

$$\sigma = \sqrt{\frac{\sum (x - \bar{x})^2}{n}}$$

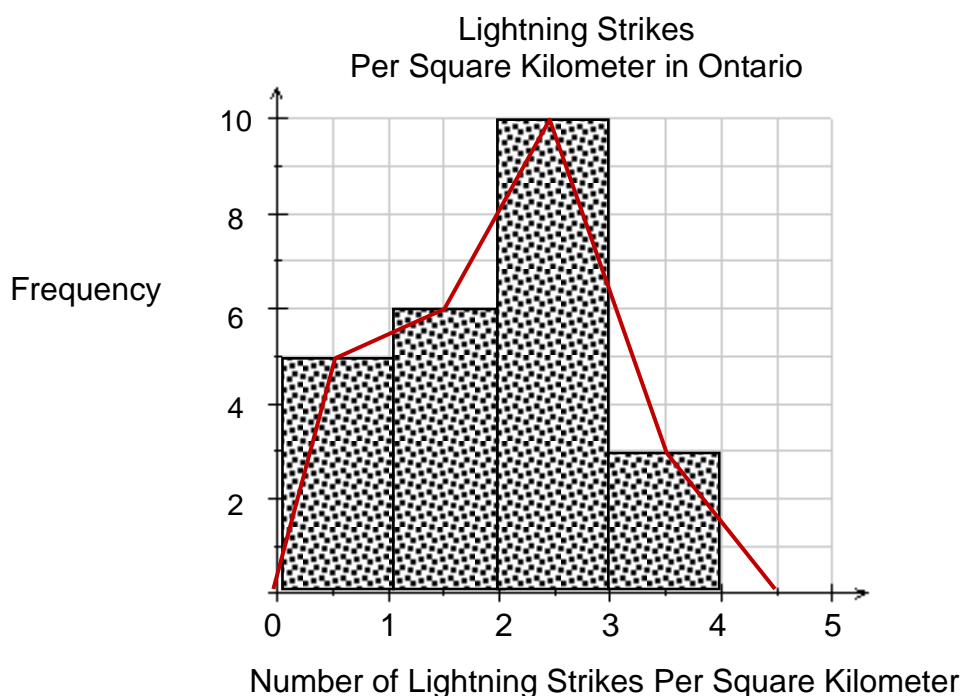
1. Environment Canada compiled data on the number of lightning strikes per square kilometer in Ontario from 1999 to 2008.

3.6 2.1 2.9 3.4 2.0 1.1 0.8 2.4
 2.5 2.8 0.8 2.3 1.9 2.7 2.2 1.3
 0.6 0.4 1.9 2.3 1.4 0.6 1.3 3.2

- a) Complete the frequency table.

Lightning Strikes	Tally	Frequency
0.0 – 1.0		5
1.0 – 2.0	I	6
2.0 – 3.0		10
3.0 – 4.0		3

- b) Draw a histogram to represent the data. Be sure to correctly label the graph.



- c) Draw a frequency polygon to represent the data.

2. The marks for History Tests are listed below:

90 56 72 82 64 89 95 72

- a) Calculate the following:

(i) Mean = 77.5 (ii) Median = 77
 (iii) Mode = 72 (iv) Range = 39

- b) If a test mark of 25 is added to the list, which measure of central tendency is most affected? Explain.

New measures:

Mean = 71.6 Median = 72 Mode = 72 Range = 70

The *measure of central tendency* that was affected the most is the mean.

3. The 5 top scorers from two teams in the Canadian Rugby Championships are listed:

British Columbia Bears	43	20	15	13	10
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Prairie Wolf Pack	76	20	15	10	10
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A) Determine the standard deviation for each Team.

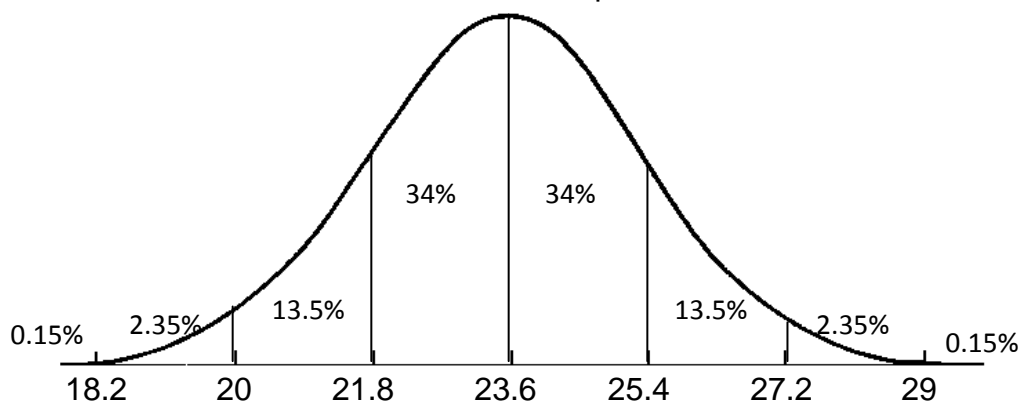
British Columbia Bears: Standard Deviation is 11.8
 Prairie Wolf Pack: Standard Deviation is 25.2

B) Which Team has the greatest variation in top scorers? Explain.

Prairie Wolf Pack has the greatest variation in top scorers on their team. One person does extremely better than the rest of his teammates and causes the points to be more spread out.

3. Jackson raises Siberian husky sled dogs. From data he has collected over the years, the masses of adult male dogs are normally distributed with a mean of 23.6 kg and a standard deviation of 1.8 kg.

A). Sketch the normal distribution curve to represent this data.



B). What percent of his dogs are between 20 kg and 25.4 kg?
 $13.5 + 34 + 34 = 81.5\%$

C). A male husky is considered overweight if he is above 27.2 kg. What percent of the huskies are overweight?
 $2.35 + 0.15 = 2.5\%$

D). How many of his 80 dogs are NOT overweight?
 NOT overweight = $100 - 2.5 = 97.5\%$
 How many dogs = $0.975 \times 80 = 78$ dogs not overweight

E). How many of his 38 puppies should grow to be between 21.8 kg and 27.2?
 Percent between 21.8 kg and 27.2 = 81.5%
 Number of puppies = $0.815 \times 38 = 30.97 = 31$ puppies