

Practice Problems (9/18/2025)

1. The number of incidents in which police were needed for a sample of 10 schools in Allegheny County is 7, 37, 3, 8, 48, 11, 6, 0, 10, 3. Calculate the range, variance and standard deviation.
2. (Coefficient of Variation) The mean for the number of pages (variable 1) of a sample of women's fitness magazines is 132, with a variance of 23; the mean for the number of advertisements (variable 2) of a sample of women's fitness magazines is 182, with a variance of 62. Which variable is more variable?

3. (Chebyshev's theorem) The average number of calories in a regular size bagel is 240. If the standard deviation is 38 calories, find the range in which at least 75% of the data will lie.

4. (Chebyshev's theorem) Americans spend an average of 3 hours per day online. If the standard deviation is 32 minutes, find the range in which at least 88.89% of the data will lie.

5. (Chebyshev's theorem) The average of the number of trials it took a sample of mice to learn to traverse a maze was 12. The standard deviation was 3. Using Chebyshev's theorem, find the minimum percentage of data values that will fall in the range of 4–20 trials.