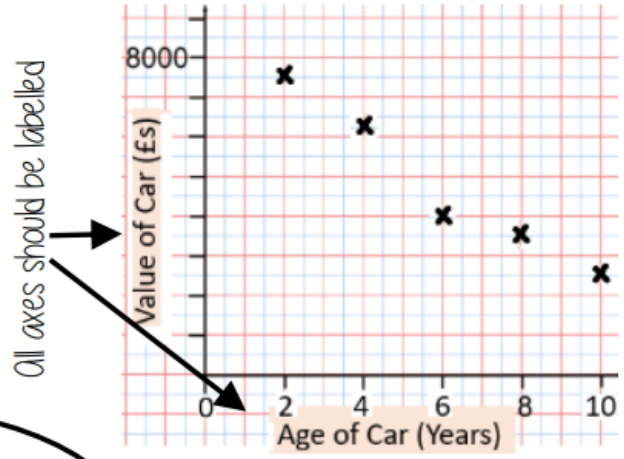
Knowledge Organiser: Scatter Graphs (3c)

What you need to know:

Draw and interpret a scatter graph.

Age of Car (Years)	2	4	6	8	10
Value of Car (£s)	7500	6250	4000	3500	2500

- This data may not be given in size order
- The data forms information pairs for the scatter graph
- Not all data has a relationship

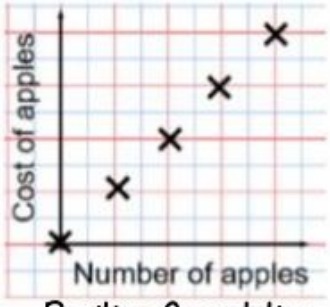


"This scatter graph show as the age of a car increases the value decreases"

The link between the data can be explained verbally

The axis should fit all the values on and be equally spread out

Linear Correlation



Positive Correlation

As one variable increases so does the other variable

Negative Correlation

As one variable increases the other variable decreases

No Correlation

There is no relationship between the two variables

Key Terms:

Origin – Where two axes meet on a graph.

Outlier – A point that lies outside the trend of the graph.

Relationship – The link between two variables e.g. between sunny days and ice cream sales.

Correlation – The mathematical definition for the type of relationship.

Line of Best Fit – A straight line on a graph that represents the data on a scatter graph.

Hegarty maths clip numbers

Topic: 453 Draw and Interpret Scatter Graphs

Topic: 454 Estimate Using Line of Best Fit

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Knowledge Organiser: Scatter Graphs (3c)

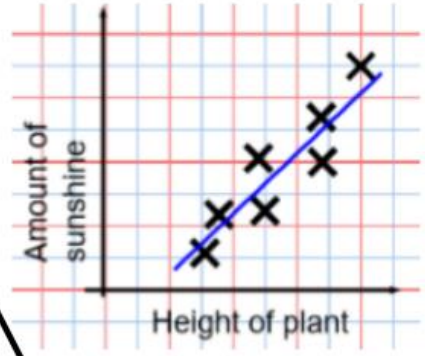
What you need to know:

The line of best fit

The Line of best fit is used to make estimates about the information in your scatter graph

Things to know:

- The line of best fit **DOES NOT** need to go through the origin (The point the axes cross)
- There should be approximately the same number of points above and below the line (It may not go through any points)
- The line extends across the whole graph



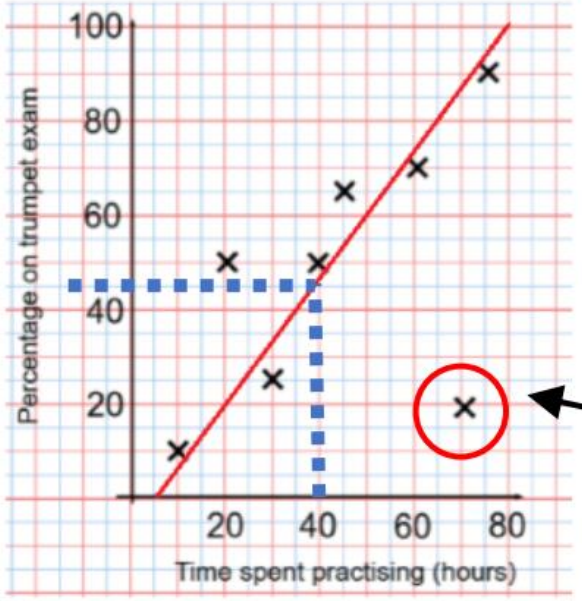
It is only an estimate because the line is designed to be an average representation of the data

It is always a **straight line.**

Using a line of best fit

Interpolation is using the line of best fit to estimate values inside our data point.

e.g. 40 hours revising predicts a percentage of 45.



Extrapolation is where we use our line of best fit to predict information outside of our data

This is not always useful – in this example you cannot score more that 100%. So revising for longer can not be estimated

This point is an "**outlier**"

It is an outlier because it doesn't fit this model and stands apart from the data