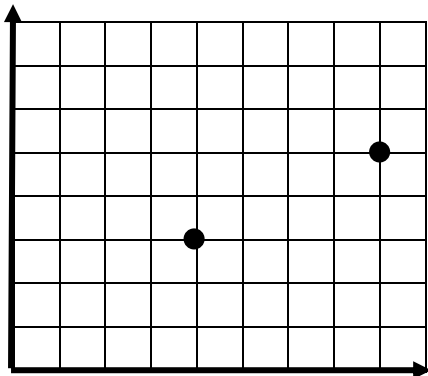# Y12 COORDINATE GEOMETRY : ESSENTIAL BASICS.

Very Basic.

1. A is (4, 3) B is (8, 5)

(a) Find the distance AB and round answer to 3sigfig

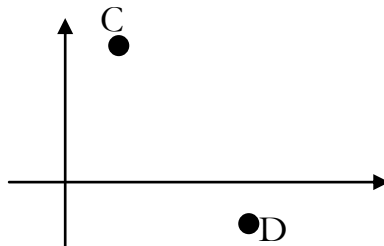*(DRAW A PICTURE AND USE PYTHAGORAS' THEOREM!)*

(b) Find the coordinates of the mid point of AB

$= \left(\dfrac{4+8}{2} \ , \qquad \right)$

$= \ (\quad , \quad)$

(c) Find the gradient of AB

$=$

(d) Find the equation of AB

USE y = mx + c

AND SUBSTITUTE m = ½ *and* x = 4 *and* y = 3 *in order to find* c.

(e) Find the intersection point of these line graphs

y = 3x + 34
y = x − 16

Basic.

2. C is (1, 5) D is (3, -1)

(a) Find length CD to 3 s.f.

(b) Find the mid point of CD

Mid Pt $= \left(\qquad , \qquad \right)$

$= (\quad , \quad)$

(c) Find the gradient of CD

remember ↗ +   ↘ −

gradient =

(d) Find the equation of CD

(e) Find the intersection point of the lines :

$y = \dfrac{x}{2} - 5$

$y = \dfrac{-x}{4} + 4$

BASIC PROBLEMS.

3. On a map, two islands are situated at E(8, 69) and F(12, 81).

The units are in 100s of Km

(a) Find the distance in hundreds of Kms between the islands rounded to 3 s.f.

(b) A volcanic island is midway between them. Find its coordinates.

(c) Find the gradient of EF.

(d) Find the equation of the line joining E and F.

(e) Another island is at the intersection of:

$y = 4x - 8$

$y = - \dfrac{x}{4} + 43$

Find its position.