

Name _____

13-3A Lesson Master

Questions on SPUR Objectives

See Student Edition pages 934–937 for objectives.

SKILLS Objective C

In 1-4, a data set contains 20 elements, d_1 through d_{20} . Tell what each expression represents.

1. $\sum_{i=1}^{20} d_i$ _____

2. $\frac{1}{20} \sum_{i=1}^{20} d_i$ _____

3. $\frac{1}{20} \sum_{i=1}^{20} |d_i - \mu|$ _____

4. $\sqrt{\frac{1}{20} \sum_{i=1}^{20} (d_i - \mu)^2}$ _____

In 5 and 6, a data set contains n elements, a_1 through a_n . Give an expression for each measure.

5. the mean _____

6. the standard deviation _____

USES Objective I

7. Tess's percentage scores on her math tests for the semester are 78, 91, 84, 87, and 85.

- a. Find the mean. _____
- b. Find the deviations from the mean. _____
- c. Find the mean absolute deviation. _____
- d. Find the standard deviation. _____
- e. What score does she need on the last test to earn an 86.5% average for the semester? _____

8. The table at the right shows the mean income of U.S. households when divided into fifths. For example, the mean income of the lowest fifth of households was \$9714 in 1985 and \$10,655 in 2005. The numbers are adjusted for inflation so they can be compared.

	1985	2005
Lowest Fifth	\$9714	\$10,655
Second Fifth	\$24,618	\$27,357
Third Fifth	\$40,863	\$46,301
Fourth Fifth	\$61,466	\$72,825
Highest Fifth	\$114,816	\$159,583

Source: <http://www.census.gov>

- a. Find the mean of each year's data for all households.

- b. Find the standard deviation of each year's data. _____
- c. Explain how income and distribution changed from 1985 to 2005.

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