

Bauk's CHEM Ch. 11 Test Review

This is an optional assignment due the day of the test.

Materials: loose leaf paper, pen and/or pencil (You will be given a periodic table.)
Format: math problems
Test date: _____
Test value: 200 points

TOPICS TO STUDY:

- 1) α = what is this symbol? What does it mean? How does it relate to the gas laws?
- 2) Other symbols – What do these mean: P, V, T, R, n
- 3) Dalton's Law of Partial Pressures
- 4) Pressure—what is it? What are common pressure units? How does change in pressure affect volume and temp?
- 5) Temperature—what is it? What temp unit must be used for gas laws problems? How does change in temp affect volume and pressure?
- 6) Volume— what is it? What are common volume units? How does change in volume affect pressure and temp?
- 7) Math problems: For this review, give an example of each type of problem. Show all work and units.
 - a) Charles' law
 - b) Boyle's law
 - c) Gay-Lussac's law
 - d) Combined gas law
 - e) Ideal gas law
 - f) Dalton's law of partial pressures
 - g) Simple (non-stoich) dimensional analysis involving, grams, moles, and liters

** You must know what the numbers are for standard temp. (0 °C, 273 K) **

These EQUATIONS AND CONSTANTS will be given on the test:

$$\frac{P_1 V_1}{T_1} = \frac{P_2 V_2}{T_2}$$

$$PV = nRT$$

$$P_{\text{TOTAL}} = P_1 + P_2 + P_3 \dots$$

$$K = C + 273$$

Values for R:

0.08206 (L atm / mol K)
8.314 (L kPa / mol K), (J / mol K), (m³ Pa / mol K)
1.987 (cal / mol K)
62.36 (L mm Hg / mol K), (L torr / mol K)

STANDARD ATMOSPHERIC PRESSURE:

1.00 atm 760. mm Hg 760. torr 101.3 kPa 14.7 psi