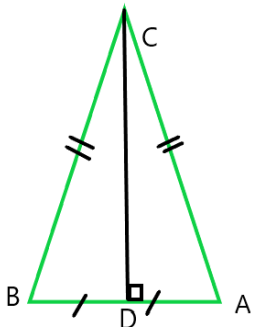
4 In isosceles triangle :

- CD is axis of symmetry perpendicular on AB
- CA = CB



➔ Midpoint of a line segement

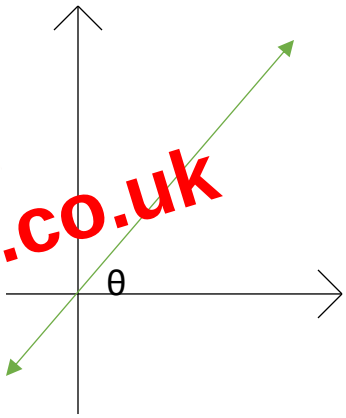
A (x1 , y1) , B (x2 , y2) has mid point M :

M = $(\frac{x1+x2}{2} , \frac{y1+y2}{2})$

➔ Slope of a straight line

Straight line "L" has two points A (x1 , y1) , B (x2 , y2) and make angle θ positive direction of x-axis :

Slope = $\frac{y2-y1}{x2-x1}$ = tan (θ)



Important to know

1 if θ is :

- Acute angle → slope is positive
- Obtuse angle → slope is negative
- = zero → L is parallel to x-axis → slope = zero
- = 90 ° → L is parallel to y-axis → slope is undefind → x2-x1=zero

2 Two straight lines L1 (slope m1 , θ1) and L2 (slope m2 , θ2) :

- L1 parallel L2 → m1 = m2 →θ1 = θ2
- L1 perpendicular L2 → m1 X m2 = -1

To Prove using slopes (as for parallel m1= m2 , for perpendicular m1 X m2=-1)

1 trapezium ABCD → AB parallel CD , AD not parallel BC

2 Parallelogram ABCD → AB parallel CD , AD parallel BC and AB = CD , AC = BC

3 rectangle ABCD → ABCD is parallelogram and AB prependicular BC ,

CD perpendicular AD , AC = BD