

Name _____

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.**Provide an appropriate response.**

- 1) In a random sample, 10 students were asked to compute the distance they travel one way to school to the nearest tenth of a mile. The data is listed below. Compute the range, standard deviation and variance of the data. (Use Calculator) 1) _____
- 1.1 5.2 3.6 5.0 4.8 1.8 2.2 5.2 1.5 0.8

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 2) Without performing any calculations, use the stem-and-leaf plots to determine which statement is accurate. 2) _____

(i)	0 9	(ii)	10 9	(iii)	0
	1 5 8		11 5 8		1 5
	2 3 3 7 7		12 3 3 7 7		2 3 3 3 3 7 7 7 7
	3 2 5		13 2 5		3 5
	4 1		14 1		4

- A) Data set (ii) has the greatest standard deviation.
 B) Data sets (i) and (ii) have the same standard deviation.
 C) Data set (i) has the smallest standard deviation.
 D) Data sets (i) and (iii) have the same range.

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- 3) Here are the batting averages of Sammy Sosa and Barry Bonds for 13 recent years. Which player is more consistent? Explain your reasoning. 3) _____

Sammy Sosa .203 .260 .261 .300 .268 .273 .251 .308 .288 .320 .328 .288 .279
 Barry Bonds .292 .311 .336 .312 .294 .308 .291 .303 .262 .306 .328 .370 .341

- 4) The average IQ of students in a particular calculus class is 110, with a standard deviation of 10. The distribution is roughly bell-shaped. Use the Empirical Rule to find 4) _____
- (a) the percentage of students with an IQ above 120.
 (b) the percentage of students with an IQ above 110.
 (c) the percentage of students with an IQ between 115 and 125.

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 5) A placement exam for entrance into a math class yields a mean of 80 and a standard deviation of 10. The distribution of the scores is roughly bell-shaped. Use the Empirical Rule to find the percentage of scores that lie between 60 and 80. 5) _____
- A) 47.5% B) 34% C) 68% D) 95%

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

- 6) Heights of adult women have a mean of 63.6 in. and a standard deviation of 2.5 in. Does Chebyshev's Theorem say about _____ 6) _____
- (a) the percentage of women with heights between 58.6 in. and 68.6 in.?
 - (b) the percentage of women with heights above 68.6 in.?
 - (c) the percentage of women with heights below 68.6 in.?

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 7) Many firms use on-the-job training to teach their employees computer programming. Suppose you work in the personnel department of a firm that just finished training a group of its employees to program, and you have been requested to review the performance of one of the trainees on the final test that was given to all trainees. The mean and standard deviation of the test scores are 74 and 2, respectively, and the distribution of scores is bell-shaped and symmetric. Suppose the trainee in question received a score of 69. Compute the trainee's z-score. _____ 7) _____
- A) $z = -2.50$ B) $z = 2.5$ C) $z = 0.91$ D) $z = -0.91$
- 8) For the mathematics part of the SAT the mean is 514 with a standard deviation of 113, and for the mathematics part of the ACT the mean is 20.6 with a standard deviation of 5.1. Bob scores a 660 on the SAT and a 27 on the ACT. Use z-scores to determine on which test he performed better. _____ 8) _____
- A) SAT B) ACT

Answer Key

Testname: WS#3

- 1) range = 4.4, $s = 1.8$, $s^2 = 3.324$
- 2) B
- 3) Sosa: $\bar{x} = 0.279$ and $s = 0.033$; Bonds: $\bar{x} = 0.312$ and $s = 0.027$.
Bonds is more consistent since his standard deviation is less.
- 4) 2.5%
- 5) A
- 6) At least 75% of the heights should fall between 58.6 in. and 68.6 in.
- 7) A
- 8) A