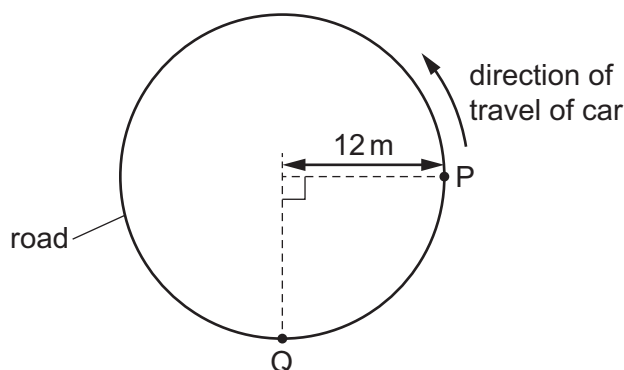


- 5 A car travels anticlockwise along a horizontal circular road of radius 12 m, as shown.

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**  $4.2 \text{ ms}^{-1}$       **B**  $4.7 \text{ ms}^{-1}$       **C**  $6.0 \text{ ms}^{-1}$       **D**  $14 \text{ ms}^{-1}$
- 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  $330 \text{ ms}^{-1}$ .
- 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.