A-Level Edexcel

PHYSICS

UNIT 1(IAL)

2019 — 2023

1 - (WPH11/1(IAL)_Summer_2019_Q1) - *Mechanics*

Quantities in physics are classified as either vectors or scalars.

Which of the following units could **only** be used for a scalar quantity?

☒ **A** $\mathrm{m\,s^{-1}}$

☒ **B** $\mathrm{m\,s^{-2}}$

☒ **C** $\mathrm{kg\,m\,s^{-2}}$

☒ **D** $\mathrm{kg\,m^{-3}}$

2 - (WPH11/1(IAL)_Summer_2019_Q2) - *Mechanics*

Once in orbit above the Earth's atmosphere, the engines on a space rocket are switched off.

Which row of the table correctly states the resulting motion of the rocket and the law explaining this motion?

	Motion of rocket	Explanation
☒ **A**	uniform velocity	Newton's 2nd law
☒ **B**	uniform velocity	Newton's 3rd law
☒ **C**	changing velocity	Newton's 2nd law
☒ **D**	changing velocity	Newton's 3rd law

3 – (WPH11/1(IAL)_Summer_2019_Q3) – *Mechanics*

A sphere of weight 2.5 N floats in water with ½ of its volume beneath the surface.

A force F is applied to the sphere, completely immersing it in the water as shown.

Which of the following is the minimum value of F?

☒ **A** $2 \times 2.5\,\text{N}$

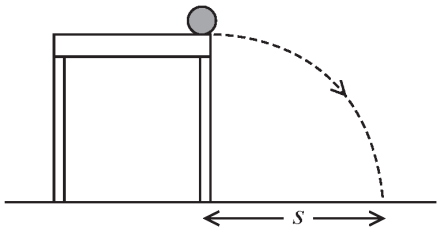
☒ **B** $1 \times 2.5\,\text{N}$

☒ **C** $\frac{1}{2} \times 2.5\,\text{N}$

☒ **D** $\frac{1}{4} \times 2.5\,\text{N}$

4 - (WPH11/1(IAL)_Summer_2019_Q4) - *Mechanics*

A ball rolls off a table with a horizontal velocity of $1.2\,\text{m}\,\text{s}^{-1}$. The ball takes $0.9\,\text{s}$ to reach the ground and lands a distance s from the table as shown.



Which of the following expressions could be used to determine the value of s in metres?

☒ **A** $\dfrac{1.2^2}{2 \times 9.81}$

☒ **B** 1.2×0.9

☒ **C** $\frac{1}{2} \times 9.81 \times 0.9^2$

☒ **D** $(1.2 \times 0.9) + (\frac{1}{2} \times 9.81 \times 0.9^2)$

5 - (WPH11/1(IAL)_Summer_2019_Q5) - *Mechanics*

A sample of sea water is collected using a beaker. The sample contains some particles of sand which settle at the bottom of the beaker.

Which of the following would result in a decrease in the time taken for the sand to settle?

☒ **A** smaller particles of sand

☒ **B** lower temperature of the sea water

☒ **C** smaller terminal velocity of sand particles

☒ **D** lower viscosity of the sea water

ANSWERS

1 – (WPH11/1(IAL)_Summer_2019_Q1) – *Mechanics*

D

2 – (WPH11/1(IAL)_Summer_2019_Q2) – *Mechanics*

C

3 – (WPH11/1(IAL)_Summer_2019_Q3) – *Mechanics*

B

4 – (WPH11/1(IAL)_Summer_2019_Q4) – *Mechanics*

B

5 – (WPH11/1(IAL)_Summer_2019_Q5) – *Mechanics*

D

6 – (WPH11/1(IAL)_Summer_2019_Q7) – *Mechanics*

B

7 – (WPH11/1(IAL)_Summer_2019_Q8) – *Mechanics*

C

8 – (WPH11/1(IAL)_Summer_2019_Q9) – *Mechanics*

B

9 – (WPH11/1(IAL)_Summer_2019_Q10) – *Mechanics*

C