

Maths Knowledge Organiser

YEAR 8 – PART 2



Key Language

1	Coordinate	A set of values that show an exact position.
2	Quadrant	One of four regions separated by the x and y axis.
3	Origin	A fixed point at which measurements are taken from. This is usually (0,0)
4	Gradient	How steep a line is. How much a line goes up by for every 1 unit across.
5	Parallel	Two lines which are the same distance apart at all points
6	Linear graph	A continuous straight line.
7	Non Linear graph	A graph where points are joined using a smooth curve.
8	Midpoint	The point that divides a line segment in half.
9	Frequency	The number of times an event occurs
10	Outlier	A value far away from most of the rest in a set of data
11	Correlation	A measure of the strength of relationship between two variables.
12	Continuous Data	Data which can take any value (data that can be measured e.g. Height).
13	Discrete Data	Data which takes certain values (data that can be counted e.g. frequency of people).
14	Qualitative	Data categories including characteristics.. Data that describes something. E.g. names, locations and occupations or personal preferences
15	Quantitative	Data that can be counted or measured
16	Range	The difference between the largest and smallest pieces of data recorded.
17	Variable	A quantity that can change or vary, taking on different values.
18	Biased	Something which is unfair e.g. A coin with two heads.
19	Sample Space	The set of possible outcomes from a trial.
20	Outcome(s)	The result(s) of a statistical trial.
21	Event	One outcome in a probability experiment
22	Trial	A single run of an experiment.



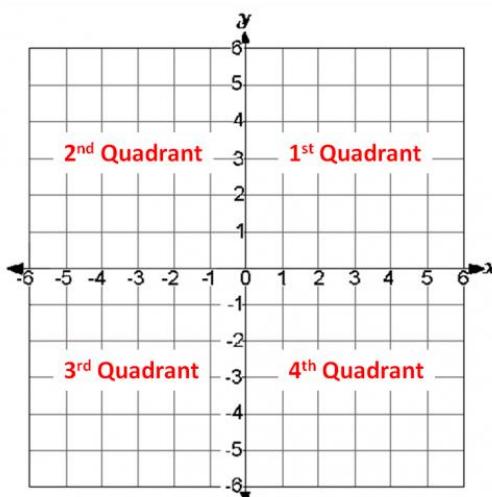
More Useful Knowledge

x – coordinate.

The first number given in a Coordinate which is the horizontal value.

y – coordinate.

The second number given in a coordinate which is the vertical value

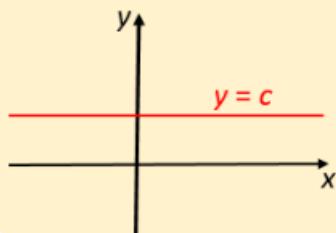


Horizontal lines go straight across.

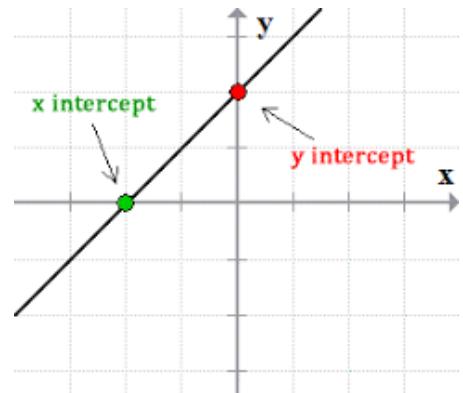
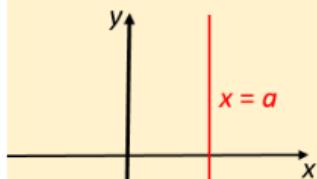
Vertical lines go straight up and down.

Equation of a line

A **horizontal** line has an equation of the form $y = c$.
It has a slope of 0.



A **vertical** line has an equation of the form $x = a$.
It has a undefined slope.



Correlation



Positive

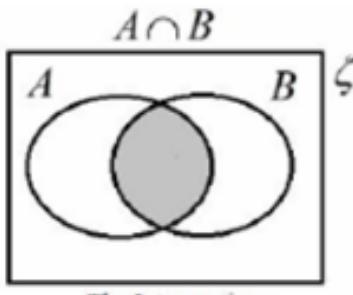


Negative

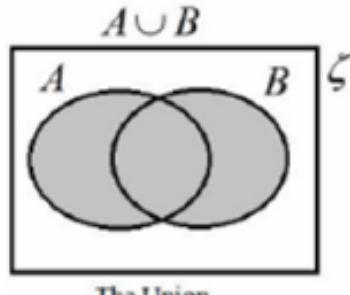


No Correlation

Set notation



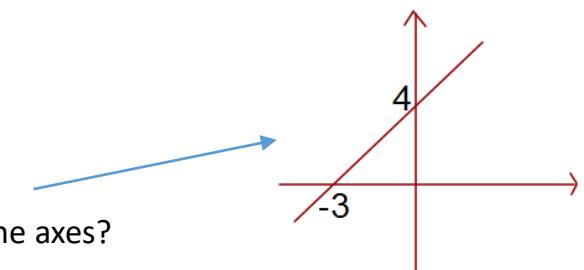
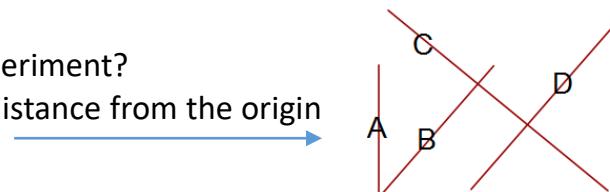
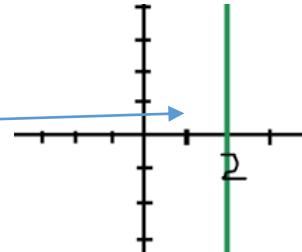
The Intersection
'A and B'



The Union
'A or B or Both'

PRACTICE QUESTIONS

1. Which of these numbers is the outlier? 3.2, -1.7, -3, 4, 18, 0, -1, 5
2. Which quadrant is the coordinate (3, -2) in?
3. What does biased mean?
4. What is the coordinate for the origin?
5. Sketch a scatter diagram that shows negative correlation.
6. What is the gradient of a line that goes 10 up and 2 across?
7. What is the equation of the line?
8. What does $A \cup B$ mean?
9. Is shoe size discrete or continuous data?
10. What is quantitative data?
11. What is the range for this set of values? 4, 3, 8, 12, 20, 1
12. What do we call a single run of an experiment?
13. What is a variable?
14. What do we call an outcome in an experiment?
15. Which of x or y shows the horizontal distance from the origin
16. Which of these lines are parallel?
17. Sketch the graph of $y = 5$.
18. What word describes how steep a line is?
19. Describe a linear graph.
20. What does frequency mean?
21. Give an example for Continuous data.
22. Label the x and y axes correctly on the axes.
23. What is the x intercept of the line show on the axes?
24. What is a sample space?
25. James asks people what type of pet they have. What type of data is this?



ANSWERS

1. 18
2. 4th quadrant
3. Something which is unfair
4. (0, 0)
5. 
6. 5
7. $X = 2$
8. $A \cup B$ (A union B)
9. Discrete
10. Data that can be counted or measured using numbers
11. 19
12. Trial
13. A quantity that can change or vary, taking on different values.

14. Event

15. X

16. B and D

17. 

18. Gradient

19. A continuous straight line.

20. How many times an event occurs.

21. Weight, Height, time.

22. 

23. -3

24. The set of possible outcomes of a trial

25 Qualitative data

