

Unit 8: Gas Laws - Kinetic Molecular Theory

Name: _____

Directions: Use the handout titled “Kinetic Molecular Theory” posted on our classes’ website to answer the questions completely and concisely. This assignment is due within 30-minutes of class starting! You do have another assignment AFTER you turn in this work!

1. What is kinetic energy?
2. Describe the 3 assumptions of the KMT (Kinetic Molecular Theory).
3. Collisions between molecules and the walls of its container are completely elastic. What does that mean?
4. Describe the particle motion of solids, liquids, and gases.
5. How would increasing the temperature affect kinetic energy of molecules?
6. How would decreasing the temperature affect kinetic energy of molecules?
7. What happens at absolute zero?
8. What temperature is considered absolute zero? Give the answer in Kelvin.

9. Complete this chart:

Conversions	Standard Conditions
K =	0.00 °C = 273 K
1cm ³	1.00 atm = _____ mm Hg = _____ kPa = 101,325 Pa
1 dm ³ = _____ = _____	

10. Conversions. Convert each to the new unit. Round all final answers to the nearest 100th.

a. 137°C = _____ K

b. 23°C = _____ K

c. 121°C = _____ K

d. 93 K = _____ °C

e. 497 K = _____ °C

f. 270 K = _____ °C

g. 8.2 atm = _____ mm Hg

h. 927 mm Hg = _____ atm