**27** The period of an electromagnetic wave is 1.0 ns.

What are the frequency and wavelength of the wave?

|   | frequency/Hz | wavelength/m |
|---|---|---|
| **A** | 1.0 | $3.0 \times 10^8$ |
| **B** | $1.0 \times 10^6$ | 300 |
| **C** | $1.0 \times 10^9$ | 0.30 |
| **D** | $1.0 \times 10^{12}$ | $3.0 \times 10^{-4}$ |