-1}$ **D** $14\,\text{m s}^{-1}$

6   The water surface in a deep well is 78.0 m below the top of the well. A person at the top of the well drops a heavy stone down the well.

Air resistance is negligible. The speed of sound in the air is $330\,\text{m s}^{-1}$.

What is the time interval between the person dropping the stone and hearing it hitting the water?

A   3.75 s **B**   3.99 s **C**   4.19 s **D**   4.22 s

7   Which statement is **not** a requirement of a pair of forces that obey Newton's third law of motion?

A   The forces act in opposite directions.

B   The forces act on different objects.

C   The forces act on objects in contact.

D   The forces are of equal magnitude.