People are better at remembering words than remembering numbers.

How could we test this?

police rascal chair

maths

open

adult

two door

yes

table

towel

attempt carry

history

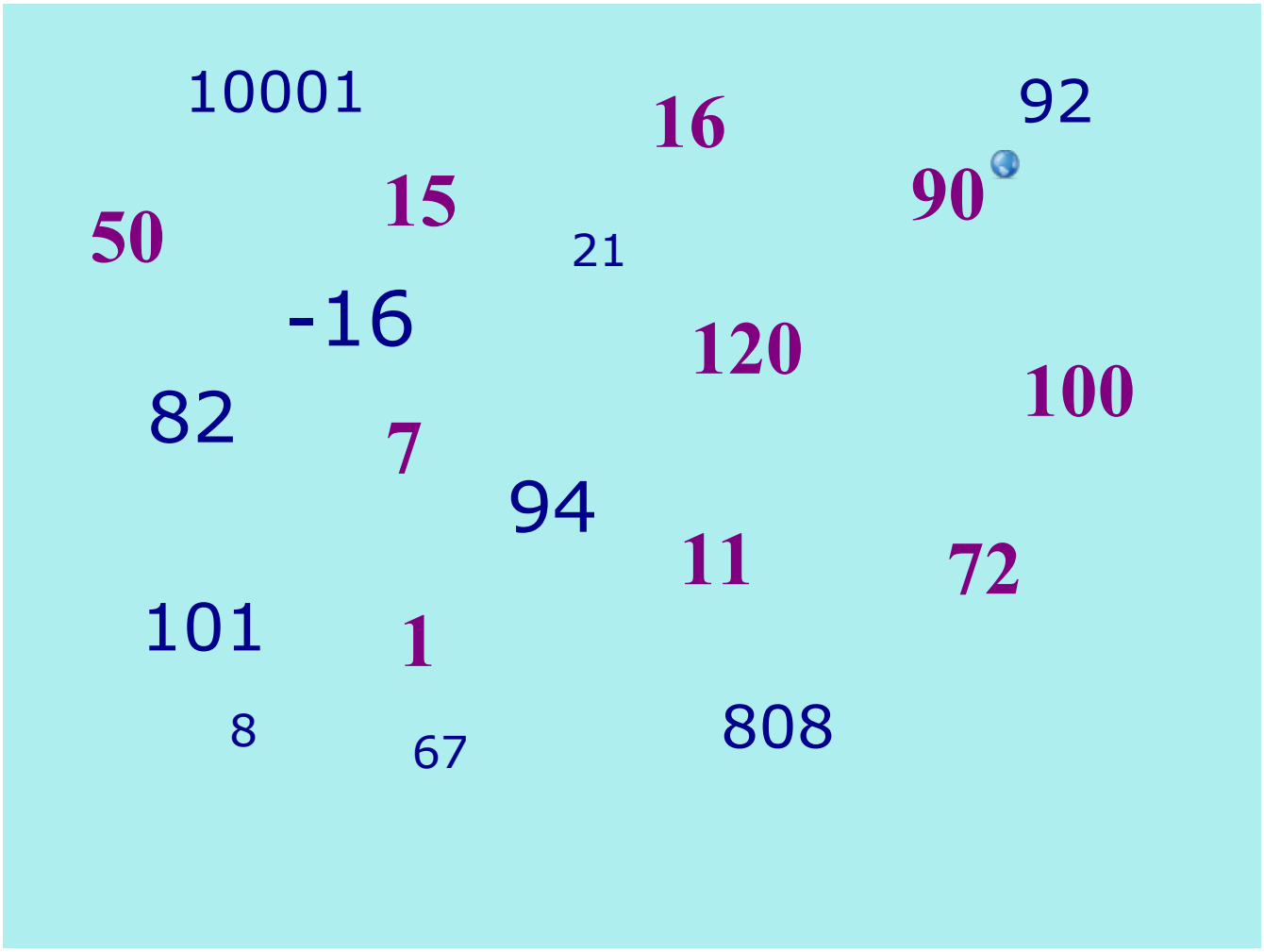
dog happy

garden

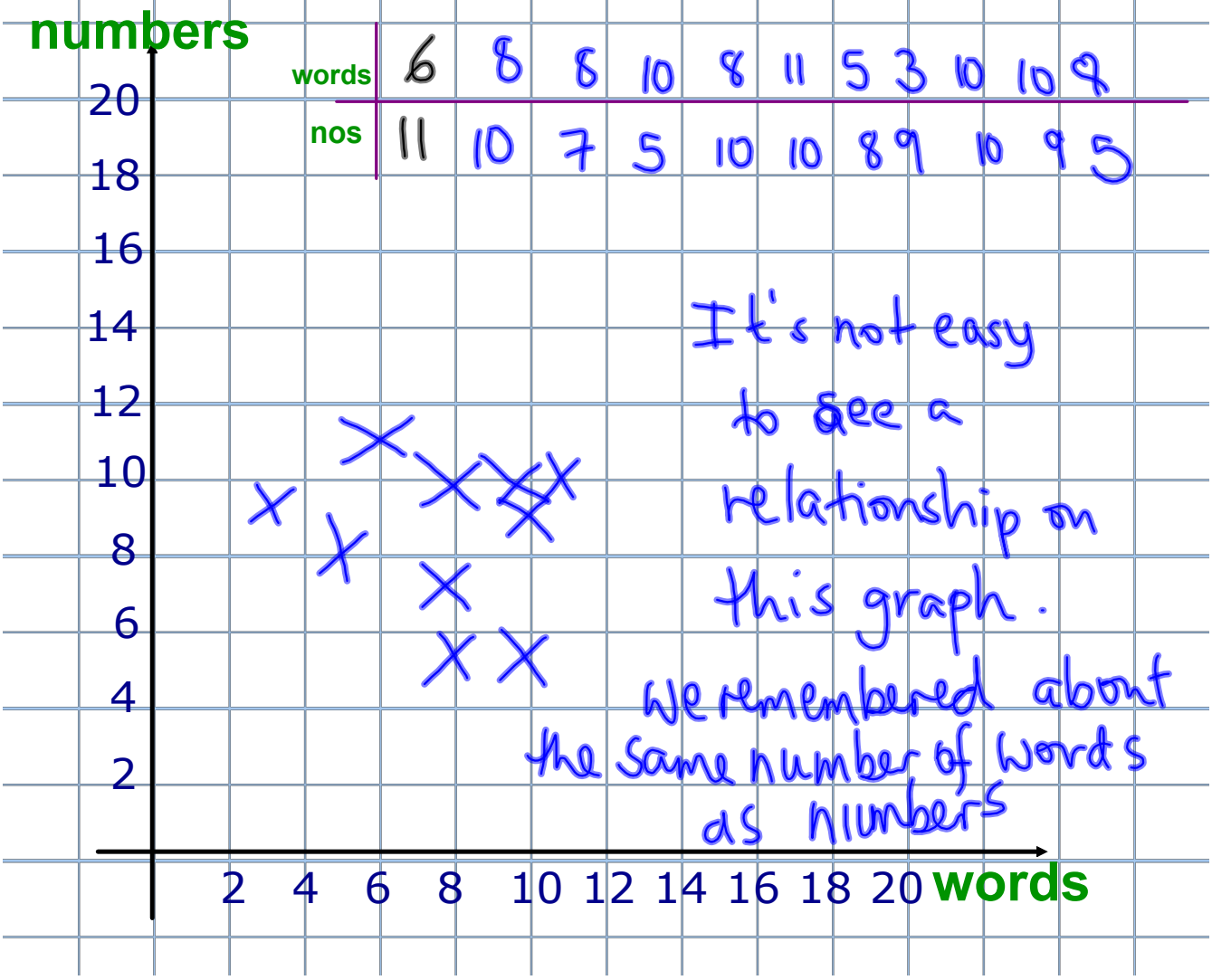
pen

boy

upside down sarcastic


10001
16
92
15
90
50
21
-16
120
100
82
7
94
11
72
101
1
8
67
808

A scatter graph to show memory of words against numbers.

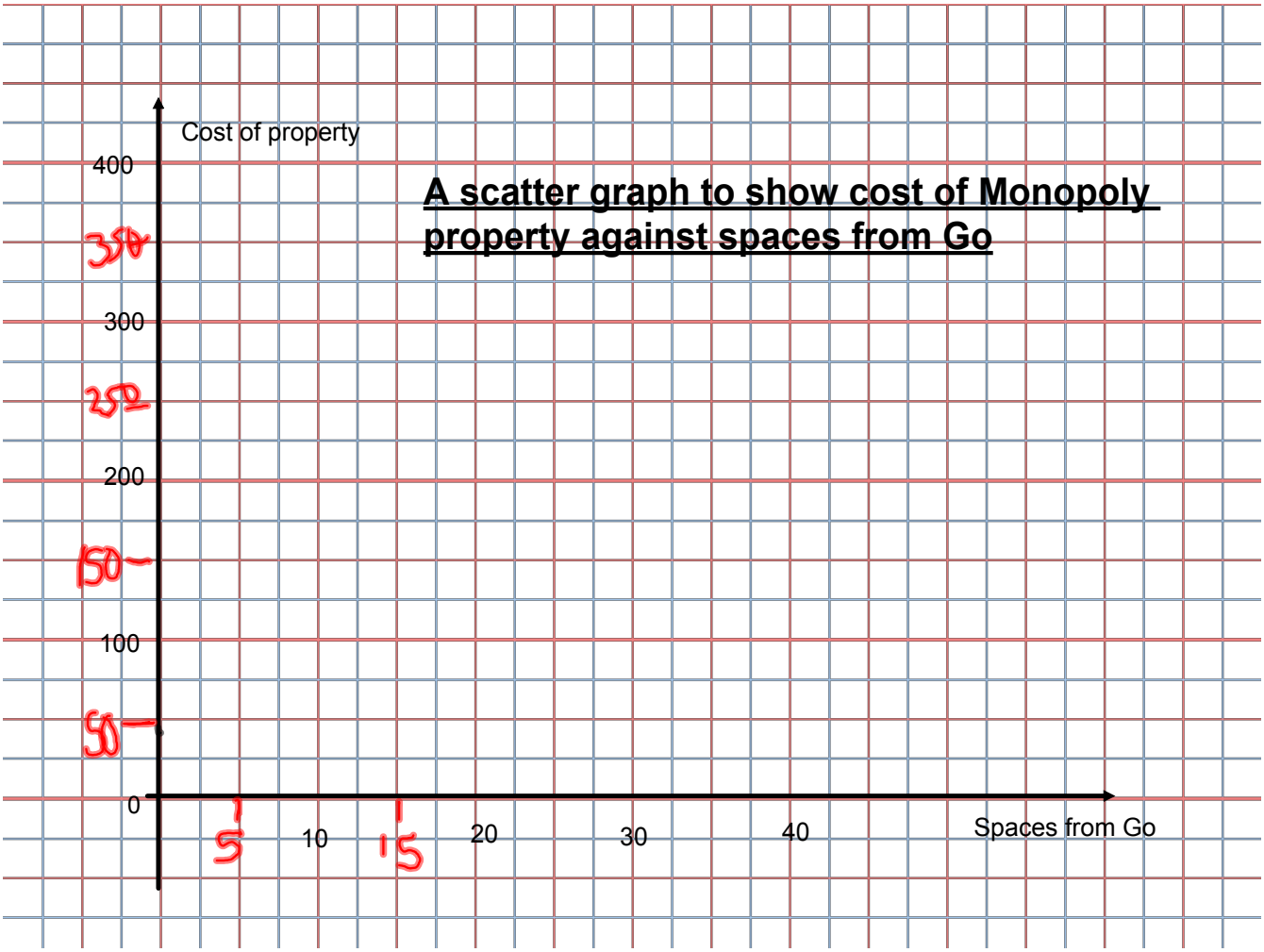


Monopoly Mayhem

The game of Monopoly was created in 1935. Since then it has been published in 26 languages and is available in 80 countries across the world. 200 million sets have been sold and it is estimated that there is 300 billion pounds of Monopoly money in UK homes. For those of you who have never played, you move around a board with the option to purchase the property that you land on. As a property tycoon you are trying to bankrupt your fellow players and take home all the loot.

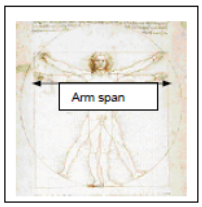
Property	Spaces from Go	Cost
Old Kent Rd	1	£60
Whitechapel Rd	3	£60
Kings Cross Station	5	£200
The Angel, Islington	6	£100
Euston Rd	8	£100
Pentonville Rd	9	£120
Pall Mall	11	£140
Electric Company	12	£150
Whitehall	13	£140
Northumberland Ave	14	£160
Marylebone Station	15	£200
Bow Street	16	£180
Marlborough St	18	£180
Vine St	19	£200
The Strand	21	£220
Fleet St	23	£220
Trafalgar Square	24	£240
Fenchurch St Station	25	£200
Leicester Square	26	£260
Coventry St	27	£260
Water Works	28	£150
Piccadilly	29	£280
Regent St	31	£300
Oxford St	32	£300
Bond St	34	£320
Liverpool St Station	35	£200
Park Lane	37	£350
Mayfair	39	£400

The properties vary in price. The more illustrious locations, like Park Lane, will, of course, cost you more. Looking at the table opposite, can you see a relationship between the spaces from GO and how much the property costs? One way of displaying this information is to plot a scatter graph. It clearly shows any patterns or trends in the data and helps you describe the relationship between the two variables (the things you are comparing - see the axis labels). Either plot this yourself, or use the graph ready prepared on the next page.


A scatter graph to show cost of Monopoly property against spaces from Go
Cost of property
400
350
300
250
200
150
100
50
0
5
10
15
20
30
40
Spaces from Go

Student worksheet

The Vitruvian theory—does it apply to you?



Leonardo da Vinci (1452–1519) was a scientist and an artist, one of the greatest painters of the Italian Renaissance. He left only a handful of completed paintings, one of which is the *Mona Lisa*. He was so secretive that he wrote backwards to disguise his ideas.

In 1492, Leonardo drew a picture of a man standing inside a circle and a square. This is known as the 'Vitruvian Man'. It was a study of the proportions of the human body as described by Vitruvius, a Roman architect from the first century B.C. Based on his observations of European people of his day, Leonardo believed that arm span was equal to height in a perfectly proportioned body.

Why do you think he was interested in working out body proportions?

Do you think the Vitruvian theory illustrated by Leonardo would work today?

Problem

Is the Vitruvian theory that height is equal to arm span true for British students today?

Plan

Before you begin your investigation, what answer do you predict? Why? _____

_____

Now test your prediction using data from your class.

Data

Enter the data for 10 students from your class in this table.

How will you select the students for your sample?

start | EN | 17:44

height	armspan
175	175
172	171
180	173
171	175
174	173
174	176
173	169
172	172
186	190
178	182
160	160
158	156

Comments

Our graphs show:

The taller you are the longer your armspan

Armspan and height are roughly the same (Da Vinci was right)

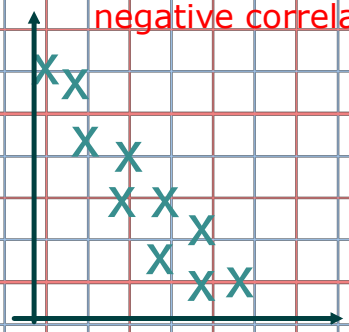
We are not the best sample because we're still growing

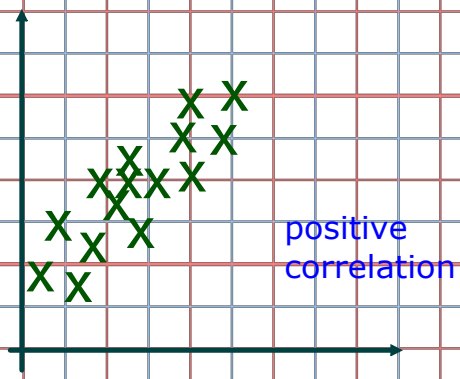
Flavour of wine gums

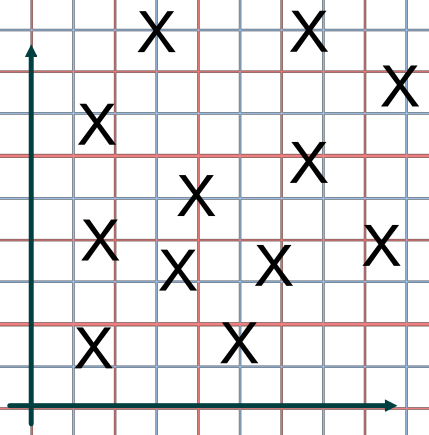
Foundation p 227 ~~A2, A3~~ A1+A2

Extension A4

Correlation in scatter graphs

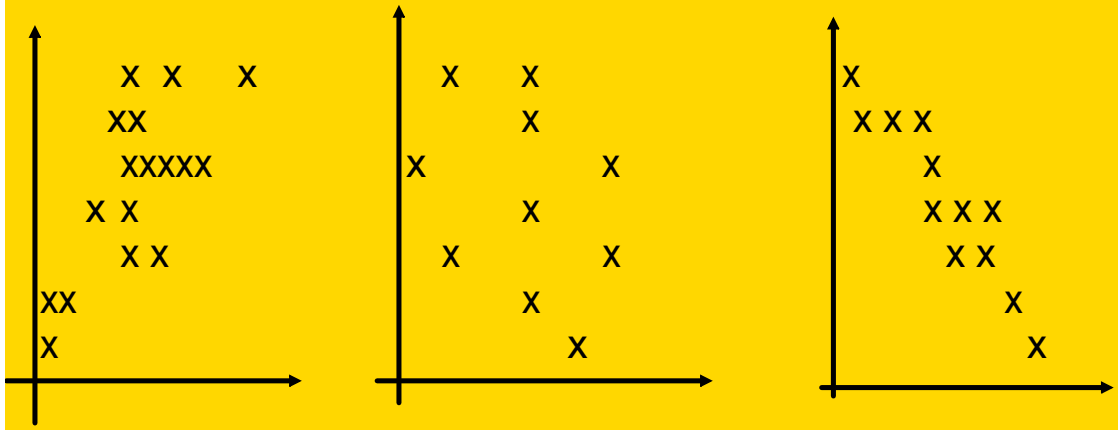






No correlation

Scatter graphs



Which, if any, of these graphs match the description:

- Number of plane journeys travelled against age of traveller.
- The amount of time spent shopping and the amount of money spent
- Size of feet against number of teeth
- Temperature against distance from the equator
- Estimated grade in English against estimated grade in Maths
- Number of hours of TV watched against amount of homework done.

Attachments

Monopoly.pdf

waste.pdf