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| lEARNING TASK NO. 3  **MEASURES OF POSITION and variability** | NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  PROGRAM: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  DATE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

**Part One.** With the data provided per item, solve for the quantile scores asked.

1. A nutritionist-dietician is doing a study on the factors that affect the weight of children, identified as “severely wasted” in order to develop an effective feeding program. The weight (in kg) of the 25 children are given below:

18 18 19 19 19 19 20 20 21 22 23 24 25 25 26 27 29 29 30

30 30 30 31 31

* 1. What is the second quartile?
  2. What is the upper quartile?
  3. Based on the data, for what weight does 25 percent of the children are lighter?

|  |  |  |
| --- | --- | --- |
| Monthly Income  *(in thousand pesos)* |  |  |
| 1 – 5 | 5 |  |
| 6 – 10 | 11 |  |
| 11 – 15 | 20 |  |
| 16 – 20 | 18 |  |
| 21 – 25 | 7 |  |
| 26 – 30 | 6 |  |
| 31 – 35 | 2 |  |
| 36 – 40 | 1 |  |

1. Seventy senior citizens in an urban community were asked in a survey how much were their greatest monthly income when they were still working individuals. Their responses have been tabulated through a frequency distribution at the right.

Compute for the following measures of position:

* 1. 62nd percentile
  2. 37th percentile
  3. 4th decile
  4. 9th decile
  5. Upper quartile

Write your solutions legibly in the blank space below. Use another paper if necessary.

**Part Two.** Compute for the specified measure of variability based on the data given per item.

1. Thirty college varsity players were given a spatial test. Their scores are given below. Compute for the following: (a) Range; (b) IQR; (c) variance; and (d) standard deviation.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 82 | 95 | 38 | 66 | 51 | 77 | 9 | 18 | 39 | 64 |
| 55 | 59 | 76 | 88 | 93 | 92 | 81 | 18 | 27 | 28 |
| 67 | 55 | 55 | 43 | 27 | 17 | 36 | 11 | 99 | 34 |

1. The same data from item 2 in Part 1 is given below. Solve for the sample variance and the sample standard deviation.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Monthly Income  *(in thousand pesos)* |  |  |  |  |  |  |
| 1 – 5 | 5 |  |  |  |  |  |
| 6 – 10 | 11 |  |  |  |  |  |
| 11 – 15 | 20 |  |  |  |  |  |
| 16 – 20 | 18 |  |  |  |  |  |
| 21 – 25 | 7 |  |  |  |  |  |
| 26 – 30 | 6 |  |  |  |  |  |
| 31 – 35 | 2 |  |  |  |  |  |
| 36 – 40 | 1 |  |  |  |  |  |