Oxford Cambridge and RSA

GCSE Physics A (Gateway)

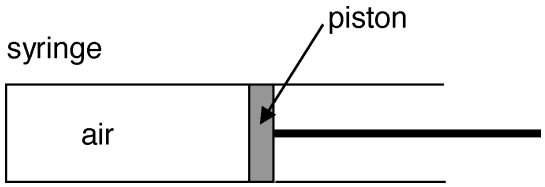
J249/01 Physics A P1-P4 and P9 (Foundation Tier)

Question Set 25

Multiple Choice Questions

P1: Matter

1 A syringe contains air.



The piston is pushed inwards.

How do the pressure and volume of the air in the syringe change?

	Pressure	Volume
A	decreases	decreases
B	decreases	increases
C	increases	decreases
D	increases	increases

Your answer ☐ **[1]**

2 A sealed can contains gas.

The can is heated and the pressure of the gas increases.

How do the gas particles cause this increase in pressure?

A The average distance between the particles increases.

B The particles expand.

C The particles hit each other more frequently.

D The particles hit the can more frequently.

Your answer ☐ **[1]**

3 These statements are about pressure and volume of a gas.

Which statement is correct?

A Volume doubles, pressure doubles

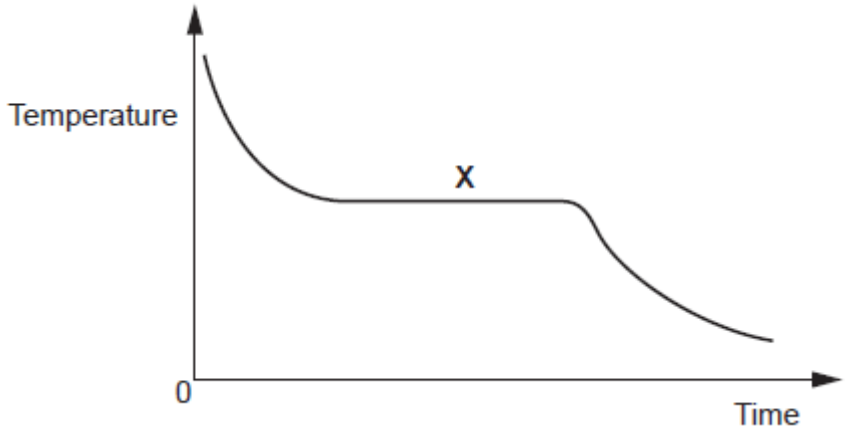
B Volume doubles, pressure halves

C Volume halves, pressure halves

D Volume halves, pressure stays constant

Your answer ☐ **[1]**

4 A student studies how the temperature falls when a liquid cools.



What is happening at point **X** on the graph?

A Boiling

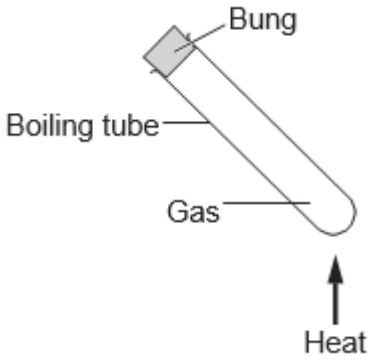
B Freezing

C Melting

D Subliming

Your answer ☐ **[1]**

5 A sealed boiling tube contains gas.



The boiling tube is heated.

What happens?

A The particles in the gas evaporate.

B The particles in the gas expand.

C The particles in the gas move faster.

D The particles in the gas move slower.

Your answer ☐ **[1]**

6 Different states of matter have different densities.

Which of the following shows the states of matter in density order, starting with the lowest density?

A Solid – liquid – gas

B Solid – gas – liquid

C Gas – liquid – solid

D Liquid – gas – solid

Your answer ☐ **[1]**

7 A cylinder contains a gas.

The volume of the gas is halved and the temperature remains the same.

What happens to the pressure of the gas?

A It remains the same.

B It halves.

C It doubles.

D It quadruples.

Your answer ☐ **[1]**

8 An object has a volume of $1.5\,m^3$ and a mass of $3.0\,kg$.

What is the density of the object?

Use the equation: density = mass ÷ volume

A $0.5\,kg/m^3$

B $2.0\,kg/m^3$

C $4.5\,kg/m^3$

D $6.0\,kg/m^3$

Your answer ☐ **[1]**

Total Marks for Question Set 25: 8