1 A cyclist has a speed of $5\,m\,s^{-1}$ and a small car has a speed of $12\,m\,s^{-1}$.

Which statement does **not** give a reasonable estimate?

A The kinetic energy of the cyclist is $1 \times 10^3\,J$.

B The kinetic energy of the car is $7 \times 10^4\,J$.

C The momentum of the cyclist is $4 \times 10^2\,kg\,m\,s^{-1}$.

D The momentum of the car is $2 \times 10^5\,kg\,m\,s^{-1}$.

2 Which expression gives an SI base quantity?

A charge per unit time

B force per unit area

C mass per unit volume

D work done per unit distance

3 Which list contains only scalar quantities?

A area, length, displacement

B kinetic energy, speed, power

C potential energy, momentum, time

D velocity, distance, temperature

4 A micrometer is used to measure the 28.50 mm width of a plastic ruler. The micrometer reads to the nearest 0.01 mm.

What is the correct way to record this reading?

A $0.02850 \pm 0.01\,m$

B $0.0285 \pm 0.001\,m$

C $(2.850 \pm 0.001) \times 10^{-2}\,m$

D $(2.850 \pm 0.001) \times 10^{-3}\,m$