

2. Two machines, A and B, fill empty packets with soap powder. A sample of boxes was taken from each machine and the weight of powder (in kg) was recorded.

|          |      |      |      |      |      |      |      |      |      |
|----------|------|------|------|------|------|------|------|------|------|
| <i>A</i> | 2.27 | 2.31 | 2.18 | 2.2  | 2.26 | 2.24 |      |      |      |
| <i>B</i> | 2.78 | 2.62 | 2.61 | 2.51 | 2.59 | 2.67 | 2.62 | 2.68 | 2.70 |

- (a) Find the mean and standard deviation for each machine.  
 (b) Which machine is most consistent?
3. Two groups of students were trying to find the acceleration due to gravity. Each group conducted 5 experiments.

|                |     |     |      |      |      |
|----------------|-----|-----|------|------|------|
| <i>Group A</i> | 9.4 | 9.6 | 10.2 | 10.8 | 10.1 |
| <i>Group B</i> | 9.5 | 9.7 | 9.6  | 9.4  | 9.8  |

Find the mean and standard deviation for each group, and comment on their results.

4. The number of matches per box was counted for 100 boxes of matches. The results are given in the table below.

MEP Pupil Text 9

| <i>Number of Matches</i> | <i>Frequency</i> |
|--------------------------|------------------|
| 44                       | 28               |
| 45                       | 31               |
| 46                       | 14               |
| 47                       | 15               |
| 48                       | 8                |
| 49                       | 2                |
| 50                       | 2                |

Find the mean and standard deviation of this data.

5. Find the mean, median, and mode of the hourly wages of 200 employees. One hundred earn \$5.00 per hour, ten earn \$6.25 per hour, ten earn \$7.75, twenty earn \$4.50 per hour, and sixty earn \$5.90 per hour.
  
6. The union and the company executives are currently negotiating a raise in salaries for all of the MicroTech employees. Three of the employees have salaries of \$300,000 each. However, a majority of the employees have salaries of about \$30,000 per year.
  - a. You are a vice-president and would like to show that the current salaries are reasonable. Would you quote the mean, median, or mode as the “average” salary to justify your claim? Why?
  
  - b. You are the union representative for your department and maintain that a pay raise is in order. Which of the mean, median, and mode would you quote to justify your claim? Why?