## Answer on Question #40901 - Math -Complex Analysis

## Question:

Software filters rely heavily on "blacklists" (lists of known "phishing" URLs) to detect fraudulent emails. But such filters typically catch only 20 percent of phishing URLs. Jason receives 14 phishing e-mails.

(a) What is the expected number that would be caught by such a filter? (Round your answer to the next whole number.)

## Expected number

(b) What is the chance that such a filter would detect none of them? (Round your answer to 5 decimal places.)

## Answer:

The probability that the one letter will be cathed is 0.2 and the probability that such a filter would not detect phishing letter is 0.8.

- a) The expected number of letters that would be caught by such a filter is  $14*0.2=2.8\approx3$ .
- b) The chance that such a filter would detect none of 14 letter is  $(0.8)^{14} = 0.04398$ ;