ordinate geon

Gradient of a straight line.

the gradient of a straight line joining the points (x, y,) and (x, y) can be found using:

 $M = \frac{y_2 - y_1}{x_2 - x_1}$

Parallel and perpendicular lines

- parallel lines have the same gradient

-perpendicular lines are at right angles to eachother.

- if two lines are perpendicular, their product is -1
 - if l, has gradient m, l, has gradient - 1

Equation of a straight line

a straight line can be written in the form: y = mx + c

where m is the gradient and c is the y-intercept

Alternate form

the equation of a straight line with gradient m which passes through (x, , y,) is given by:

 $(y - y_i) = m(x - x_i)$

length and area

you can find the distance between two points A and B by considering a right - angled triangle with hypotenuse \vec{AB} .

you can find the distance between (x,, y,) and (x, y) using:

midpoint of a line

you can find the midpoint of a segment by averaging the x and y coordinates of its endpoints

nt of a line in find the midpoint of a segment raging the x and y coordinates $\left(\frac{x_{1} + x_{2}}{z}, \frac{y_{1} + y_{2}}{z}\right)$ from $\left(\frac{x_{1} + x_{2}}{z}, \frac{y_{1} + y_{2}}{z}\right)$ from $\left(\frac{x_{1} + x_{2}}{z}, \frac{y_{1} + y_{2}}{z}\right)$ from $\left(\frac{x_{2} - x_{1}}{z}, \frac{y_{2} - y_{2}}{z}\right)$

perpendicula

the perpendicular bisector of a line segment AB is the straight line that is perpendicular to AB and passes through the midpoint of AB