

NAME: \_\_\_\_\_

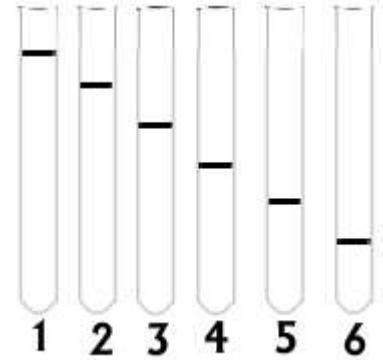
# Graphing Practice Problem Homework

## How well can you read a graph???

Oxygen gas ( $O_2$ ) can be generated by the reaction of Hydrogen Peroxide ( $H_2O_2$ ) with Manganese Dioxide ( $MnO_2$ ).



A chemistry student sets up nine (9) test tubes and places different masses of  $MnO_2$  in each test tube. An equal amount of  $H_2O_2$  is added to each test tube and the volume of  $O_2$  gas produced is measured each minute for five minutes. The data from the experiment is:



Tube #	$MnO_2$ (g)	1 min (ml $O_2$ )	2 min (ml $O_2$ )	3 min (ml $O_2$ )	4 min (ml $O_2$ )	5 min (ml $O_2$ )
1	0.1	1.4	2.6	3.5	4.2	5.1
2	0.2	2.8	4.6	5.8	7.1	7.6
3	0.3	4.9	7.2	8.8	10.2	11.3
4	0.5	5.9	8.5	10.4	11.8	13.3
5	1.0	8.5	12.4	14.4	16.1	17.1
6	1.5	11.0	14.8	17.5	19.8	21.8
7	2.0	12.0	17.0	20.2	22.7	24.8
8	2.5	13.6	19.0	22.1	24.7	27.3
9	3.0	16.2	21.8	25.1	28.2	30.4

A. What volume of  $O_2$  did tube #3 produce between the second and fourth minutes?

**3 ml  $O_2$**

B. How much  $O_2$  is produced in tube #5 during the first two minutes?

**12.4 ml  $O_2$**

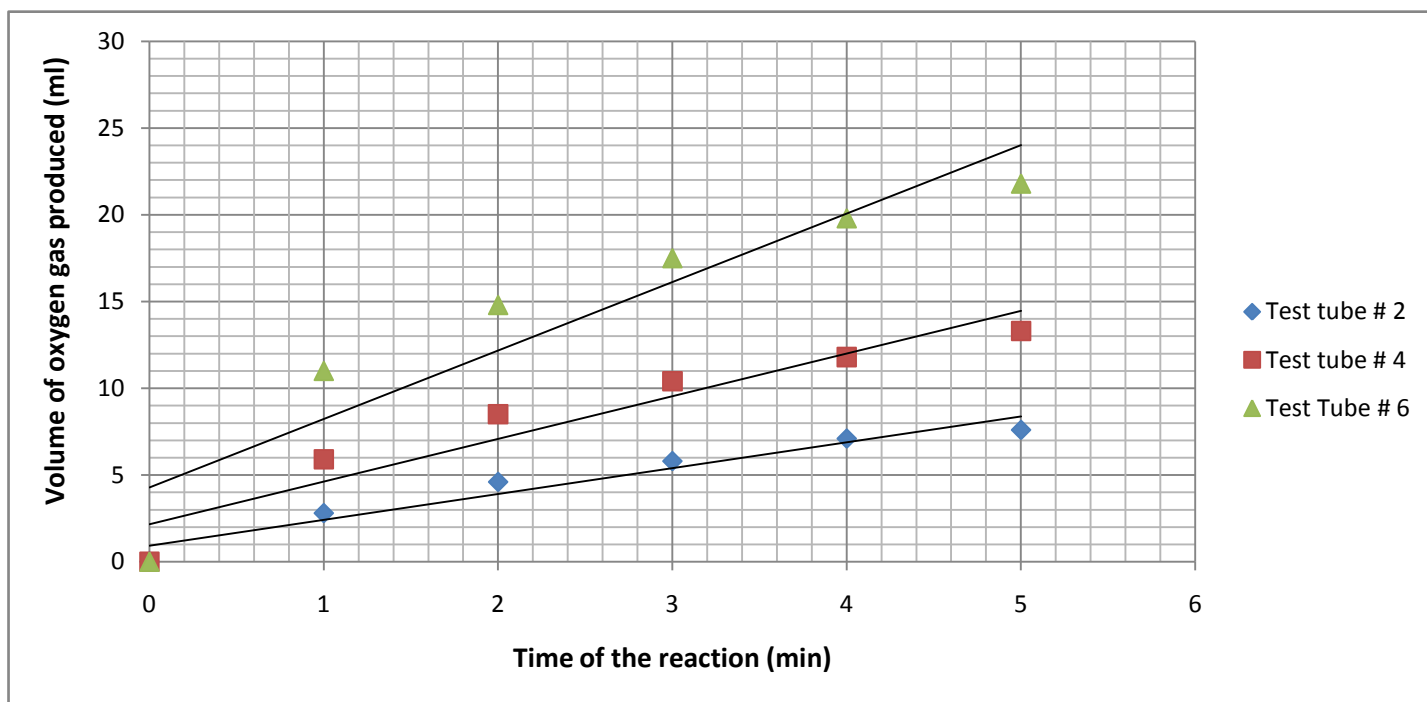
C. How much oxygen did tubes 7 and 8 produce together during the third minute?

**6.3 ml  $O_2$**

D. What volume of oxygen gas, in liters, was produced during this procedure?

**0.159 L  $O_2$**

E. Graph the amount of oxygen produced each minute in test tubes # 2, 4, and 6.



F. By comparing the slope of the graph curves, which tube was producing oxygen at the fastest rate between minutes four and five?

G. Make a graph using the mass of manganese dioxide and the volume of oxygen for all tubes at five minutes.

