Answers for the problem statement:

1. A variable whose variance is 0 cannot be used for the statistical analysis as 0 variance indicate that the value set for each element of the sample consist of only one same value. Which either means that the experiment was not conducted in a proper manner or this variable is not significant for performing the statistical analysis.
2. First Thing is that it is not mentioned in the question that is this a sample set or the entire population so for standard deviation and variance I will calculate the Values for both the cases.
   Data Set A= {7,6,7,7,8,5,8,7,7,5,5}

   a) Mean:
      Total No of Elements (N):11
      Formula: $\sum_{i=1}^{i=n} xi\ /N$
      Using the formula: $\sum_{i=1}^{i=n} xi$= 7+6+7+7+8+5+8+7+7+5+5=72
      $\overline{x}$= 72/11= 6.54
   b) Median: We have to Frist arrange the data in the ascending order
      A={5,5,5,6,7,7,7,7,7,8,8}
      Median would be the (N+1)/2th element in case of N is odd.
      Median = (11+1)/2= 6th element that is 7.

   c) Mode: It is the most frequent occurring value in the entire data set.
      Since 7 has occurred 5 times so it is the mode.
      Mode=7

   d) Variance: For the Population: $\boldsymbol{\sigma}^2$ = $\sum_{i=1}^{i=n}(xi-\bar{x})^2/\mathrm{N}$
      $\overline{x}$= 6.54
      Using the formula $\sum_{i=1}^{i=n}(xi-\bar{x})^2/\mathrm{N}$ we get
      = $\sum_{i=1}^{i=n}(xi-\bar{x}) = (7\text{-}6.54)^2 + (6\text{-}6.54)^2 + (7\text{-}6.54)^2 + (7\text{-}6.54)^2 + (8\text{-}6.54)^2 + (5\text{-}6.54)^2 + (8\text{-}6.54)^2 + (7\text{-}6.54)^2 + (7\text{-}6.54)^2 + (5\text{-}6.54)^2 + (5\text{-}6.54)^2 = 12.72$
      $\boldsymbol{\sigma}^2 = 12.72/11 = 1.15$

   e) Standard Deviation for Population = $\sqrt[2]{\sigma^2} = \sqrt[2]{1.15}$ =1.072

   f) Variance: For the sample: S^2 = $\sum_{i=1}^{i=n}(xi-\bar{x})^2/(\mathrm{N}\text{-}1)$
      $\overline{x}$= 6.54
      Using the formula $\sum_{i=1}^{i=n}(xi-\bar{x})^2/(\mathrm{N}\text{-}1)$ we get
      = $\sum_{i=1}^{i=n}(xi-\bar{x}) = (7\text{-}6.54)^2 + (6\text{-}6.54)^2 + (7\text{-}6.54)^2 + (7\text{-}6.54)^2 + (8\text{-}6.54)^2 + (5\text{-}6.54)^2 + (8\text{-}6.54)^2 + (7\text{-}6.54)^2 + (7\text{-}6.54)^2 + (5\text{-}6.54)^2 + (5\text{-}6.54)^2 = 12.72$
      $S^2 = 12.72/10 = 1.27$

   g) Standard Deviation for Sample = $\sqrt[2]{S * S}$ = $\sqrt[2]{1.27}$ =1.12

3. If the largest score is increased by 36 points than the average of the group would be increased by 3 as the overall sum of the score is increased by 36 which then divided by 12 would give 3.
   Explanation:
   Let the old mean be $\bar{x}$.
   Than the total sum of the score is $\bar{x}*12$
   The New sum would be $((\bar{x}*12) +36)$.
   And the new mean $\bar{x}$ new= $((\bar{x}*12) +36)/N$, which is equal to $\bar{x} +36/12 = \bar{x}+3$.

4. A data set consist of multiple elements and each element has several characteristic each characteristic is represented by a variable.
   Data singular would be the one specific value for one of the elements in the data set.
   a) For Example in a Data which contain the no of sell of lemonade and orange juice for seven days of a week.
      In That case value for the sale of lemonade for one specific day is data singular.
   b) Data Plural on the other hand represent the complete set of values for that one particular characteristic that is all the values that are assigned to that variable.

      For Example in a Data which contain the no of sell of lemonade and orange juice for seven days of a week.

   In That case value for the sale of lemonade for one the entire week or for all seven day is data plural.

5. The inferential Statistics help us to make decision for the entire population by performing the statistical analysis on the sample data.

   Generally in some cases it is either impossible or very difficult to perform the experiment for the population for example if you want to fight the average weight and height of a US Citizen.

   In such cases inferential statistics come into play by performing the analysis on the sample population.

   This sampling can be done by various ways few of them are as follow.

   a) Simple random sampling
   b) Systematic Sampling
   c) Cluster Sampling