Algebra II Journal

Module 3: Standard Deviation

Making Deviation Standard

This journal belongs to:

Module 3: Making Deviation Standard

Algebra II Journal: Reflection 1

Respond to the following reflection questions and submit to your teacher.

Enter the Number of Days Served for each president in your graphing calculator.

Using the features of a graphing calculator, determine the mean and the mean absolute deviation of the Number of Days Served by a President data set.

Explain what the mean and the mean absolute deviation represent in the context of the situation.

Module 3: Making Deviation Standard

Algebra II Journal: Reflection 2

Respond to the following reflection questions and submit to your teacher.

Enter in the presidents' Number of Days Served in your graphing calculator.

Determine the mean and the standard deviation for the data.

Provide an interpretation of what the mean and the standard deviation reveal about the context of the situation.

Module 3: Making Deviation Standard

Algebra II Journal: Reflection 3

In this lesson, you learned about mean absolute deviation and standard deviation. You learned how to calculate these two values, and how they describe the distribution of a data set. In this reflection, you will apply what you have learned in this lesson. Respond to the reflection questions below and submit your reflection to your teacher.

The chart below displays the length of time each president was in service for our country.

President		Number of Terms in Office	Number of Years Served	Number of Days Served
1	G. Washington	2	6.34	2865
2	J. Adams	1	4	1460
3	T. Jefferson	2	8	2922
4	J. Madison	2	8	2922
5	J. Monroe	2	8	2922
6	J. Q. Adams	1	4	1461
7	A. Jackson	2	8	2922
8	M. Van Buren	1	4	1461
9	W. H. Harrison	1	0.08	31
10	J. Tyler	1	3.92	1430
11	J. Polk	1	4	1461
12	Z. Taylor	1	1.33	491
13	M. Fillmore	1	2.67	969
14	F. Pierce	1	4	1461
15	J. Buchanan	1	4	1461
16	A. Lincoln	2	4.11	1503
17	A. Johnson	1	3.86	1419
18	U. Grant	2	8	2922
19	R. Hayes	1	4	1461
20	J. Garfield	1	0.54	199
21	C. Arthur	1	3.46	1262
22	G. Cleveland	1	4	1461
23	B. Harrison	1	4	1461
24	G. Cleveland	1	4	1461
25	W. McKinley	2	4.5	1654
26	T. Roosevelt	2	7.5	2728
27	W. H. Taft	1	4	1461
28	W. Wilson	2	8	2922
29	W. Harding	1	2.42	881
30	C. Coolidge	2	5.58	2041
31	H. Hoover	1	4	1461
32	F. D. Roosevelt	4	12.08	4422
33	H. Truman	2	7.75	2840
34	D. Eisenhower	2	8	2922

Module 3: Making Deviation Standard

President		Number of Terms in Office	Number of Years Served	Number of Days Served
35	J. F. Kennedy	1	2.83	1036
36	L. Johnson	2	5.17	1886
37	R. Nixon	2	5.5	2027
38	G. Ford	1	2.42	895
39	J Carter	1	4	1461
40	R. Reagan	2	8	2922
41	G. H. Bush	1	4	1461
42	W. Clinton	2	8	2922
43	G. W. Bush	2	8	2922
44	B. Obama	2	(still completing term in 2014)	(still completing term in 2014)

Module 3: Making Deviation Standard

The 22nd Amendment to the Constitution limits the presidential length of service to two terms. This amendment was passed in 1947, during President Harry Truman's term. This followed President Franklin Roosevelt's 4 terms, the most of any president of the United States.

Complete the following task to determine how the passing of the 22nd Amendment affected the "Number of Years Served." Respond to the following reflection questions and submit to your teacher.

Determine the mean, standard deviation and mean absolute deviation for the first 32 presidents (the presidents who served prior to the 22nd Amendment).

Which measure of variability, the mean absolute deviation or the standard deviation, represents the distribution of the data best? Use mathematics to explain your answer.

Determine the mean, standard deviation and mean absolute deviation for the presidents #33 (Truman) to #43 (G. W. Bush). These are the presidents who served after the 22nd Amendment was ratified.

Which measure of variability, the mean absolute deviation or the standard deviation, represents the distribution of the data best? Use mathematics to explain your answer.

Module 3: Making Deviation Standard

Compare the mean and variability for the Number of Years the Presidents Served prior to the 22nd Amendment and after its ratification.

- Which data is more variable? Use mathematics to explain how you determined your answer.
- Why do you believe the data set you chose is more variable? Use mathematics to support your answer.