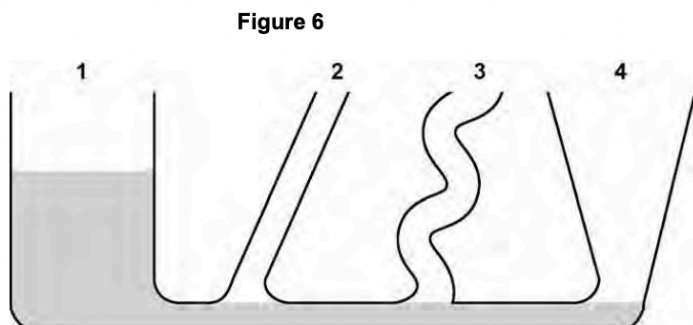


Q1.(2018)

Figure 6 shows an unusually shaped container.

The container has four vertical tubes of different shape and size.



Water is poured into the container up to the level shown in tube 1.

Complete **Figure 6** to show the height of the water in tubes 2, 3 and 4.

[1 mark]

Q2.(2018)

a)

The further a swimmer dives below the surface of the sea, the greater the pressure on the swimmer.

Explain why.

[2 marks]

b)

A person swims from a depth of 0.50 m to a depth of 1.70 m below the surface of the sea.

density of the sea water = 1030 kg/m^3

gravitational field strength = 9.8 N/kg

Calculate the increase in pressure on the swimmer.

Give the unit.

Use an equation from the Physics Equation Sheet.

[4 marks]

Increase in pressure = _____ Unit _____

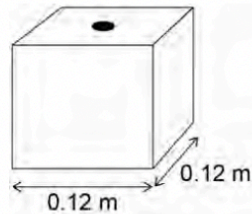
Q3.(2023)

a)

Figure 2 shows one of the cubes. The cube is filled with water.

The weight of the water exerts a pressure on the bottom of the cube.

Figure 2



Which equation correctly links area, force and pressure?

[1 mark]

Tick (✓) **one** box.

pressure = force $\times$ area²

☐

pressure = force $\times$ area

☐

pressure = $\frac{\text{force}}{\text{area}}$

☐

pressure = $\frac{\text{area}}{\text{force}}$

☐

b)

The water pressure at the bottom of the cube is 1500 Pa.

Calculate the force of the water on the bottom of the cube.

[4 marks]

Force = _____ N

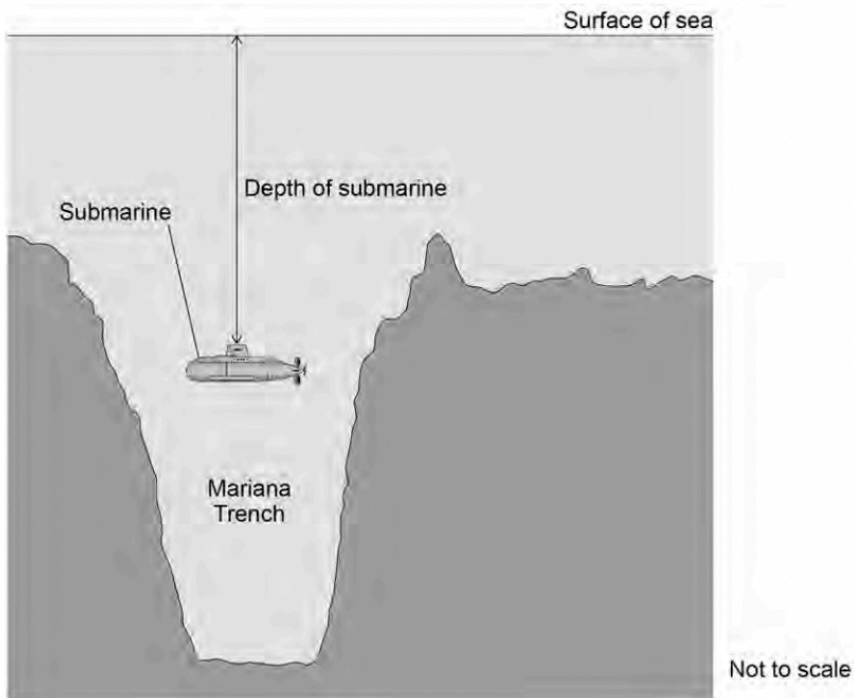
Q4.(2024)

a)

The Mariana Trench is the deepest part of the Pacific Ocean.

Figure 8 shows a submarine going to the bottom of the Mariana Trench.

Figure 8



The depth of the submarine increases.

Explain what happens to the pressure on the submarine.

[2 marks]

b)

The submarine moved from the surface of the water to the bottom of the Mariana Trench.

The change in pressure was 110 000 kPa.

mean density of sea water = 1026 kg/m^3

gravitational field strength = 9.8 N/kg

Calculate the depth of the Mariana Trench.

Use the Physics Equations Sheet.

[4 marks]

Depth = _____ m

c)

Earthquakes often occur at the Mariana Trench.

P-waves and S-waves are produced by earthquakes.

Which statement describes P-waves and S-waves?

[1 mark]

Tick (✓) **one** box.

Both P-waves and S-waves are longitudinal.

☐

Both P-waves and S-waves are transverse.

☐

P-waves are longitudinal and S-waves are transverse.

☐

P-waves are transverse and S-waves are longitudinal.

☐