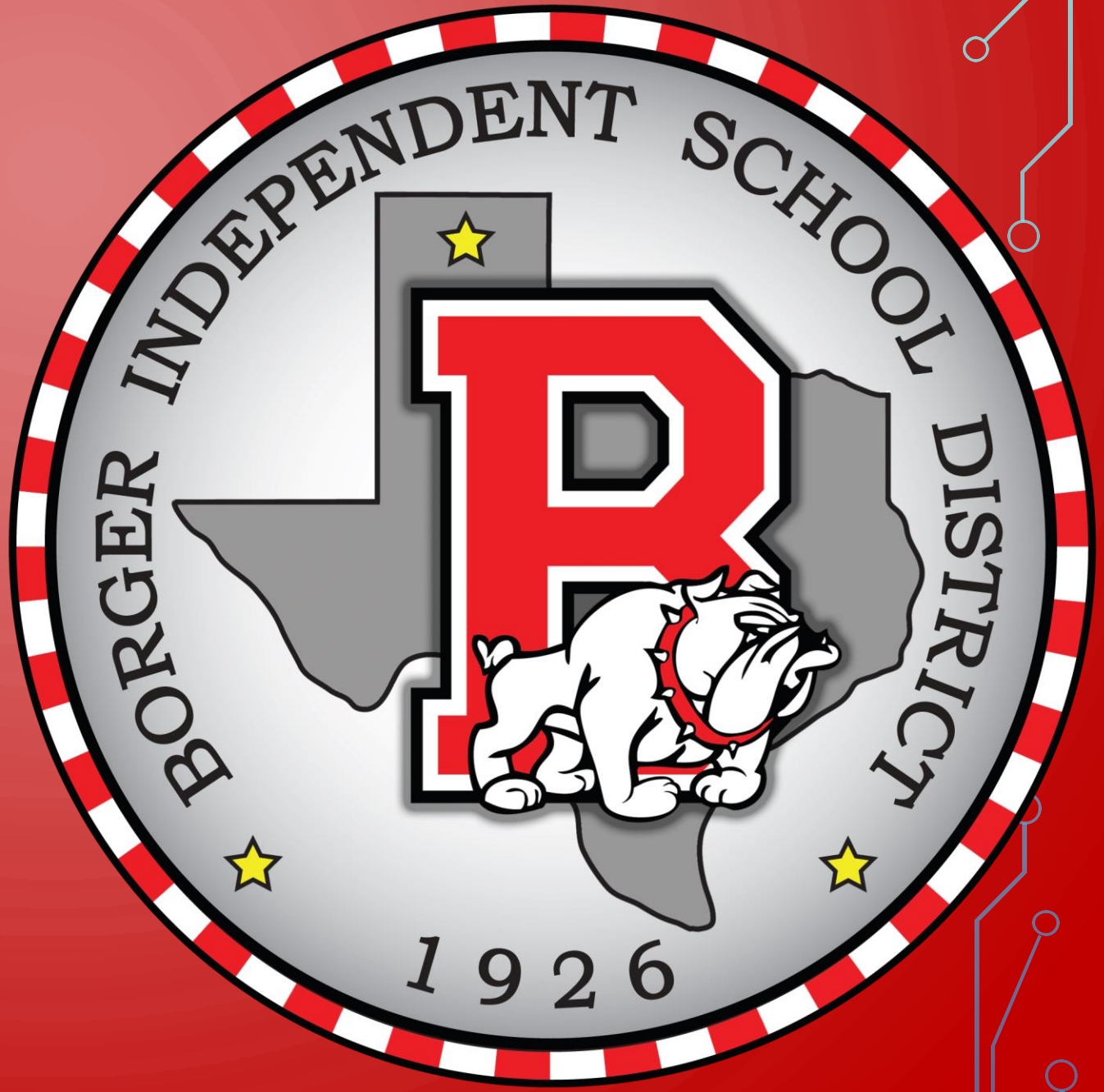
BOARD NOTES

17 SEPTEMBER 2019



2A.8 (A) analyze data to select the appropriate model from among linear, quadratic, and exponential models;

2A.8 (B) use regression methods available through technology to write a linear function, a quadratic function, and an exponential function from a given set of data;

2A.8 (C) predict and make decisions and critical judgments from a given set of data using linear, quadratic, and exponential models.

We will be able to use regression models to determine type of model, analyze data and make predictions.

WHAT WE NEED:

- TI – 84

I WILL BE ABLE TO COMPLETE MY HOMEWORK GIVING THE

- Linear
- Exponential
- Quadratic
- Power

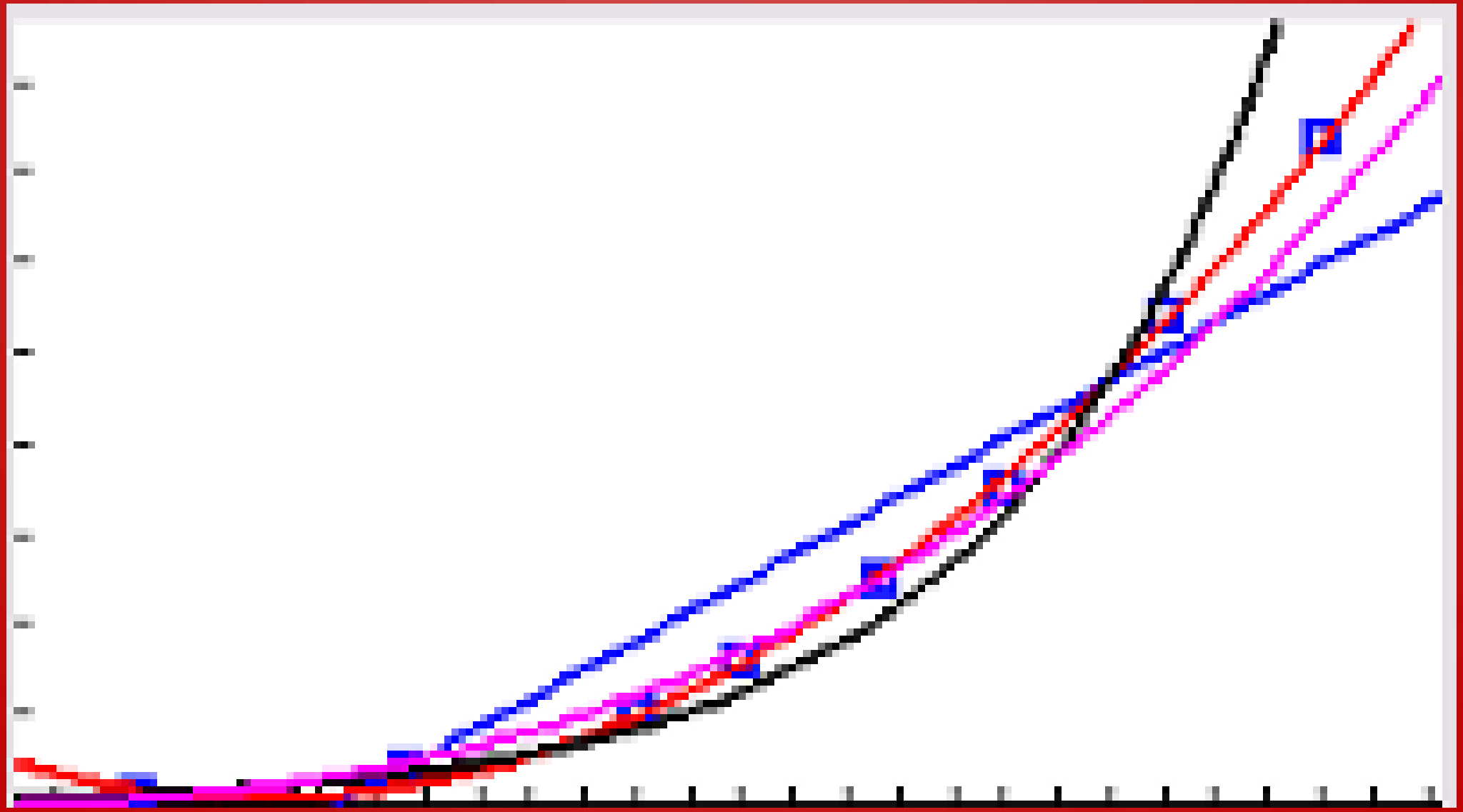
REGRESSION MODEL OF THE DATA.

Work on your homework

Clear your calculator

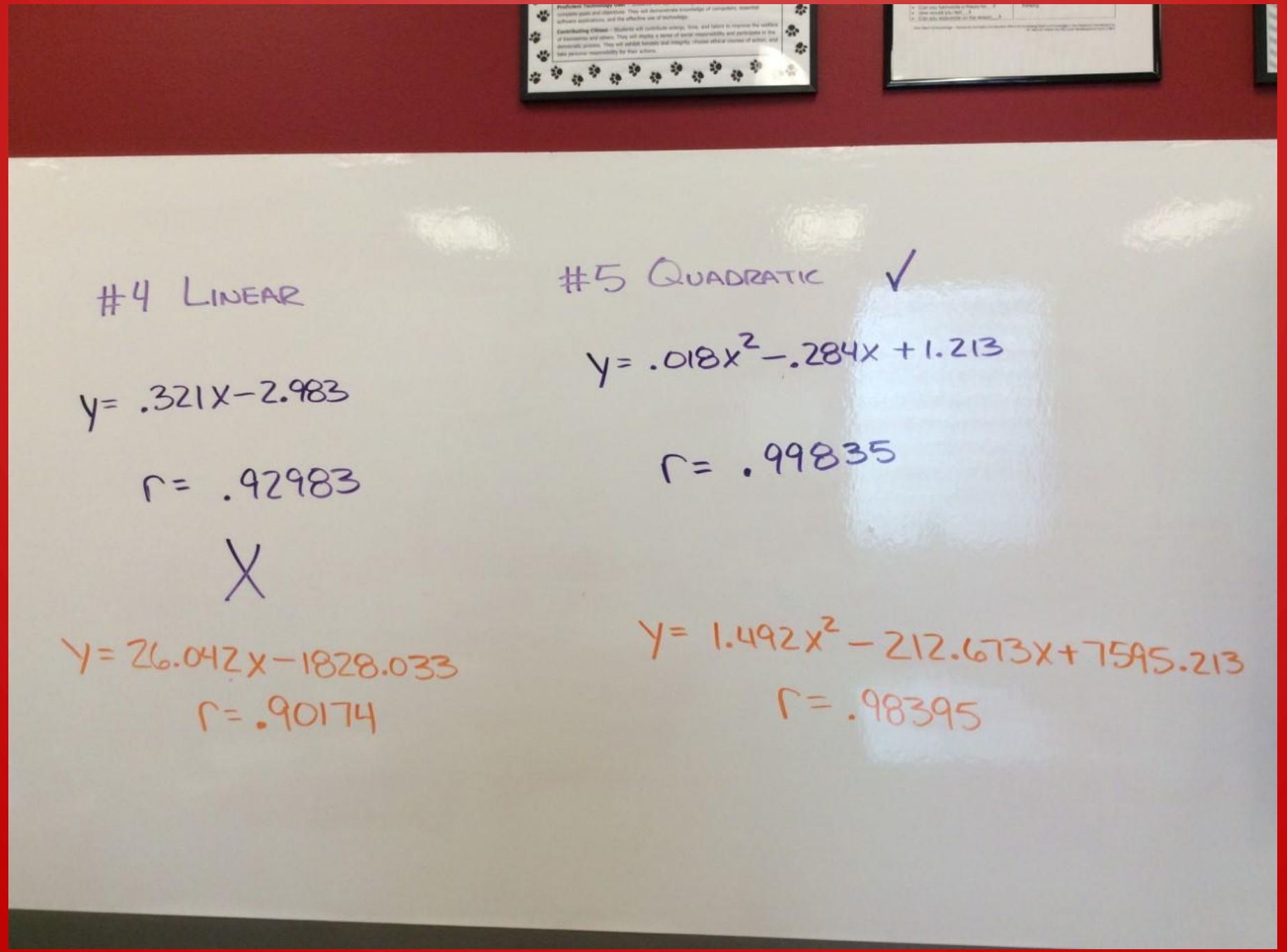
2nd + 7 1 2

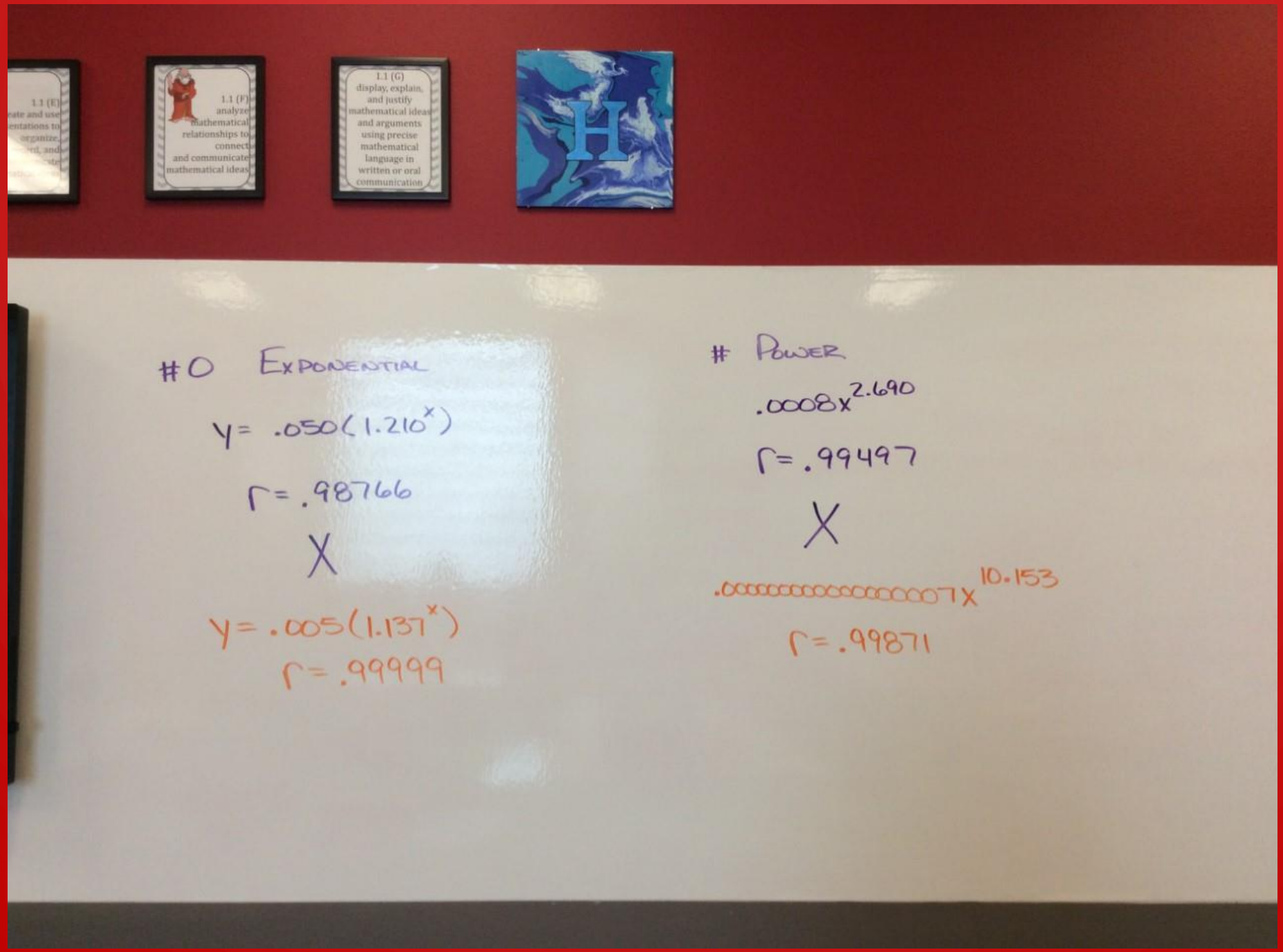
Length (in inches)	Weight (in pounds)
5.5	0.1
10.6	0.4
15	1.0
17	1.6
19.6	2.5
22	3.5
25	5.4
28	7.4



X	Y_1	Y_2	Y_3	Y_4
0	-2.983	1.2128	0.0495	0
5	-1.38	0.2425	0.1282	0.0636
10	0.224	0.1705	0.332	0.4105
15	1.8275	0.9968	0.8595	1.2216
20	3.431	2.7215	2.2255	2.6485
25	5.0346	5.3445	5.7624	4.8268
30	6.6381	8.8659	14.92	7.8819
35	8.2416	13.286	38.632	11.932
40	9.8451	18.604	100.03	17.088
45	11.449	24.82	259	23.457
50	13.052	31.935	670.62	31.142

Year	Sales (in millions of $)
1966	23
1970	38.4
1974	64
1978	107
1982	179
1986	299
1990	499
1994	833


#4 Linear
y= .321x-2.983
r= .92983
X
y= 26.042x-1828.033
r= .90174
#5 Quadratic ✓
y= .018x²-.284x+1.213
r= .99835
y= 1.492x²-212.673x+7595.213
r= .98395


1.1 (F) analyze mathematical relationships to connect and communicate mathematical ideas
1.1 (G) display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication
H
#0 Exponential
y = .050(1.210^x)
r = .98766
X
y = .005(1.137^x)
r = .99999
# Power
.0008x^2.690
r = .99497
X
.00000000000000007x^10.153
r = .99871