**Understanding Standard Deviation**

You will need a graphing calculator for this assignment

**Pull-Up Data:**

The following data was observed by a gym teacher, of the number of pull-ups by 11th graders at Mount Pleasant High School. Use your calculator to determine the mean and standard deviation.

2, 3, 4, 3, 2, 5, 5, 6, 6, 6, 9, 4, 10, 3, 2, 1, 9

1. Mean:\_\_\_\_\_\_\_\_4.71\_\_\_\_\_\_\_\_\_\_ Standard Deviation:\_\_\_\_\_\_\_2.687\_\_\_\_\_\_\_\_\_\_\_\_

Use the following data set to create a normal curve that shows the distribution of figure skating scores at a local skating competition.

|  |  |
| --- | --- |
| **Skater Name** | **Cumulative Score** |
| Emma Latter | 85 |
| Hunter King | 36 |
| Zaneb Ataullah | 94 |
| Amanda Craft | 67 |
| Malik Burnett | 74 |
| Evan Johnson | 68 |
| Joyce Chou | 58 |
| Jessica Roch | 93 |
| Kelly Lowe | 72 |
| Brandon Makovicka | 60 |

1. Mean: \_\_\_\_70.7\_\_\_\_\_
2. Standard Deviation: \_\_\_\_17.5\_\_\_
3. What interval does the middle 68% lie in?

53.2 to 88.2

1. What interval does the top 2% lie in?

105.7 and above

1. Which figure skaters are in the top 50%?

Emma, Zaneb, Malik, Jessica, Kelly

1. What percentage lies between 53.2% and 70.7%?

About 34%

1. Within how many standard deviations from the mean does Malik’s score fall? 1 above