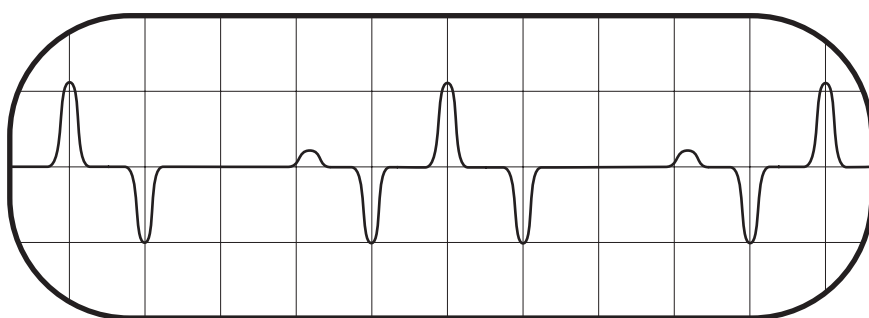**3** The drag coefficient C_d is a number with no units. It is used to compare the drag on different cars at different speeds. It is given by the equation

$$C_d = \frac{2F}{\rho v^n A}$$

where F is the drag force on the car, ρ is the density of the air, A is the cross-sectional area of the car and v is the speed of the car.

What is the value of n?

A 1   **B** 2   **C** 3   **D** 4

4 A signal that repeats periodically is displayed on the screen of a cathode-ray oscilloscope.

The screen has 1 cm squares and the time base is set at $2.00\,\text{ms}\,\text{cm}^{-1}$.

What is the frequency of this periodic signal?

A 50 Hz   **B** 100 Hz   **C** 125 Hz   **D** 200 Hz

Space for working