

## Standard Deviation Worksheet

The table gives the lifetimes for the eight Brand A batteries. The mean is 100.5.

Life (Hours)	73	76	92	94	110	117	118	124
Deviation from the Mean								
Squared Deviation from the Mean								

- a) Calculate the deviations from the mean and write in the table above.
- b) Write the squared deviations in the table above.
- c) Add up the squared deviations. What result do you get?
- d) What is the value of  $n$  for this data set? Divide the sum of the squared deviations by  $n - 1$ , and write your answer below. Round your answer to the nearest thousandth.
- e) Take the square root to find the standard deviation. Record your answer to the nearest hundredth.
- f) How would you interpret the standard deviation that you found?

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## Standard Deviation Worksheet

The table gives the lifetimes for the eight Brand A batteries. The mean is 100.5.

Life (Hours)	73	76	92	94	110	117	118	124
Deviation from the Mean	-27.5	-24.5	-8.5	-6.5	9.5	16.5	17.5	23.5
Squared Deviation from the Mean	756.25	600.25	72.25	42.25	90.25	272.25	306.25	552.25

a) Calculate the deviations from the mean and write in the table above.

*See table above.*

b) Write the squared deviations in the table above.

*See table above.*

c) Add up the squared deviations. What result do you get?

*The sum is 2,692*

d) What is the value of  $n$  for this data set? Divide the sum of the squared deviations by  $n - 1$ , and write your answer below. Round your answer to the nearest thousandth.

$$n = 8; \frac{2692}{7} \approx 384.571$$

e) Take the square root to find the standard deviation. Record your answer to the nearest hundredth.

$$\sqrt{384.571} \approx 19.61$$

f) How would you interpret the standard deviation that you found?

*The standard deviation, 19.61 hours, is a typical deviation of a Brand A battery lifetime from the mean battery lifetime for Brand A.*

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