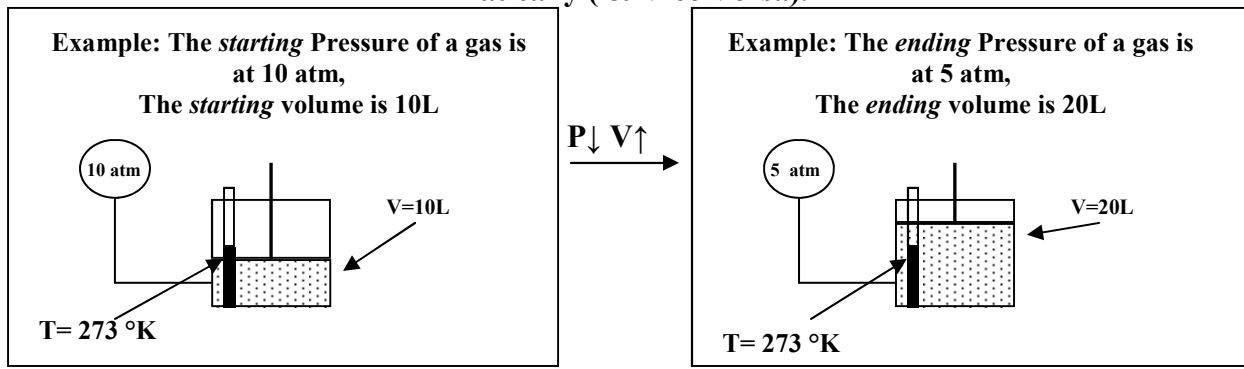


Name _____
 Period _____

BOYLES LAW states that.....

If the temperature of a gas is *constant* (stays the same), the Pressure of the gas will be *inversely* related to the volume of the gas.

Meaning: What ever happens to volume, the exact opposite happens to pressure mathematically (& Vice Versa).



EQUATION

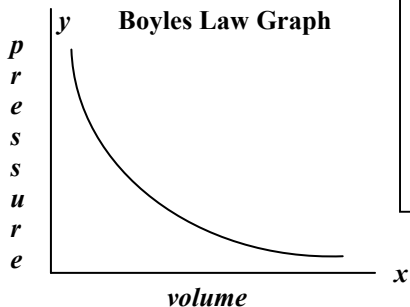
$$P_1 V_1 = P_2 V_2$$

Starting pressure *times* starting volume *equals* Final pressure *times* final volume

Example: $P_1 = 30 \text{ atm}$ $V_1 = 5\text{L}$ and $P_2 = 60 \text{ atm}$ $V = ?$

PLUG IN WHAT YOU KNOW Substitute variable "x" for un-	→	$30(5) = 60x$ $150 = 60x$	Multiply both sides
		←	
		$150/60 = 60x/60$ $2.5 = x$	Divide out the 60 from both sides

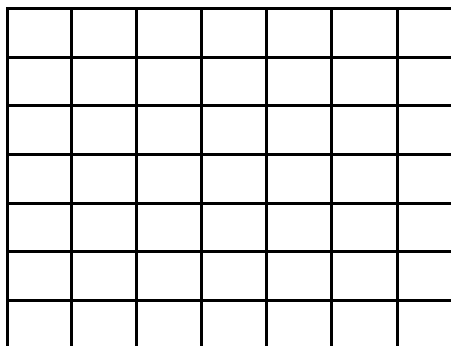
The pressure was doubled so....the volume must have been _____.



A graph of Boyles law will plot the Pressure (y) over the Volume (x).
 Because the relationship is *inverse*, High pressure will mean low volume and a high volume will mean a low pressure

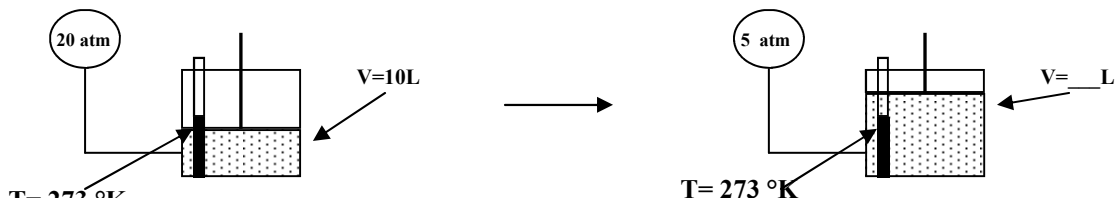
Below is sample data from a Boyles Law experiment. Title, label and plot the points on the grid. Be sure you pick correct labels and *logical* intervals.

Pressure(atm)	Volume (L)
120	10
80	15
60	20
40	30
20	60

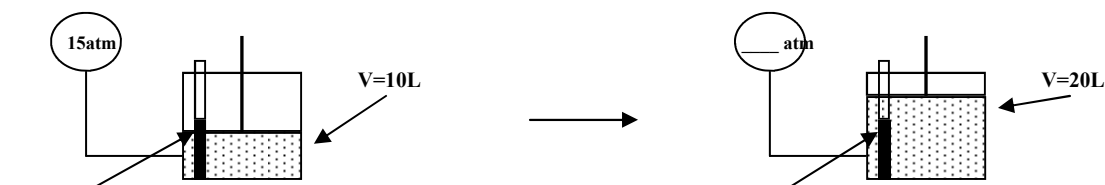


Name _____
Period _____

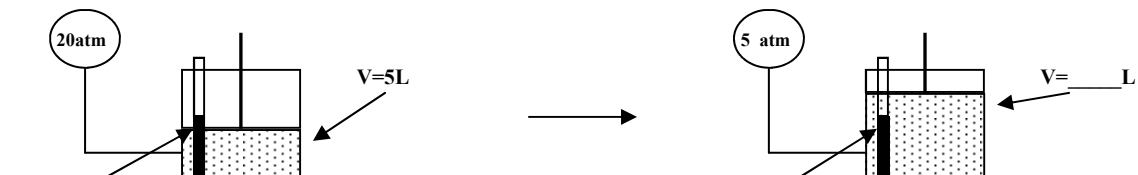
Calculate missing Values using Boyles Law



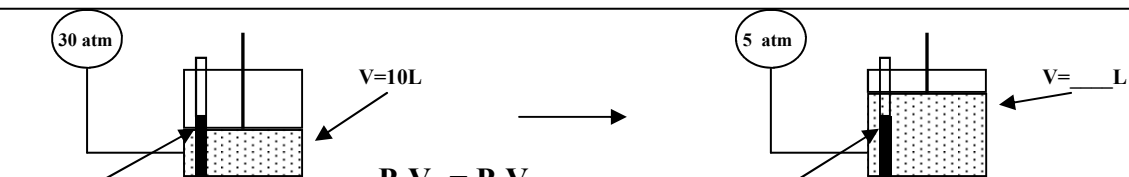
$P_1 V_1 = P_2 V_2$
 $20(10) = 5x$



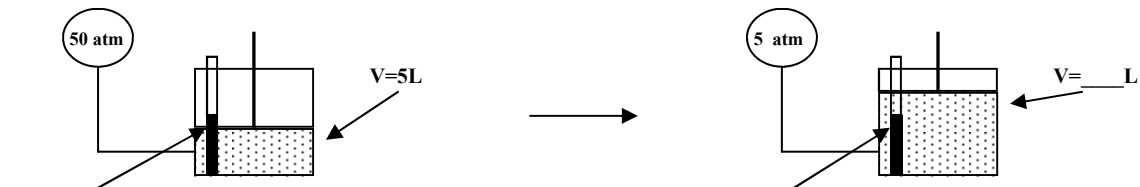
$P_1 V_1 = P_2 V_2$
 $15(10) = 20x$



$P_1 V_1 = P_2 V_2$



$P_1 V_1 = P_2 V_2$



$P_1 V_1 = P_2 V_2$