|  |  |
| --- | --- |
| NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_ | **Stats** |
| **Interpreting standard deviation** | **DATE: Monday, February 12, 2018** |

Click on the link about the Olympics and answer the following questions.

1. What does the graph on speedskating tell us?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What did times seems to improve fastest? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. When was the standard deviation greatest? \_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Look at the next graph (on 800m run, high jump and shot put)
	1. Which sport had the largest increase in performance? \_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. What is the general conclusion of this article?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Review:

Click on the speedskating link.

Answer these questions.

Find the mean time: \_\_\_\_\_\_

Find the median time: \_\_\_\_\_\_

Find the minimum time: \_\_\_\_\_\_

Find the maximum time: \_\_\_\_\_\_

Find the standard deviation: \_\_\_\_\_\_

Find quarter 1: \_\_\_\_\_\_

Find quarter 3: \_\_\_\_\_\_

Create a boxplot that represents that data on speedskaters.

In general terms, standard deviation roughly means *“average amount values differ from the mean”*

In context: If the average time to text a message was 114 seconds with a standard deviation of 21.

*“The average students took 114 seconds to type the messge.*

*On average, the time students took to type the message differed by 21 seconds from that average of 114 seconds.”*

Example 1. The average speed of a car on the highway is 66 mph and the standard deviation is 7 mph.

Interpret what the standard deviation means in context:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Example 2. The average grade at Deering is 88 and the standard deviation is 5.8. Intrepret what the standard deviation means in context:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Example 3. The average height of man in America is 5’ 10” and the standard deviation is 3 inches. In China, the average fis 5’ 7” with a standard deviation of 1.5 inches. What does this mean in context?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_