

Multiple Choice: Choose the best answer and write the letter on the line.

_____ 1. Which of the following is NOT one of the tenets of the kinetic molecular theory

- a. Gases are in continuous, random movement
- b. The volumes of gases is negligible
- c. During collisions, gases molecules always lose energy
- d. Attractive and repulsive forces in gases are negligible

_____ 2. What happens to the average kinetic energy when the absolute temperature increases?

- a. increases
- b. decreases
- c. increases then decreases
- d. stays the same

_____ 3. If the kinetic energy decreases what happens to the speed of the molecule?

- a. increases
- b. decreases
- c. increases then decreases
- d. stays the same

_____ 4. Which of the following would have the biggest pressure if the force was equal?

- a. tip of a white board marker
- b. eraser on a pencil
- c. needle
- d. calculator

_____ 5. What is the relationship between pressure and force?

- a. Independently proportional
- b. Inversely proportional
- c. Dependently proportional
- d. Directly proportional

_____ 6. Which of the following affects how a gas behaves?

- a. pressure
- b. temperature
- c. number of particles
- d. all of the following

_____ 7. If a 3 L container was expanded to 6L, what would happen to the pressure if everything else was kept constant?

- a. increase
- b. decrease
- c. increase then decrease
- d. stay the same

_____ 8. Which container would have the lowest pressure?

- a. 8.7×10^{34} collisions per second
- b. 8.7×10^{18} collisions per second
- c. 8.7×10^9 collisions per second
- d. 8.7×10^{14} collisions per second

_____ 9. True or False: In a closed container, the number of particles can only change if physically added or gas has leaked out.

- a. True
- b. False

_____ 10. Which of the following temperatures would result in the highest speed if all other variables were kept constant?

- a. 300 K
- b. 100 K
- c. 750 K
- d. 1000 K

_____ 11. Kinetic energy/speed is only affected by temperature and _____.

- a. volume
- b. mass
- c. pressure
- d. number of particles

_____ 12. Why do science teachers tell you not to heat a closed container?

- a. temperature and volume are directly proportional so it could explode
- b. temperature and volume are inversely proportional so it could explode
- c. the teacher is incorrect in giving that warning
- d. temperature and volume are inversely proportional and it could shrink

_____ 13. Which of the following does NOT occur when the volume increases at a constant temperature?

- a. speed of molecule increases
- b. pressure decreases
- c. fewer collisions with walls of the container
- d. temperature does not change

_____ 14. Which of the following does NOT happen when temperature is decreased at a constant volume.

- a. volume does not change
- b. average kinetic energy decreases
- c. average speed decreases
- d. pressure increases

_____ 15. What affect does an increase in temperature have on the number of particles for a closed container that does not explode?

- a. increase
- b. decrease
- c. increase then decrease
- d. does not change