1 A laser emits light of wavelength 600 nm.

What is the distance, expressed as a number of wavelengths, travelled by the light in one second?

A 5×10^{8} **B** 5×10^{11} **C** 5×10^{14} **D** 5×10^{17}

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 thermodynamic temperature and b is a constant characteristic of the solid.

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

A $m^2 s^{-2} K^{-3}$

B $m^2 s^{-2} K^{-4}$

C $kg\, m^2 s^{-2} K^{-3}$

D $kg\, m^2 s^{-2} K^{-4}$

3 The table shows the x-component and y-component of four force vectors.

Which force vector has the largest magnitude?

	x-component / N	y-component / N
A	2	9
B	3	8
C	4	7
D	5	6

4 A student uses a digital ammeter to measure a current. The reading of the ammeter is found to fluctuate between 1.98 A and 2.02 A.

The manufacturer of the ammeter states that any reading has a systematic uncertainty of ± 1 %.

Which value of current should be quoted by the student?

A (2.00 ± 0.01) A

B (2.00 ± 0.02) A

C (2.00 ± 0.03) A

D (2.00 ± 0.04) A