

Answer on Question #83049 — Math — Statistics and Probability

Question

During a particular year, 70 percent of the common stocks listed on the Nigeria Stock Exchange increased in market value, while 30 percent were unchanged or declined in market value. At the beginning of the year a stock advisory service chose 10 stock issues as being especially recommended. If the 10 issues represent a random selection, what is the probability that at least eight issues increased in market value?

- a. 0.3828
- b. 0.1325
- c. 0.3144
- d. 0.1553

Solution

Let A be the quantity of issues increased in market value.

$$P(A) = 0.7,$$

$$P(A \geq 8) = P(A=8) + P(A=9) + P(A=10) = 45 * 0.7^8 * 0.3^2 + 10 * 0.7^9 * 0.3 + 0.7^{10} = 0.3828.$$

Answer: a) 0.3828.