When a Model Syringe Reaches Its Stop

Scoring guide · one credit per question · review written work against each rubric

When a Model Syringe Reaches Its Stop

Question 1

Choice (2)

The gas amount grows from 2.0 to 3.0 units and volume grows from 40 to 60 mL. Pressure and temperature are fixed in that stage.

Question 2

The amount rises from 3.0 to 4.0 units at fixed volume. The pressure becomes 100 × 4.0/3.0, or about 133 kPa.

Question 3

The first two rows apply while the piston can move. After the stop, the volume cannot increase past 60 mL, so adding gas raises pressure instead.

Question 4

The volume would increase. There is more gas than at the stop, and the pressure must return to its earlier value at the same temperature. The model would then allow the 80 mL volume.