

Practice 12-4

Standard Deviation

Find the mean and the standard deviation for each set of values. Round to the nearest tenth.

1. 232 254 264 274 287 298 312 342 398
2. 26 27 28 28 28 29 30 30 32 35 35 36
3. 2.2 2.2 2.3 2.4 2.4 2.4 2.5 2.5 2.5 2.6
4. 75 73 77 79 79 74 81 74 70 68 70 72
5. 87 21 90 43 54 23 123 110 90 44 50

Find the range, mean, and interquartile range of each set of values.

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| 6. 10 12 13 10 9 5 6 11 | 7. 23 56 59 60 123 164 180 212 |
| 8. 524 526 532 531 534 539 530 535 | 9. 1.4 1.6 1.9 2.2 2.6 2.7 2.9 3.1 |
| 10. 45 48 46 47 45 48 46 49 46 47 | 11. 97 102 99 105 100 101 99 101 |

Determine the number of standard deviations that includes all data values.

12. The mean test score on a standardized test is 216; the standard deviation is 52.
127 98 236 192 267 335 217 365 472 177
13. The mean age of students in a school is 16.4 years; the standard deviation is 1.5.
13 17 18 15 16 14 15 18 17 16 15 16 13
14. The average rainfall for the month of April for several Eastern cities is as follows:
3.0 3.4 4.3 3.6 3.6 2.9 2.8 3.9 2.8 2.9 4.5 3.8 4.2 3.6 4.0 2.9 3.1
 - a. Find the mean of the data.
 - b. Find the standard deviation of the data.
 - c. Find the range of the data.
 - d. Within how many standard deviations is a rainfall of 2.8 in.? 4.0 in.?
15. The test scores on a college algebra test are as follows:
67 69 71 75 78 78 83 85 85 85 85 86 87 89 92 95 98 98 98 100
100 100 100 100 100
 - a. Find the range of the data.
 - b. Find the interquartile range.
 - c. Find the mean of the data.
 - d. Find the standard deviation.
 - e. Within how many standard deviations of the mean is a score of 65?
 - f. Within how many standard deviations of the mean is a score of 100?
16. A set of values has a mean of 67 and a standard deviation of 8. Find the z-score of the value 70.
17. A set of values has a mean of 102 and a standard deviation of 12. Find the z-score of the value 135.