<u>Boyle's Law:</u> At constant T, P is <u>inversely</u> related to V.

$$\{ P_1 \times V_1 = P_2 \times V_2 \}$$

1) If the volume of a gas is <u>doubled,</u> at constant temperature, what will happen to its pressure?

2) 100 ml of a gas exerts 4 torr of pressure. If the temperature remains the same, what will be the new pressure when the gas is compressed to 50 ml?

HW

1) What is the meaning of an "inverse" relationship?

2) How does the Kinetic Molecular Theory explain Boyle's Law?

3) 2.0 liters of a gas exerts 100 kPa. If the volume of this gas expands to 8.0 liters at constant temperature, what will be its new pressure?

4) The pressure of 500 ml of a gas is increased from 3.0 atm to 4.5 atm while the temperature remains the same. What is the final volume of the gas?

Base your answers to questions 5 and 6 on the graph below which represents the relationship between pressure & volume of a gas.
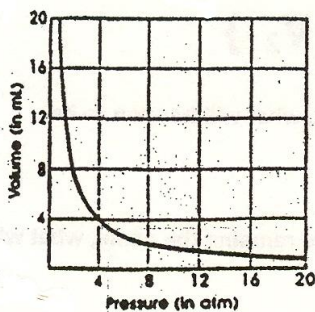
5) When the pressure equals 8 atm, what is the volume in ml?
   1) 1   2) 2   3) 8   4) 16 ml

6) In this graph the product of the pressure and the volume equals a constant
(PV =*constant*). What is this constant? 1) 16   2) 12   3) 8   4) 4