

Past-paper walk-through

Kinetic theory of gases ■ 15.3

eXercise

Questions in this set

- 9702/41 J25 Q4 ■ 8 marks
- 9702/43 J25 Q4 ■ 8 marks
- 9702/41 N23 Q3 ■ 13 marks
- 9702/41 J23 Q4 ■ 12 marks

Reading the mark scheme

- **B1** a mark that stands on its own – the point is either made or not.
- **M1** a *method* mark: the right approach, even if the number is wrong.
- **A1** an *answer* mark, and it usually needs its M mark first.
- **C1** a working mark on the way to the answer.
- **//** separates answers the examiner accepts equally.
- **ecf** = error carried forward: a later part is marked on your own earlier answer.
- **owtte** = “or words to that effect” – the wording need not match.

Question 4

9702/41 J25 ■ Q4 ■ 8 marks

(a)(i) State what is meant by the internal energy of a system. [2]

(a)(ii) Explain why the internal energy of an ideal gas is directly proportional to the thermodynamic temperature of the gas. [2]

Question 4

	work done on gas	thermal energy supplied to gas	increase in internal energy of gas
compression	$+W$		
cooling			