

Answer on Question #71274 – Math – Statistics and Probability

Question

Let T be a random variable giving the number of heads in three tosses of a coin. List the elements of the sample space S for the three tosses of the coin and assign a value to each sample point.

Solution

The sample space: $S = \{HHH, HHT, HTH, THH, HTT, THT, TTH, TTT\}$

Let T be a random variable giving the number of heads.

Then

$$T(HHH) = 3$$

$$T(HHT) = 2$$

$$T(HTH) = 2$$

$$T(THH) = 2$$

$$T(HTT) = 1$$

$$T(THT) = 1$$

$$T(TTH) = 1$$

$$T(TTT) = 0$$

Thus, a random variable T takes on values 0, 1, 2, 3.