**Problem Statement 1: Marks of Year 8 Students**

Mean =7

Median=7

σ≈1.73

**Problem Statement 2: Calls for Roadside Service**

Mean =109.8

Median = 104

σ≈43.7

**Problem Statement 3: Mean and Variance of Workouts**

Mean = 2.21

Variance = σ2≈1.31

**Problem Statement 4: Proportion of Scraps and CDF**

The scrap proportion is significant (13.5%). By adjusting the process, this can be minimized.

**Problem Statement 5: Faulty LEDs in a Sample**

Probability of 2 Faulty LEDs = 0.3241

Average and Standard Deviation = 1.122

**Problem Statement 6: Gaurav and Barakha's Correct Solutions**

Gaurav = 0.207

Barakha =0.231

**Problem Statement 7: Customer Arrival in 4 Minutes**

Probability of 5 customers = 0.174

Probability of not more than 3 customers = 0.485

Probability of more than 3 customers = 0.515

**Problem Statement 8: Errors in Financial Reports**

Probability of 2 errors in a 455-word report = 0.261

For 1000 words = 0.132

For 255 words = 0.233

**Problem Statement 9: Proportion of Scraps**

13.5% of parts are scrapped, highlighting the need for tighter quality control.

**Problem Statement 10: Z-Scores**

Value of z such that P(Z>z) = 0.05: 1.645

Value of z such that P(-z<Z<z) = 0.99: 2.576

**Problem Statement 11: Current Measurement**

Probability of X>13 = 0.0668

Probability of 9 ≤X≤11 = 0.3829

Current with 0.98 probability = 14.11

**Problem Statement 12: Shaft Diameter**

Centering the process significantly improves conformity.