1 The variance of a given distribution is 25. What is the standard deviation?

2 Seven Matrons assembled for a meeting, shake hands with one another. How many handshakes take place………………?

3 What is the evaluation of 5! ?

4 If four coins are flipped in succession, then the number of possible outcomes is…………….

5 The probabilities of a boy passing English and Mathematics tests are x and y respectively. Find the probability of the boy failing both tests.

6 Parameter is a descriptive measurement obtained from a whole………………

7 The grade of student on six examinations were 84, 91, 72, 68, 87, and 78. What is the arithmetic mean of the grades?

8 The scores of 5 students in an examination are: 6, 5, 8, 7 and 4. Find the variance.

9 The scientific method for collection, summarization, presentation, analysis and interpretation of data is called

Solution

1. The standard deviation is

$$\sqrt{25} = 5.$$

2. The number of handshakes

$$6 + 5 + 4 + 3 + 2 + 1 \ = \ 3 \cdot 7 \ = \ 21.$$

3. $5! = 1 \cdot 2 \cdot 3 \cdot 4 \cdot 5 = 120.$

4. The number of possible outcomes is

$$2 \cdot 2 \cdot 2 \cdot 2 = 2^4 = 16.$$

5. Find the probability of the boy failing both tests

$$P = (1 - x)(1 - y) = 1 - x - y + xy.$$

6. Parameter is a descriptive measurement obtained from a whole <u>population.</u>

7. The arithmetic mean of the grades is

$$\frac{84 + 91 + 72 + 68 + \ 87 + 78}{6} = 80.$$

8.

$$\sum x_i = 6 + 5 + 7 + 8 + 4 = 30.$$

$$\bar{x} = \frac{\sum x_i}{n} = \frac{30}{5} = 6.$$

$$\sum x_i^{\,2} = 6^2 + 5^2 + 7^2 + 8^2 + 4^2 = 190.$$

The variance is

$$\sigma^2 = \frac{\sum x_i^{\,2} - n(\bar{x})^2}{n} = \frac{190 - 5 \cdot 6^2}{5} = 2.$$

9. The scientific method for collection, summarization, presentation, analysis and interpretation of data is called Statistics.