

Activity Sheet

Please go through 'Central Tendency' slides of today's lecture and spend time in understanding the concepts, examples problems explained and then solve the problems given below.

1. Two people work in a factory making parts for cars. The table shows number of complete parts they make in one week.

| Worker | Mon | Tue | Wed | Thu | Fri |
|----------|-----|-----|-----|-----|-----|
| Philip | 15 | 21 | 20 | 20 | 20 |
| Matthews | 30 | 25 | 12 | 35 | 0 |

- Find the mean, median and range for Philip and Matthews.
 - Who is more consistent?
 - Who makes the most parts in a week, on an average?
2. Following are Kohli's scores in 4 matches played between India and Australia, match 5 being the latest one played in a six match series.

| Matches | Score |
|---------|-------|
| 1 | 65 |
| 2 | 72 |
| 3 | 58 |
| 4 | 77 |

- What are his median and mean scores for the first four matches played?
- If he scores 70 in his fifth match, does his series mean score increase or decrease w.r.t. score obtained for first four matches. Find his new mean score.
- Which has increased most, his mean score or his median score (w.r.t first five matches)?

3. Find the mode for 8, 6, 2, 4, 6, 8, 10, 8

4. Analyze the performance of your class

a) How is the spread of the scores?

b) Find the 25th percentile, 50th percentile and 75th percentile for this data.

Scores: 11, 7.5, 8.5, 10, 10, 10.5, 5.5, 10, 9, 9.5, 5.25, 8, 6.5, 10.5, 8.75, 0, 6, 6, 6.75, 8.75, 0, 9.5, 7.5, 8.5, 7

5. Temperatures in 5 cities measured for 12 days is given below. The weather department says that two cities have similar weather. Use central tendencies and spread to identify those two cities

| | | | | | | | | | | | | |
|--------|----|----|----|----|----|----|----|----|----|----|----|----|
| City 1 | 29 | 32 | 36 | 40 | 43 | 37 | 36 | 33 | 32 | 37 | 31 | 29 |
| City 2 | 20 | 24 | 31 | 37 | 40 | 38 | 37 | 34 | 34 | 33 | 28 | 23 |
| City 3 | 23 | 26 | 32 | 38 | 41 | 40 | 35 | 33 | 35 | 37 | 30 | 25 |
| City 4 | 20 | 24 | 29 | 34 | 37 | 36 | 32 | 30 | 33 | 32 | 27 | 23 |
| City 5 | 19 | 24 | 29 | 38 | 43 | 38 | 33 | 34 | 36 | 34 | 29 | 23 |

6. Compute Z score for the elements in the vector below (82, 72, 85, 14, 66)

7. If player A gets a goal an average of 70% of the time with stdev of 20%. Player B gets a goal an average of 40% of the time with stdev of 10%. In a particular game, player A gets a goal 75% of time and player B gets a goal 55% of the time. Which of these two players have done better against their personal track records?