

10 The photograph shows a cylinder of compressed air used to breathe underwater.



© serg_dibrova/Shutterstock

(a) Explain how the air causes a pressure on the inside of the cylinder.

Refer to particles in your answer.

(3)

.....

.....

.....

.....

.....

.....

(b) Explain what happens to the pressure of the air inside the cylinder as its temperature increases.

(3)

.....

.....

.....

.....

.....

.....

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



- (c) A fixed mass of air has a volume of $43\,000\text{ cm}^3$ when its pressure is 100 kPa .

Calculate the pressure of this fixed mass of air when it is inside the cylinder.

[volume of air in cylinder = 8500 cm^3]

(3)

pressure = kPa

(Total for Question 10 = 9 marks)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

