Chapter 2
Standard Deviations

Standard deviations (SDs) are often being used for summarizing the spread of the data from a sample. If the spread in the data is small, then the same will be true for the standard deviation. Underneath the calculation is illustrated with the help of a data example.

	55	
	54	
	51	
	55	
	53	
	53	
	54	
	52+	
Mean	=>	…/8 = 53.375
SD=		
	55	$(55–53.375)^2$
	54	$(54–53.375)^2$
	51	$(51–53.375)^2$
	55	$(55–53.375)^2$
	53	$(53–53.375)^2$
	53	$(53–53.375)^2$
	54	$(54–53.375)^2$
	52	$(52–53.375)^2$+
SD=		…… =>…./ n−1=> √….=> 1.407885953

Each scientific pocket calculator has a modus for data-analysis. It is helpful to calculate in a few minutes the mean and standard deviation of a sample.

T.J. Cleophas and A.H. Zwinderman, *Statistical Analysis of Clinical Data on a Pocket Calculator: Statistics on a Pocket Calculator*, DOI 10.1007/978-94-007-1211-9_2,

Calculate standard deviation: mean = 53.375 SD = 1.407885953

The next steps are required:

Casio fx-825 scientific

On … mode … shift … AC … 55 … M+ … 54 … M+ … 51 … M+ … 55 … M+ … 53 … M+ … 53 … M+ … 54 … M+ … 52 … M+ … shift … [x] … shift … σxn–1

Texas TI-30 scientific

On … 55 … Σ+ … 54 … Σ+ … 51 … Σ+ … 55 … Σ+ … 53 … Σ+ … 53 … Σ+ … 54 … Σ+ … 52 … Σ+ … 2nd … x … 2nd … σxn–1

Sigma AK 222 and Commodoor

On … 2ndf … on … 55 … M+ … 54 … M+ … 51 … M+ … 55 … M+ … 53 … M+ … 53 … M+ … 54 … M+ … 52 … M+ … x=>M … MR

Calculator: Electronic Calculator

On … mode … 2 … 55 … M+ … 54 … M+ … 51 … M+ … 55 … M+ … 53 … M+ … 53 ... M+ … 54 … M+ … 52 … M+ … Shift … S-var … 1 … = … (mean) … Shift … S-var … 3 … (sd)

Example:

What is the mean value, what is de SD?

5
4
5
4
5
4
5
4

http://www.springer.com/978-94-007-1210-2

Statistical Analysis of Clinical Data on a Pocket Calculator
Statistics on a Pocket Calculator
Cleophas, T.J.; Zwinderman, A.H.
2011, VIII, 58 p., Hardcover
ISBN: 978-94-007-1210-2