

UNIT I Worksheet 1

Ver 4

Name _____

#: _____

GRAPHING PRACTICE

Period _____ Date _____

For each data set below, determine the mathematical expression. To do this, first graph the original data. Assume the 1st column in each set of values to be the **independent** variable and the 2nd column the **dependent** variable. Then taking clues from the shape of the first graph, modify the data so that the modified data will plot as a straight line. The 3rd column is used if you need to modify the data, **record the new column name and data** in it. Using the slope and y-intercept from the linear fit, write an appropriate mathematical expression for the relationship between the variables. ***Be sure to include units!***

Data set 1

V (m ³)	P (pa)	
.1	40	
.5	8	
1	4	
2	2	
4	1	
5	.8	
8	.5	
10	.4	

Mathematical expression #1

Data set 2

t (s)	x (m)	
.1	.03	
.2	.12	
.5	.75	
1	3	
2	12	
3	27	
4	48	
5	75	

Mathematical expression #2

Data set 3

A (months)	W (lbs)	
1	7.3	
2	9.4	
3	10.5	
4	12.0	
5	13.0	
6	14.3	
7	15.2	
8	16.7	

Mathematical expression #3

Data set 4

t (s)	v (m/s)	
.3	10	
1.2	20	
2.7	30	
4.8	40	
7.5	50	
10.8	60	
14.7	70	
19.2	80	

Mathematical expression #4

Data set 5

A (kE)	H (jo)	
4.00	3.16	
6.00	8.24	
14.00	25.50	
19.00	41.26	
30.00	72.30	
41.00	97.14	
45.00	107.30	
52.00	125.08	

Mathematical expression #5

Data set 6

E (μN)	H (pH)	
6.20	0.83	
17.00	3.03	
24.00	3.83	
42.00	5.37	
58.00	6.44	
66.00	6.91	
88.00	8.07	

Mathematical expression #6

Data set 7

K (μN)	O (P)	
0.40	5.00	
0.50	4.00	
1.00	2.00	
2.00	1.00	
3.00	0.667	
14.00	0.143	
25.00	0.0800	
38.00	0.0526	

Mathematical expression #7

Data set 8

a (m/s^2)	F (N)	
2.70	0.945	
4.00	1.40	
5.13	1.80	
6.70	2.35	
12.00	4.20	
24.58	8.60	
42.42	14.85	

Mathematical expression #8
