MAP 4CI <u>**Unit 4 Lesson 1: Statistical Measures**</u>

Recall:
One variable data has only one list of data.
It can be analysed using: mean, median, or mode.

Statistical Language
Per capita means the average per person or the number of items divided by the number of people.
Net worth is the total assets (wealth) minus total liabilities (debt)

_____

_____

Percent change measures a change in value over time

_____

Percentile is a number between 1 and 99 indicating the percent of the population with a score less than or equal to a specific value. Percentiles are a good way to rank data when you have a lot of data or you want to keep data private.

Percentile Rank is the percent of the population with a score less than a specific score.

Use formula $p = \left(\dfrac{L + 0.5E}{n} \right) \times 100$ where p = percentile rank

L = number of scores less than the value
E = number of scores equal to the value
n = total number of scores

<u>Example 1</u>
The table shows the heights of 15 people in a class, ranked from tallest to shortest.

Height (cm)	Rank
182	
180	
179	
178	
176	
175	
172	
170	
168	
167	
165	
164	
163	
160	
157	

Quartile is any of 3 numbers that separate a sorted data set into four equal parts.
- The second quartile Q_2 is the median. It cuts the data in half. = 50th percentile
- The first quartile or lowest quartile Q_1 is the middle of the lower half of the data. It separates the lowest 25%. = 25th percentile
- The third quartile is the middle of the upper half of the data. It separates the highest 25%. = 75th percentile.

Example 2

Here are the hourly pay rates in dollars for 17 high school students.

11.5	10.2	8	8.25	9	9.15
9.75	7.5	8	12.5	13	11.25
10.75	9.5	9.25	9.45	7.75	

a) What are the quartiles for this data set?

b) Dave's pay is in the 85th percentile for this group. What does the percentile mean? What is Dave's hourly pay rate?

Practice: Pg 205-211 # 1ace, 2ace, 3, 5, 7, 10, 11 ac (✓ Answers Pg 549)