# Checking Pressure When Vapor Particles Pair

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

### Checking Pressure When Vapor Particles Pair

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### Question 1

Choice (3)

P has 100 free molecules. Q has 60 free molecules and 20 pairs of two, for 100 molecules in all.

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### Question 2

Each pair has two molecules but moves as one unit in the model. Q has 60 + 20 = 80 independent particles. P has 100.

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### Question 3

With pairing, Q has 80/100 as many moving particles and gives 40 kPa. With all pairs separated it has 100 moving particles, giving 50 kPa.

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### Question 4

No molecules entered the chamber. Twenty pairs split into 40 separately moving molecules, increasing the number of moving units while conserving the mass and the original count of molecules.