1. The following data represents the number of wins for a hockey team in its first eleven seasons:

| 24 | 22 | 23 | 24 | 31 | 26 | 29 | 35 | 39 | 42 | 28 |

A. What is the mean?
B. What is the standard deviation?
C. What is the variance?
D. What is the coefficient of variation?
E. What is the mode?
F. What is the median?
G. How many classes would you recommend?
H. What would be the class width?
I. Create a frequency distribution based on your answers in G & H.
J. How is the data skewed?
K. What is the first quartile?
L. What is the third quartile?
M. What is the interquartile range?
N. What is the third decile?
O. What is the fourth quintile?
P. What is the 66th percentile?

2. The salary of the employees at a certain company is normally distributed with a mean of $43,300 and a standard deviation of $2,500. According to the Empirical Rule, how much money does approximately 95% of the employees at this company make?

3. Compute the mean based on the following rates of return over the last five years:
   7%, -3%, 8%, -11%, 5%
4. At your college we asked 400 individuals whether or not they were vaccinated against the influenza virus and whether or not the virus attacked them.

<table>
<thead>
<tr>
<th></th>
<th>Vaccinated</th>
<th>Not vaccinated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attacked</td>
<td>0.1500</td>
<td>0.2125</td>
</tr>
<tr>
<td>Not Attacked</td>
<td>0.4750</td>
<td>0.1625</td>
</tr>
</tbody>
</table>

If a person is chosen at random, what is the probability that:

A. The person was vaccinated?
B. The person was attacked?
C. The person was not vaccinated and attacked?
D. The person was vaccinated or not attacked?
E. The person was vaccinated given the person was attacked?
F. Determine whether the event that the was vaccinated and the event of the student not being attacked are independent events.

5. There are 52 cards in a standard deck consisting of 13 different cards in each of 4 suits. The suits are: hearts and diamonds, which are red, and spades and clubs, which are black. Each of the four suits consists of an Ace, 2, 3, 4, 5, 6, 7, 8, 9, 10, Jack, Queen and King.

A. What is the probability of drawing 2 black jacks in a row if the first is replaced before the second draw?
B. What is the probability of drawing 3 Hearts in a row if there is no replacement of a card once drawn?

6. Green Co. was assessing their health care program and was looking at the occurrence of smoking within their workforce. The company found that 25% of their employees smoke. The company also found that 40% of their employees are female. (The same percentages of smokers are female as are male employees.)

A. If an employee is chosen at random what is the probability that the employee is both female and a smoker?
B. What is the probability that the above employee is either a female or a smoker?

7. A certain electric toothbrush company finds that 5% of their electric toothbrushes have a defect as they come off the production line.

A. If two electric toothbrushes are packed in a shipping container, what is the probability that they are both defective?
B. If two electric toothbrushes are packed in a shipping container, what is the probability that at least one of them is not defective?

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**Academic Success Centre**

These questions were compiled by Michael Reimer for the Academic Success Centre.