

1. The frequency distribution below represents the weights in pounds of a sample. Compute the sample mean of given distribution.

Class	Frequency	Class	Frequency
10.0-10.9	1	15.0-15.9	11
11.0-11.9	4	16.0-16.9	8
12.0-12.9	6	17.0-17.9	7
13.0-13.9	8	18.0-18.9	6
14.0-14.9	12	19.0-19.9	2

2. X Distribution Company, a subsidiary of a major appliance manufacturer, is forecasting regional sales for next year. The Atlantic branch, with current yearly sales of \$193.8 million, is expected to achieve a sales growth of 7.25%; the Midwest branch, with current sales of \$79.3 million is expected to grow by 8.20%; and the Pacific branch, with sales of \$57.5 million, is expected to increase sales by 7.15%. What is the average rate of sales growth forecasted for next year?

3. Calculate the average percentage increase in bad-debt expenses over this given time period. If this rate continues, estimate the percentage increase in bad debts for 2018, relative to 2016.

2010	2011	2012	2013	2014	2015	2016
0.11	0.09	0.075	0.08	0.095	0.108	0.120

4. For the given frequency distribution, determine
- The median class.
 - The number of the item that represents the median.
 - The width of the equal steps in the median class.
 - The estimated value of the median for these data.

Class	Frequency	Class	Frequency
100-149.5	12	300-349.5	72
150-199.5	14	350-399.5	63
200-249.5	27	400-449.5	36
250-299.5	58	450-499.5	18

5. Here are the ages in years of the cars worked on by the Village Autohaus last week:

5	6	3	6	11	7	9	10	2	4	10	6	2	1	5
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- Compute the mode for this data set.
- Compute the mean of the data set.
- Compare parts (a) and (b) and comment on which is the better measure of the central tendency of the data.

6. Here are student scores on a history quiz. Find the 80th percentile.

95	81	59	68	100	92	75	67	85	79
71	88	100	94	87	65	93	72	83	91

7. Talent, Ltd. a Hollywood casting company, is selecting a group of extras for a movie. The ages of the first 20 men to be interviewed are

50	56	55	49	52	57	56	57	56	59
54	55	61	60	51	59	62	52	54	49

The director of the movie wants men whose ages are fairly tightly grouped around **55 years**. Being a statistics buff of sorts, the director suggests that a standard deviation of 3 years would be acceptable. Does this group of extras qualify?

8. Bassart Electronics is considering employing one of two training programs. **Two groups** were trained for the same task. **Group 1 was trained by program A:** group 2, by program B. For the first group, the times required to train the employees had an **average of 32.11 hours and a variance of 68.09**. In the second group, the average was 19.75 hours and the variance was 71.14. Which training program has less relative variability in its performance?