



C3
C4
Test

2016 - Summer revision

Name.....Surname..... Year.....

For all the questions you must show all your working out.

1. The curve C has equation :

$$x^2 - 3xy - 4y^2 + 64 = 0$$

a) Find $\frac{dy}{dx}$ in terms of x and y ;

b) Find the coordinates of the points on C where $\frac{dy}{dx} = 0$.

(Solutions based entirely on graphical or numerical methods are not acceptable.)

2. It is given that $f(x) = \frac{19x - 2}{(5 - x)(1 + 6x)}$

can be expressed as $\frac{A}{5 - x} + \frac{B}{1 + 6x}$, where A and B are integers ,

a) Find the values of A and B ;

b) Hence show that $\int_0^4 f(x) dx = k \ln 5$ where k is a rational number .

(9)

Please try to write how much you can for every single question.

Every marks are very important for you.

Good luck!

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