Step 1: Here total number of events, n = 20

Probability of success i.e. p(getting a right answer), q = 1/4

Probability of failure i.e. p(getting a wrong answer), p = 1-q

p = 1-1/4

p = 3/4

Step 2: We use the binomial distribution formula for probability of success for any random variable X i.e.

P(X = x) = (n!/(n-x)!\*x!)\*px \*q(n-x)

Step 3: Now we calculate the probability that he has answered 5 questions wrong

P(x = 5) = C(20,5)\*(1/4)15\*(3/4)5

=(20\*19\*18\*17\*16) \* (1/4)15 \* (3/4)5

(5\*4\*3\*2\*1)

= 0.0000034

Thus the required probability is 0.0000034