Stem and Leaf Diagrams.

How many minutes a day do you spend on the Internet?
Record results:

Our height

Girls

161 163 162
159 167
162 162

boys in blue
girls in red

168 177 173
163 172 175
174 168 181
172 166

A Stem and Leaf Diagram to display the results.

9	15	
2 2 7 3 2 1	16	8 3 6 6
	17	4 2 7 2 3 5
	18	1

girls		boys
9	15	
7 3 2 2 2 1	16	3 6 6 8
	17	2 2 3 4 5 7
	18	1

med 162

Median?
range?

med 172

p130: A1 and A2, B1 - B4

Ext p 133 C2

Stem and Leaf Diagrams.

How many minutes a day do you spend on the Internet?
Record results:

180	80	70
240	240	100
245	240	246
360	480	

Thursday

boys in blue
girls in red

100	200
120	210
125	270
150	
180	

A Stem and Leaf Diagram to display the results.

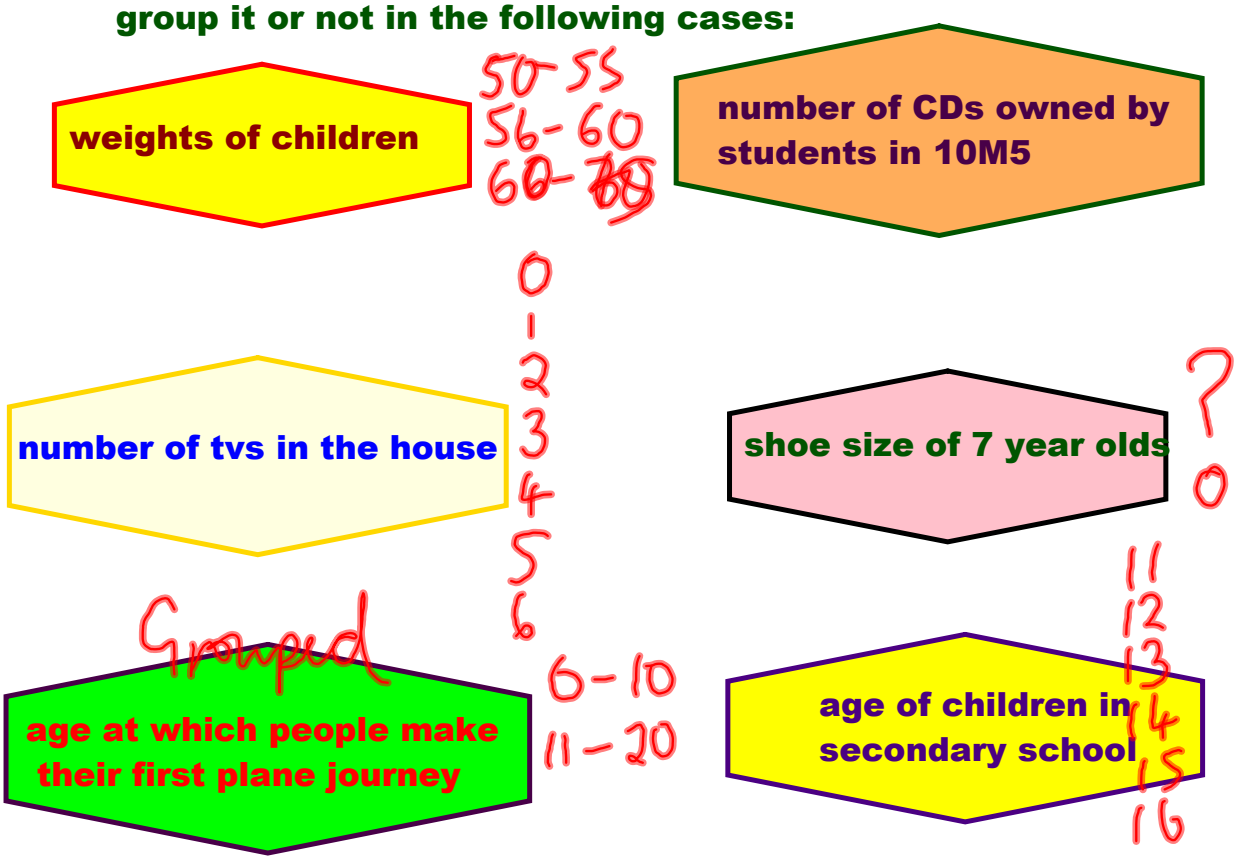
Median?
range?

boys		girls

p130: A1 and A2, B1 - B4

Ext p 133 C2

If you were going to draw a graph of data, would you group it or not in the following cases:



Grouped frequency Tables

see p 134

On average, how many plates of chips do you eat in a month?

number	tally	frequency total	
0-1	11	2	
2-3	1111	4	
4-5	𝍸 1	6	
6-7	11	2	
8-9	1	1	
10-11	1	1	

page 135 D3-D5

More Pie charts

p388

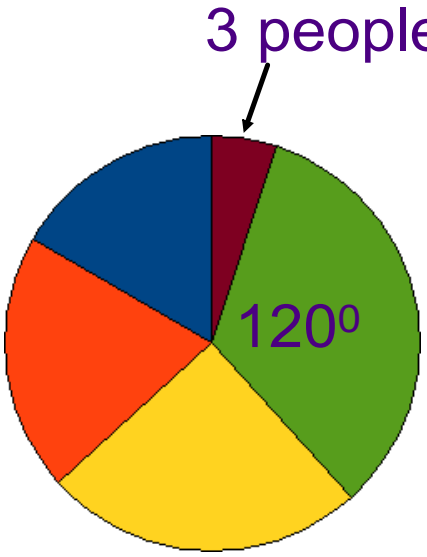
What happens when the numbers aren't so easy?

page 390

Pie Charts

Key: find out how many degrees per person

degrees per person = 360 ÷ no of people



There are 60 people represented in this pie chart.

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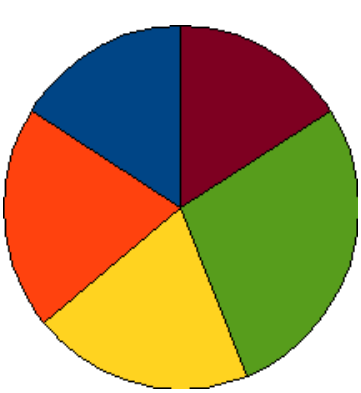
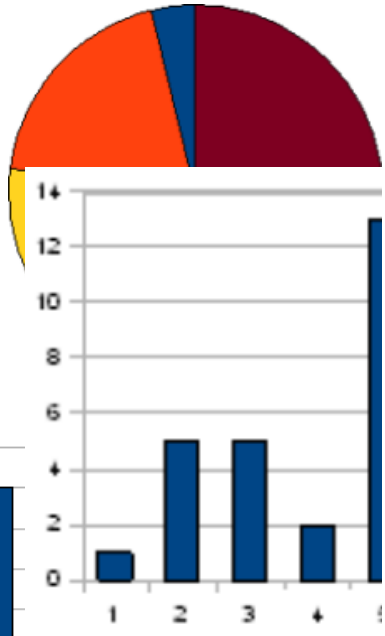
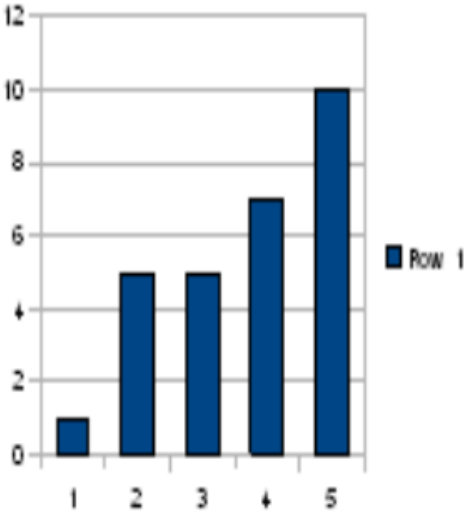
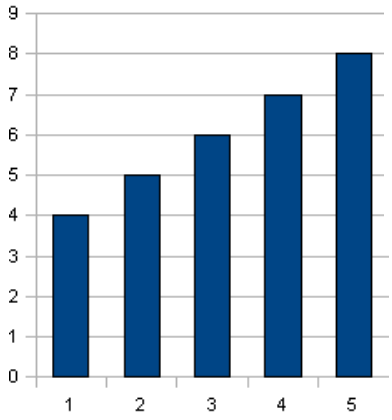



14
12
10
8
6
4
2
0
1
2
3
4


12
10
8
6
4
2
0
1
2
3
4
5
Row 1


9
8
7
6
5
4
3
2
1
0
1
2
3
4
5

Pie Charts

Draw Pie Charts to display the following data.
Remember to draw the circle from 0 to 180^0; if you go the whole way round the protractor you will get an oval.

Favourite TV	soaps	action	sport	other	Total
Number of people	40	20	15	15	90
Number of degrees	160°				

$\frac{360}{90} = 4^\circ$

Favourite sport	Football	Hockey	Tennis	basketball	other	Total
Number of people	20	10	13	14	3	
Number of degrees						

Most purchased food	bread	milk	apples	Tea/coffee	other	Total
Number of items	70	60	20	17	13	
Number of degrees						

Types of crime	Domestic violence	theft	shoplifting	graffiti	other	Total
Number of criminals	20	110	200	300	90	
Number of degrees						

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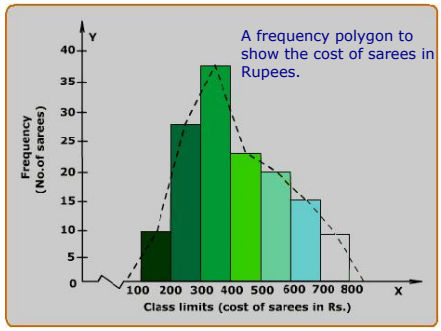
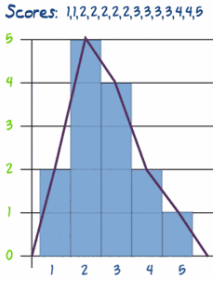
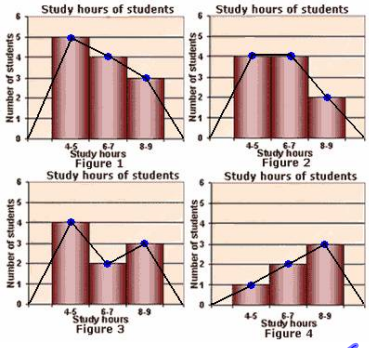




A frequency polygon to show the outcomes of throwing a dice 14 times.



$0 \leq x < 10$

gr les

≤ greater than equal

< les tha

page 444

	Tally	
$0 \leq x < 10$		3
$10 \leq x < 20$	1	5
$20 \leq x < 30$		6
$30 \leq x < 40$	11	10
$40 \leq x < 50$	1	6

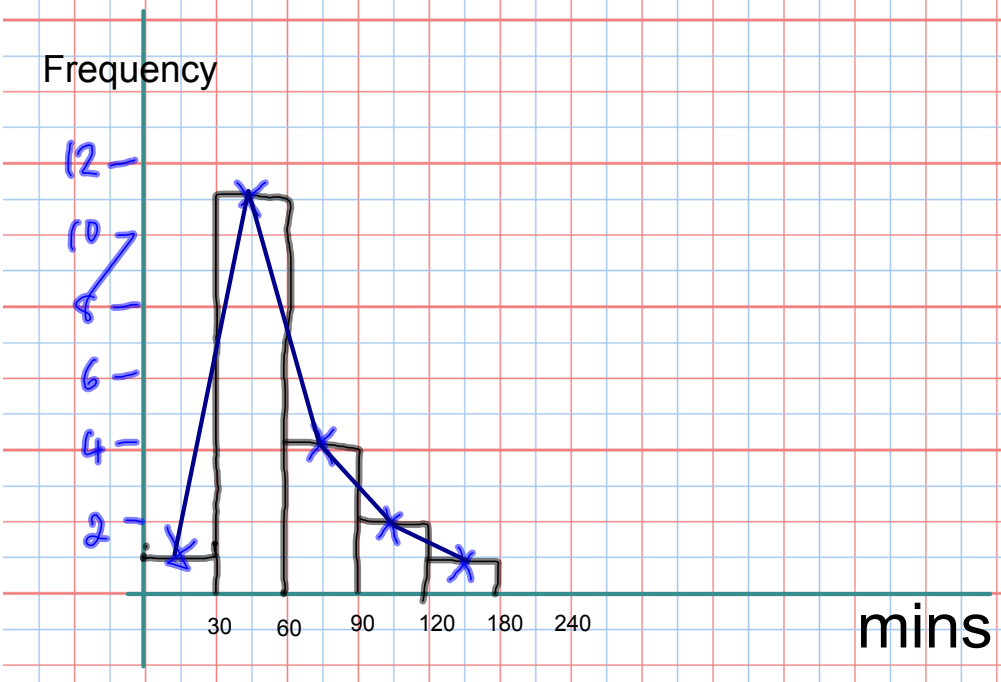
Frequency Polygons

(C)

Frequency polygons are used to display grouped data

On average how much homework do you do in a weekday evening?

Amount of time	frequency
less than 30 mins	1
30 mins or more, but less than one hour	11
0ne hour or more, but less than 1.5 hours	4
90mins or more, but less than 2 hours	2
2hours or more, but less than 2.5 hours	1



Averages

8
9
7
6

mean = $\frac{15}{5}$ = 3

1 2 3 4 5

med = 3

range = 4

Find 4 numbers with a range of..
a mode of..
a median of...

Find 3 numbers with a mean of..

See game g92

Averages

Find the mean, median, mode and range

3 6 6 7 8

Mode = 6

Median = 6

Mean: $\frac{30}{5} = 6$

Range = 8 − 3 = 5

mean = total ÷ number of numbers

median = put in order and find the middle one

mode = most popular

range = biggest - smallest

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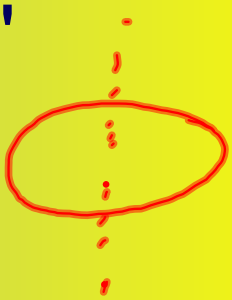
A politician once said:

"We want all our children to be above average"



Averages

2 2 7 6 8

$\frac{?}{5} = 5$

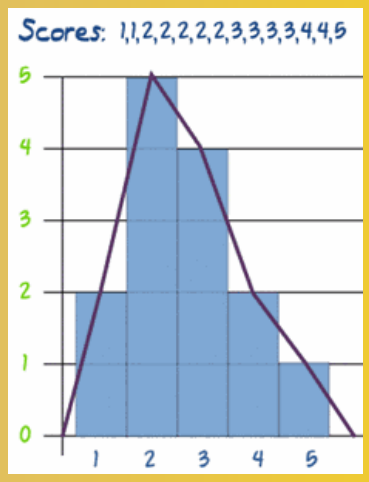
$\frac{25}{5} = 5$

Total 25

5 numbers have a mean of 5.
Here are 4 of them. What is the 5th?

page 440 A1 - A5

Averages using frequency diagrams



Throw a dice 12 times.
Keep a record of your scores.

score	tally	frequency
1	I	
2	II	
3	II	
4	IIII	
5	II	
6	I	

1 + 2+2+3+3
+4+4+4+4
~~+5+5~~ +6

Find
a) the modal score
b) the range in results
c) the mean result

Hypotheses

A hypothesis is a statement you can test by collecting data.

It can be true or false.

Which of these are hypotheses?

10M5 are taller than 10M4

More people have dogs than cats

Do you prefer packed lunch to school dinners?

I prefer dogs to cats

Year 11 start their GCSEs in May.

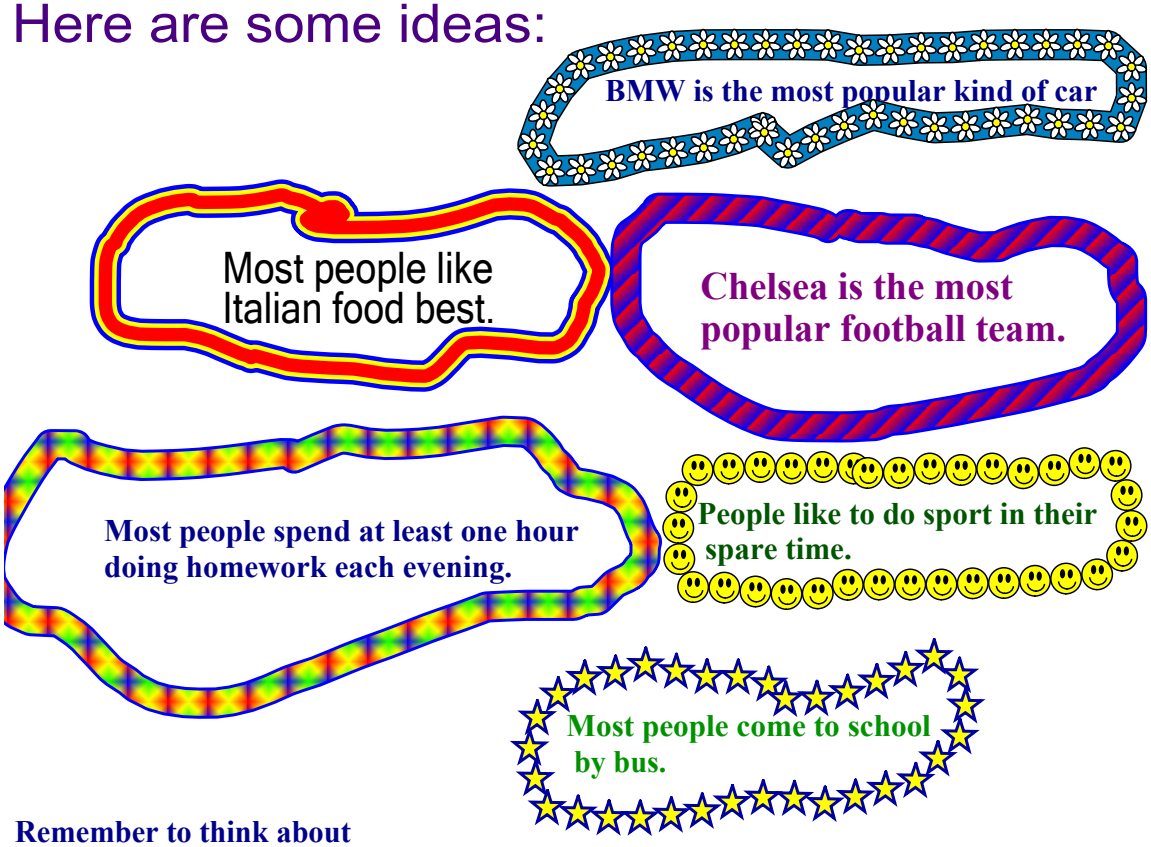
Most people in 10M5 support Man U

Data handling project

You need to work in groups of 3 or 4.

You must form a hypothesis that you can test.

Here are some ideas:



Remember to think about

- **the people you sample (you need a cross-range)**
- **not to embarrass the people you ask**
- **you want to get an honest answer so try not to ask leading questions**
- **ask 2 or 3 questions**
- **A tick box question is the best.**

You could ask:

- are you male or female?
- are you child (under 18) or adult?
- which year group are you in?

These will help you compare groups.

Data project

Decide on a topic.
Make a hypothesis.
Decide who you are going to ask.
Write the questionnaire.
Try out your questionnaire on someone from a different group.
Alter your questions if you need to.
Make a tally chart so it is easy to keep a record of the answers.

Write out a questionnaire and tally table for each person in your group.
They need to ask about 10 people each TODAY!

Make a table of your results.
Decide whether you want to draw a bar chart, duel bar chart, pie chart or pictogram (or a mixture).

Draw the diagrams.
make some comments about them.

Decide if you have proved your hypothesis true or false.
Explain your conclusion.

Attachments

pie charts.doc

pie chart.ppt