**Statistics In-Class Assignment Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Wherever possible, write the Math symbols used for mean and standard deviation.**

1) Anya and Josh bowl together every week. The scores for their last games are given:

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Anya | 152 | 157 | 160 | 161 | 170 | 174 | 179 | 186 | 191 |
| Josh | 163 | 165 | 166 | 168 | 170 | 171 | 173 | 176 | 178 |

a) Determine the mean, median, and mode for each set of scores.

 Anya Josh

 Mean \_\_\_\_\_\_\_\_\_ Mean \_\_\_\_\_\_\_\_\_

 Median \_\_\_\_\_\_\_ Median \_\_\_\_\_\_\_

 Mode \_\_\_\_\_\_\_ Mode \_\_\_\_\_\_\_\_

b) Compare the scores of Anya and Josh.

c) Determine the range of the scores for Anya and Josh.

2) Which measure of central tendency would be the most useful for analyzing data in each of the

 following situations?

 a) the sizes of jeans to be stocked in a department store \_\_\_\_\_\_\_\_\_\_\_\_\_

 b) the mass of individual granola bars in a shipment \_\_\_\_\_\_\_\_\_\_\_\_\_\_

 c) the numbers of hours of daily sunlight during the month of February in Whitehorse \_\_\_\_\_\_\_\_\_\_

3) Joe and Josephine travel together by car to work. Joe says the mean time to get to work is 23.0

 minutes, while Josephine says that it is 20.5 minutes. Suggest a reason for the discrepancy. Use sample

 numbers if it helps to explain your reason.

4) At the end of a golf tournament, three friends compared their scores.

 Frances’ mean score was 70 with a standard deviation of 4.

 Janita’s mean score was 72 with a standard deviation of 6.

 Nicolina’s mean score was 71 with a standard deviation of 5.

 **Explain** who is the most consistent bowler.

5) Kyle and Adam are planting trees for a summer job. Their supervisor records how many trees they

 plant each day.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Day** | **1** | **2** | **3** | **4** | **5** | **6** |
| **Kyle** | 186 | 164 | 166 | 172 | 182 | 175 |
| **Adam** | 166 | 174 | 159 | 172 | 165 | 176 |

a) Which worker planted more trees? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Show the calculations to prove your

 answer.

b) Which worker is **more consistent** and how do you know? \_\_\_\_\_\_\_\_\_\_\_\_

6) Calculate the mean standard deviation for each set of data.

 a) Bryan’s points in the last 6 games. b) Points Greg earned during the season.

|  |  |
| --- | --- |
| Game | Points |
| 1 | 16 |
| 2 | 18 |
| 3 | 21 |
| 4 | 12 |
| 5 | 11 |
| 6 | 17 |

|  |  |  |
| --- | --- | --- |
| Points | Frequency | Midpoint |
| 0-4 | 1 |  |
| 4-8 | 5 |  |
| 8-12 | 12 |  |
| 12-16 | 9 |  |
| 16-20 | 3 |  |

 Mean \_\_\_\_\_\_\_\_ Mean \_\_\_\_\_\_\_\_\_
 Standard Deviation \_\_\_\_\_\_\_ Standard Deviation \_\_\_\_\_\_\_

7) A teacher is analyzing the class results for a physics test. The marks are normally distributed with a

 mean of 76 and a standard deviation of 4.

a) Sketch the normal curve for the test. (On the right side)

b) Determine Dina’s mark if she scored + 2.5 \_\_\_\_\_\_

c) What percent of the class scored lower than Dina? \_\_\_\_\_\_

d) What percent of the class scored higher? \_\_\_\_\_\_

8) There is a protected population of 342 polar bears in Canada’s north. The life expectancy of the polar

 bears is normally distributed with a mean of 25 years and a standard deviation of 2.5 years.

 a) Create a sketch of the normal curve.

 b) What percent of the polar bears can be expected to live 30 years or more? \_\_\_\_\_\_\_\_

 c) **How many** of these polar bears can be expected to live 30 years or more? \_\_\_\_\_\_\_\_\_\_