Answer on Question #42538 – Math - Statistics and Probability

60% of invoices paid within 10 days. 17 invoices are randomly selected. What is the probability that 16 of the invoices randomly chosen will be paid in 10 days?

Solution. The probability that the randomly chosen invoice will be paid in 10 days equals

$$p = \frac{60}{100} = 0.6.$$

The probability that the randomly chosen invoice will not be paid in 10 days equals

$$q = 1 - p = 0.4.$$

We will use a Bernoulli trial (binomial trial) to compute probability that the 16 randomly chosen invoices will be paid in 10 days. This probability equals

$$P = \binom{17}{16} p^{16} q^{1} = 17 \cdot 0.6^{16} \cdot 0.4 \approx 0.001918.$$

Answer. $P = 17 \cdot 0{,}6^{16} \cdot 0{,}4 \approx 0.001918.$