

Name: _____

Problem Set 1.6: Standard Deviation

1.) Standard deviation is a measure of _____

2.) Which set of numbers has a higher standard deviation?

A) Set 1: 8, 12, 9, 11, 7, 13

Set 2: 2, 18, 1, 19, 3, 17

B) Set 1: 108, 112, 109, 111, 107, 113

Set 2: 2, 18, 1, 19, 3, 17

C) Set 1: 108, 112, 109, 111, 107, 113

Set 2: 8, 12, 9, 11, 7, 13

3.) Estimate the standard deviation of the following sets of numbers. Then put the data into fathom and calculate the actual standard deviation. How close were you?

a) 88, 92, 79, 86, 94, 91, 94, 86, 90, 93

b) 79, 99, 97, 89, 76, 87, 93, 65, 97, 95

c) 90, 91, 89, 90, 88, 92, 90, 89, 90, 91

d) 90, 90, 90, 90, 90, 90, 90, 90, 90, 90

e) 85, 85, 85, 85, 85, 95, 95, 95, 95, 95

4.) According to WebMD, “Your blood pressure consists of two numbers: systolic and diastolic. Someone with a systolic pressure of 120 and a diastolic pressure of 80 has a blood pressure of 120/80, or “120 over 80.” The systolic number shows how hard the blood pushes when the heart is pumping. The diastolic number shows how hard the blood pushes between heartbeats, when the heart is relaxed and filling with blood. High blood pressure (hypertension) is 140/90 or higher.”

The World Health Organization collected blood pressure for samples of various countries and some the data is in the table below.

a. Of the countries listed, which has the biggest problem with hypertension? L
SEP

b. Compare the systolic values for China and Italy. L
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c. Compare the systolic values for Switzerland and Yugoslavia. L
SEP

Country	Systolic		Diastolic	
	Mean	Std Dev	Mean	Std Dev
China	129	24	80	13
Italy	129	19	82	10
Switzerland	128	19	77	11
Yugoslavia	135	19	86	11

Sources: WebMD, Hypertension, <http://www.webmd.com/hypertension-high-blood-pressure/tc/high-blood-pressure-hypertension-overview>, 12/23/12 L
SEP World Health Organization, Blood Pressure by Country, <http://www.ktl.fi/publications/monica/bp/table8.htm>, 12/23/12

5.) The Journal of the American Medical Association published an article in Sept. of 2011 titled “Lesbian, gay, bisexual, and transgender-related content in undergraduate medical education”. The study sampled US medical students asking how many hours they spent on LGBT health. The mean was 7 hours with a standard deviation of 6.5 hours. **What does this suggest about the US medical health community and how they feel regarding the study of LGBT health?**

American Medical Student Association, On Call,

http://www.amsa.org/AMSA/Homepage/TakeAction/AMSAOnCall/11-09-14/Are_Med_Students_Receiving_Adequate_Education_on_LBGT_Issues.aspx,
12/23/11

6.) Create a data set with 10 numbers that you think would have a mean of 7 hours and a standard deviation of 6.5 hours. Use CODAP to verify.

7.) Below are images of Barracuda of various lengths. ***Estimate*** the mean and standard

deviation length of the fish.

Image source: Florida Fishing Info, Naples Fishing,

http://www.floridafishinginfo.net/naples_florida_fishing.html, 11/20/11

