

Answer on Question #81477 – Math – Statistics and Probability

Question

Three types of bulbs A, B, C are purchased in an electric company, due to their lives bulb A is twice as likely to be purchased as B , and bulb B is twice as likely to be purchased as C . A bulb is chosen at random what is probability bulb is A or B .

Solution

$$P(A) = 2P(B), P(B) = 2P(C)$$

$$P(A) + P(B) + P(C) = 1$$

$$2(2P(C)) + 2P(C) + P(C) = 1$$

$$P(C) = \frac{1}{7}$$

$$P(A \cup B) = P(\overline{C}) = 1 - P(C) = 1 - \frac{1}{7} = \frac{6}{7}$$