Name_____

Period_____Date_____

UNIT I Worksheet 1: GRAPHING PRACTICE

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. 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!
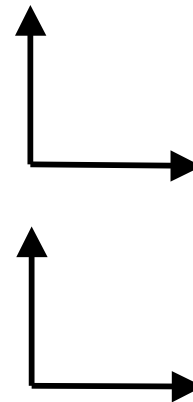
Data set 1

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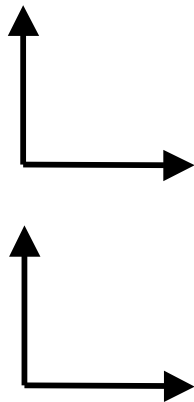
Data set 2

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

Mathematical expression #1

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
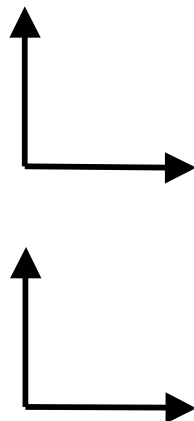
Data set 4

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 #3
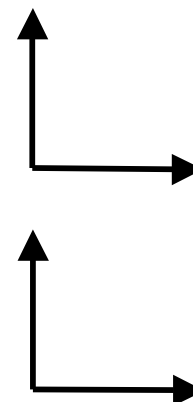
Mathematical expression #4

_____   _____

Data set 5

R (a.u.)	T (yr)
.38	.24
.72	.62
1.00	1.00
1.52	1.88
5.19	11.9
9.53	29.5
19.1	84.1
30.0	165
39.4	249
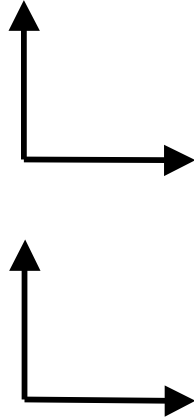
Data set 6

r (m)	F_{el} (N)
.2	425
.5	68.3
1.0	16.5
2.0	4.26
5.0	0.67
10.	0.18
20.	0.042
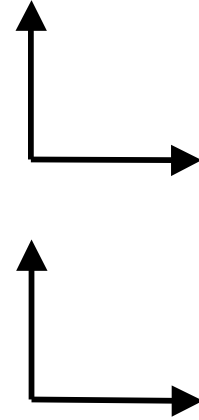
Mathematical expression #5   Mathematical expression #6

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