| | Α | В | С | D | Е | F | G | Н | I | J | K |
|----|---|----------|---------------|------------------|-----------------------|----------------------|----|------|---|---|---|
| 1 | Marks distribution of 1000 students follows Normal distribution with mean 60 and S.D. 10. From this group | | | | | | | | | | • |
| 2 | one student is selected at random, compute the probability that mark of the student lies | | | | | | | | | | |
| 3 | i) below 70 | | | ii) more than 65 | | iii)between 55 to 65 | | | | | |
| 4 | Also, estimate the number of students | | | whose mark is | | | | | | | |
| 5 | i) atleast 62 | | ii) atmost 70 | | iii) between 58 to 68 | | | | | | |
| 6 | | | | | | | | | | | |
| 7 | Solution : Let , $x = Marks$ | | | | | | | | | | |
| 8 | Here, we have | | | | | | | | | | |
| 9 | | Mean(µ)= | 60 | | S.D.(σ)= | 10 | N= | 1000 | | | |
| 10 | First part | | | | | | | | | | |
| _ | i) Req. prob. | | | | | 0.841344746 | | | | | |
| | ii) Req. prob. = $p(x>65)$ = | | | | | 0.308537539 | | | | | |
| 13 | iii) Req. prob. = $p(55 < x < 65) =$ | | | | 0.3829 | | | | | | |
| 14 | | | | | 0.38292492 | .923 | | | | | |
| 15 | Second part | | | | | | | | | | |
| | i) Req. No. = $N*p(x \ge 62)$ = | | | | | 420.7402906 | | | | | |
| | ii) Req. No. = N*p(x≤70)= | | | | 841 | 841.3447461 | | | | | |
| 18 | iii) Req. No. = N*p(58 <x<68)=< td=""><td></td><td>367</td><td></td><td></td><td></td><td></td><td></td><td></td></x<68)=<> | | | | 367 | | | | | | |
| 19 | | | | | 367.4043109 | | | | | | |
| 20 | | | | | | | | | | | |
| 21 | | | | Name:Karina Kc | | | | | | | |
| 22 | | | | Roll No:15 | | | | | | | |
| 23 | | | | | | | | | | | |