

## General Chemistry Multiple Choice Questions Chapter 9

**1** Which of the following is not a property of a gas under normal conditions?

- a Flows easily
- b Compressible
- c Completely fills its container
- d High Density

	9.1
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**2** A real gas typically exhibits behavior that is closest to an ideal gas at

- a High pressure and high temperature
- b High pressure and low temperature
- c Low pressure and low temperature
- d Low pressure and high temperature

	9.1
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**3** Which of the following statements is true according to the kinetic molecular theory?

- a Gravitational forces act upon gas particles
- b Average KE of gas particles is proportional to K temp
- c Gas particles exert forces upon each other
- d Gas particles have measurable volumes

	9.1
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**4** Under which of the following conditions of temperature and pressure will H<sub>2</sub> gas be expected to behave most like an ideal gas?

- a 50 K and 0.10 atm
- b 50 K and 5.0 atm
- c 500 K and 0.10 atm
- d 500 K and 50 atm

	9.1
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**5** The average volume of a sample of air in a cylinder with a movable piston is 2.0 L at a pressure P<sub>1</sub>.

The volume is increased to 5.0 L as the temperature is held constant. The pressure of the air in the cylinder is now P<sub>2</sub>. What effect do the volume and pressure changes have on the average kinetic energy of the molecules in the sample?

- a The average kinetic energy increases
- b The average kinetic energy decreases
- c The average kinetic energy stays the same
- d It cannot be determined how the kinetic energy

	9.1
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is affected without knowing P<sub>1</sub> and P<sub>2</sub>

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1 What is the SI unit for pressure?

- a Pascal
- b Atmosphere
- c Pounds per Square Inch
- d mm Hg

	9.2
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2 If the pressure stays constant but the surface area exposed increases, the force

- a Increases
- b Decreases
- c No Change
- d Not enough information to determine

	9.2
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3 If the pressure increases and the surface area exposed stays constant, the force

- a Increases
- b Decreases
- c No Change
- d Not enough information to determine

	9.2
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## General Chemistry Multiple Choice Questions Chapter 9

1 Which of the following is a statement of Boyle's Law?

a  $V = kn$  (P, T constant)

b  $P = kT$  (V, n constant)

c  $PV = k$  (n, T constant)

d  $V = kT$  (n, P constant)

	9.5
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2 A gas at 30°C and 1 atm pressure has a volume of 3.50 L. What volume is the gas at 40°C and 1 atm?

a 2.63 L

b 4.67 L

c 3.39 L

d 3.62 L

	9.5
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3 A sample of gas at 750 torr and a temperature of -50°C and a volume of 3.00 L is allowed to change so that the temperature is 200°C and gas pressure is 845 torr. What is the new volume?

a 5.65 L

b 1.26 L

c 7.17 L

d 0.499 L

	9.5
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1 Which of these statements is true?

- a The vapor pressure of a liquid increases with decreasing temperature
- b The boiling point of a liquid is independent of atmospheric pressure
- c Vapor pressure varies directly with volume
- d The higher the boiling point of a liquid at 1 atm atmospheric pressure, the greater the internal cohesive forces of the liquid.

	9.8
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2 The boiling point is the temperature at which the substance's \_\_\_\_\_ equals atmospheric pressure

- a Vapor pressure
- b Internal Pressure
- c Molar Mass
- d Surface Pressure

	9.8
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3 The boiling point of a substance \_\_\_\_\_ with elevation

- a Increases
- b Decreases
- c Doesn't Change
- d Varies

	9.8
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