Question

Compute the probabilities of y successes using exact probability binomial distribution for the following:

(a) n=5, y=3; p=0.1

(b) n=8, y=5; p=0.4

(c) n=7, y=4; p=0.7

Solution

a) $P(y=3) = 10p^3(1-p)^2 = 10*0.1^3*0.9^2 = 0.0081$

b) $P(y=5) = 56\,p^5(1-p)^3 = 56*0.4^5*0.6^3 = 0.1239$

c) $P(y=4) = 35\,p^4(1-p)^3 = 35*0.7^4*0.3^3 = 0.2269$

Answer: a) 0.0081; **b)** 0.1239; **c)** 0.2269.