

Lesson Two Practice Assignment
Standard Deviation

- Find an expression for the mean and standard deviation for the following data. Complete the calculations algebraically.

$$2a+8b \quad 2a-b \quad 2a-b \quad 2a-2b \quad 2a-4b$$

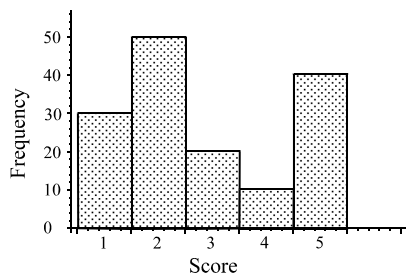
- Determine the standard deviation for the following:

Score	Frequency
1	1
2	3
3	5
4	4
5	2

- Determine the standard deviation for the following data in the frequency table:

Score	Frequency
$0 \leq x \leq 10$	1
$10 \leq x \leq 20$	4
$20 \leq x \leq 30$	3
$30 \leq x \leq 40$	2

- Determine the mean and the standard deviation for the following data displayed in the histogram.



- Each of the following lists contains an even number of values of only two different values. Without calculating the standard deviations, relate the standard deviation of each to the difference between the values.

Set I 16 16 20 20

Set II 100 100 100 200 200 200

Set III 60 60 60 60 60 60 60 60

6. Answer the following questions from the following data from a geometry test.

Class	1	2	3	4
Mean	80	68	60	70
Standard Deviation	3	10	8	7

- Which group is most likely to show the highest student score?
- Which group is most likely to show the most uniform scores?
- Which group is most likely to show the largest range of scores?
- Which group is most likely to show the lowest student score?

ANSWERS

1. $\mu = 2a$ $\sigma = b\sqrt{\frac{86}{5}}$

2. $\sigma = 1.108$

3. $\sigma = 9.165$

4. $\mu = 2.87$ $\sigma = 1.50$

5. Difference between values:

set I \rightarrow 4

set II \rightarrow 100

set III \rightarrow 20

Standard deviation of set II would be 25 times standard deviation of set I

Standard deviation of set III would be 5 times standard deviation of set I

Standard deviation of set II would be 5 times standard deviation of set III

- Group 2
- Group 1
- Group 2
- Group 3