

### 3.7 Displaying Data

“A picture is worth a thousand words.” This saying can be related to graphs.

A graph is a visual representation of data that displays the relationship among the variables.

Graphs can summarize data and present data more clearly and concisely than a table or written text.

**Categorical Data:** qualitative, usually recorded as a label and not a number  
e.g. eye colours

**Continuous Data:** quantitative, a number where values can exist between recorded values. i.e. decimals are allowed e.g. the weight of a person

**Discrete Data:** also numerical data, but no decimals allowed. There is a fixed number of possible values. e.g. number of pizza toppings

Oct 12-2:04 AM

Ex 1: State the data type:

- a) Number of mugs of coffee drank in a day *continuous*
- b) Type of pet at home (eg. dog, cat, bird..) *categorical*
- c) Number of pets at home *discrete*
- d) Amount of coffee in mL drank in a day *continuous*

*(unless rounded ....  
then discrete)*

May 14-12:28 PM

## 2.7 Displaying Data by Hand.notebook

April 17, 2015

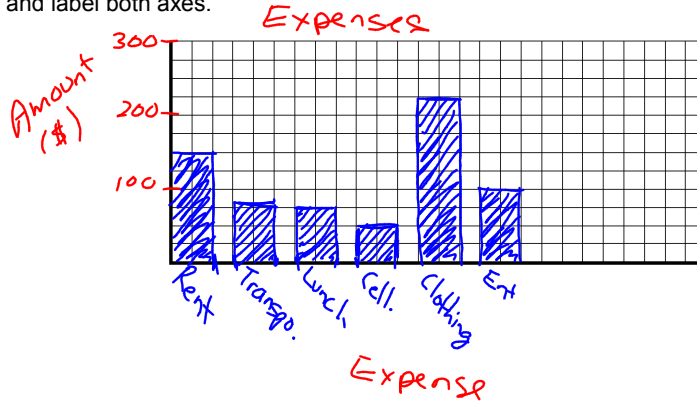
### Investigation 1: Bar Graph and Circle Graph

Chris has a part-time job at a music store. The table shows Chris' expenses last month.

Expense	Amount (\$)
entertainment	\$100
clothing	\$225
cell phone	\$50
lunch	\$75
transportation	\$80
rent	\$150

#### Method 1: Create the Bar Graph

Create a bar graph to represent the data above. Include a title for the graph and label both axes.



May 14-12:30 PM

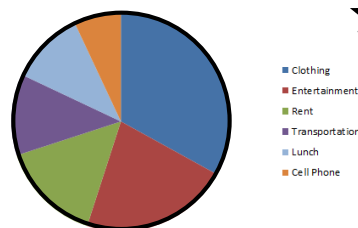
#### Method 2: Create the Circle Graph

Complete the table by calculating the percent for each expense.

Expense	Amount (\$)	Percent (%)
entertainment	\$100	$\frac{100}{680} \times 100 = 14.7\% \approx 15\%$
clothing	\$225	$\frac{225}{680} \times 100 = 33\%$
cell phone	\$50	$\sim 7\%$
lunch	\$75	$\sim 11\%$
transportation	\$80	$\sim 12\%$
rent	\$150	$\sim 22\%$
<b>TOTAL</b>	<b>\$680</b>	

Create a Pie Chart using the calculated percentages.

Note: Use a protractor to draw a circle. Mark a centre and draw a straight line. From the starting line, measure each angle with the protractor.



May 14-12:37 PM

## 2.7 Displaying Data by Hand.notebook

April 17, 2015

### Investigation 2: Histogram

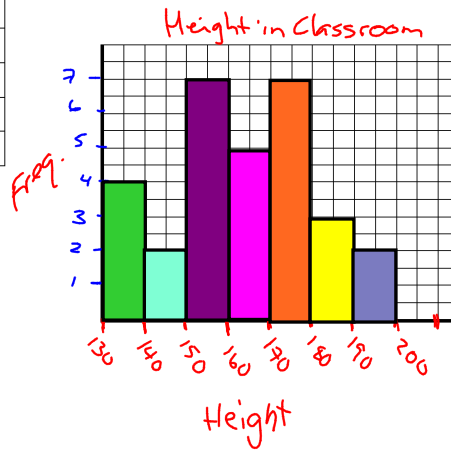
Sam measured the heights of students in her class. The heights are rounded to the nearest centimetre.

~~154 175 166 138 161 171 165 188 130 127 144 154 180 191 177~~  
~~173 164 154 180 173 151 164 174 154 138 150 146 176 194 151~~

1. Complete the table. Record the number of students in each interval, and then determine each frequency. i.e. [130 – 140) includes all heights from 130 cm up to, but NOT including 140 cm

Interval	Tally	Frequency
[130 – 140)		4
[140 – 150)		2
[150 – 160)		7
[160 – 170)		5
[170 – 180)		7
[180 – 190)		3
[190 – 200)		2

2. Graph the data with Interval on the horizontal axis and Frequency on the vertical axis. Include a title for the graph and label the axes.



May 19-8:56 PM

### Investigation 3: Pictograph

Draw a pictograph to represent the following list of students in clubs using a legend where 1 stick man = 25 people

Football = 50 students  
 Band = 63 students  
 Soccer = 37 students  
 Musical Theater = 52 students  
 Track = 35 students

Football	2 stick figures
Band	2 and a half stick figures
Soccer	1 and a half stick figures
M.T.	2 stick figures
Track	1 and a half stick figures

Oct 12-2:10 AM

Homework:

pg. 125 # 1, 2, 4-7

Be sure to review how to make each kind of graph we worked on today.

