

- 1 A wave has a frequency of 5 GHz.

What is the period of the wave?

- A 200 ps
- B 2 ns
- C 20 ns
- D 20 000 μ s

- 2 At temperatures close to 0 K, the specific heat capacity c of a particular solid is given by $c = bT^3$, where T is the temperature and b is a constant, characteristic of the solid. The SI unit of specific heat capacity is $\text{J kg}^{-1} \text{K}^{-1}$.

What is the unit of constant b , expressed in SI base units?

- A $\text{m}^2 \text{s}^{-2} \text{K}^{-3}$
- B $\text{m}^2 \text{s}^{-2} \text{K}^{-4}$
- C $\text{kg m}^2 \text{s}^{-2} \text{K}^{-3}$
- D $\text{kg m}^2 \text{s}^{-2} \text{K}^{-4}$

- 3 The speed of an aircraft in still air is 200 km h^{-1} . The wind blows from the west at a speed of 85.0 km h^{-1} .

In which direction must the pilot steer the aircraft in order to fly due north?

- A 23.0° east of north
- B 23.0° west of north
- C 25.2° east of north
- D 25.2° west of north