Normal Distribution - Problems for Practice

February 23,2021

PROBLEMS:

1. X is normally distributed with mean 12 & S.D 4. Find
   (i) $P(X \geq 20)$, (ii) $P(X \leq 20)$ and (iii) $P(0 \leq X \leq 12)$
   Ans: (i) 0.0228 (ii) 0.9772 (iii) 0.4987

2. In a distribution exactly normal,7% of the items are under 35 and 89% are under 63. Find the mean and S.D.
   Ans: $\mu = 50.288, \sigma = 10.36$

3. An electrical firm manufactures light blubs that have a life before burn-out that is normally distributed with mean equal to 800 hours and a standard deviation of 40 hours Find
   i) the probability that a bulb burns more than 834 hours.
   ii) the probability that bulb burns between 778 and 834 hours.
   Ans: (i) 0.1977 (ii) 0.5111

4. The average test marks in a Particular class is 79. The S.D is 5. If the marks are distributed normally, how many students in a class of 200 did not receive marks between 75 and 82?
   Ans: 97

5. At a certain examination 10% of the students who appeared for the paper in statistics got less than 30 marks and 97% of the students got less than 62 marks. Assuming the distribution is normal, find the mean and S.D of the distribution.
   Ans: $\mu = 43.04, \sigma = 10.03$