

Answer on Question #61543 – Math – Statistics and Probability

Question

1. Find the median of the numbers 89, 141, 130, 161, 120, 131, 131, 100, 108, and 119.

148
125
136
124

Solution

Put the numbers in an ascending order:

89 100 108 119 120 130 131 131 141 161.

The quantity is even ($n = 10$).

In this list, the middle numbers (the fifth and sixth ones) are 120 and 130.

To find the average of these values, that is, add them together and divide by 2:

$$(120+130)/2=125$$

The median is 125.

Answer: 125.

Question

2. In how many ways can a committee of 5 people be chosen out of 9 people?

254
126
120
131

Solution

A committee can be chosen in

$$\binom{9}{5} = \frac{9!}{(9-5)!5!} = \frac{6 \cdot 7 \cdot 8 \cdot 9}{2 \cdot 3 \cdot 4} = 126 \text{ ways, where } n! = 1 \cdot 2 \cdot 3 \cdot \dots \cdot (n-1) \cdot n.$$

Answer: 126.

Question

3. Find the probability that a number selected at random from 40 to 50 is a prime.

1/9
1/7
3/11
1/14

Solution

The numbers from 40 to 50 are

40 41 42 43 44 45 46 47 48 49 50.

There are 11 numbers.

The prime numbers among them are

41 43 47.

The probability that a number selected at random from 40 to 50 is a prime will be

$$P = 3/11.$$

Answer: $\frac{3}{11}$.