Year 8 Autumn 2

KEYWORDS:

Probability	The chance that something will happen	**Causality**	When one variable influences another
Correlation	The mathematical definition for the type of relationship	**Relationship**	The link between two variables
Gradient	The steepness of a line	**Outlier**	A point that does not fit with the rest of the data
Event	A set of outcomes of an experiment to which a probability is assigned	**Variable**	A quantity that may change within the context of the problem

Scatter graphs

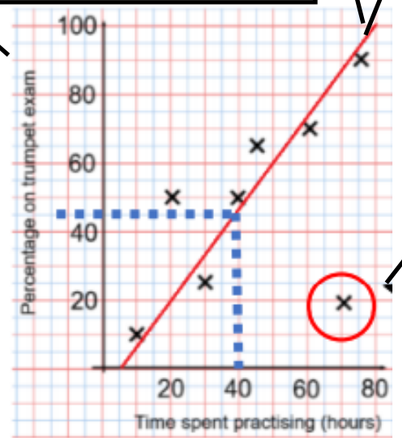
LINE OF BEST FIT: This is used to make estimates about information in your scatter graph.

It does not need to go through every point or origin.

The line goes all the way across the graph.

Roughly the same number of points on both sides.

All axes should always be labelled and fit all the values. Make sure the scale is equally spaced out.



An OUTLIER. This is a point that does not fit the rest of the data.

Make sure to explain the link between the data verbally.

Video 453-454

Sample space diagrams

These diagrams provide a systematic way to record and display all outcomes from events.

Example:

This is a sample space that shows all outcomes from when a dice is rolled and a coin is flipped.

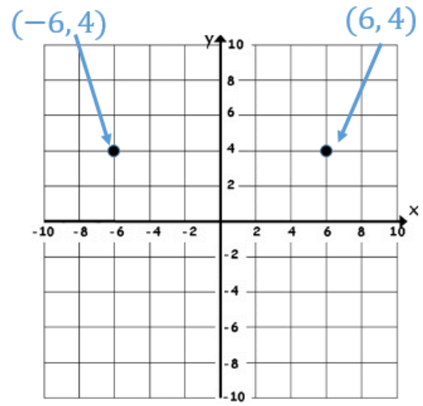
The possible outcomes of rolling a dice

	1	2	3	4	5	6
H	1,H	2,H	3,H	4,H	5,H	6,H
T	1,T	2,T	3,T	4,T	5,T	6,T

The possible outcomes of flipping a coin

Video 359

Working in the Cartesian Plane

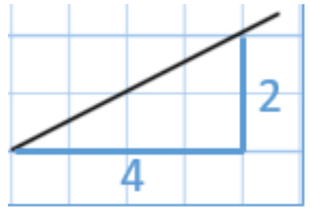


Coordinates

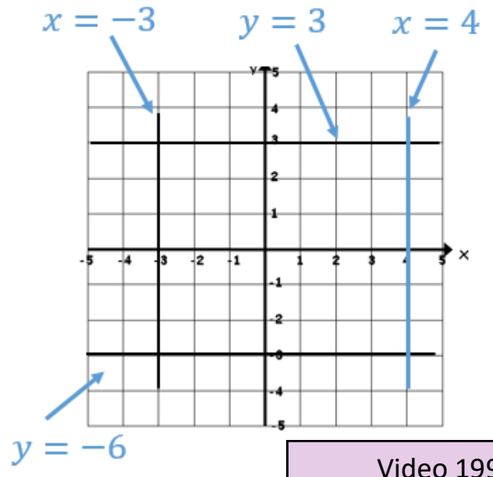
(x, y)

To find the gradient of a line we divide the difference in y-direction by the difference in x-direction

E.g. $2 \div 4 = 0.5$

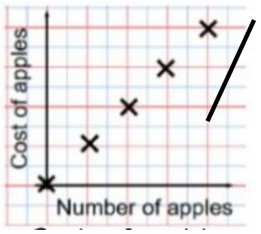


Equation of a line



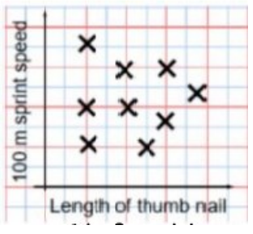
Video 199

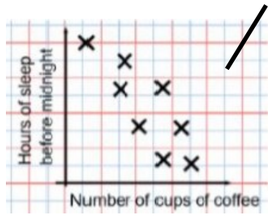
Correlation



Positive correlation

As one variable increases so does the other variable.





Negative correlation

As one variable increases the other variable decreases.

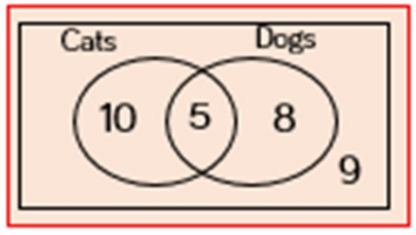
No correlation

There is no relationship between the two variables.

Video 453-454

Venn Diagrams

The Venn diagram shows how many students in a class own cats, dogs or both.



P(they own a cat) = $\frac{15}{32}$

P(they own a dog) = $\frac{13}{32}$

P(they own neither a cat nor a dog) = $\frac{9}{32}$

Video 383