

CLASSIFIED

International Examinations Papers

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MODULAR MATHEMATICS/CORE-1 TOPIC-Equations and Inequalities

4. Solve the simultaneous equations

$$x + y = 2$$
$$x^2 + 2y = 12.$$

(6)

Ja-05



Q4

(Total 6 marks)

4. Solve the simultaneous equations

$$y = x - 2,$$

$$y^2 + x^2 = 10.$$

Ja-07

(7)

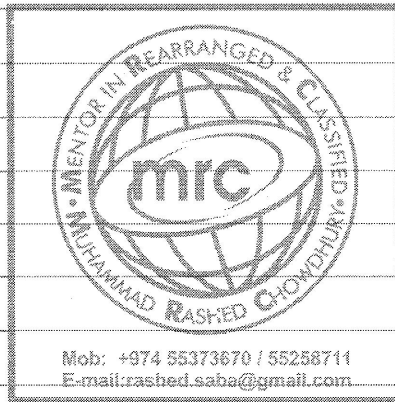


5. Solve the simultaneous equations

$$x - 2y = 1,$$

$$x^2 + y^2 = 29.$$

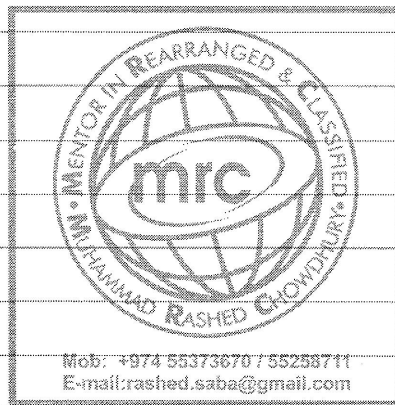
JN-5 (6)



4. Solve the simultaneous equations

$$\begin{aligned}x + y &= 2 \\ 4y^2 - x^2 &= 11\end{aligned}$$

JN-11 (7)



5. Solve the simultaneous equations

$$y - 3x + 2 = 0$$

$$y^2 - x - 6x^2 = 0$$

Ja-10 (7)



6. (a) By eliminating y from the equations

7-7

$$y = x - 4,$$

$$2x^2 - xy = 8,$$

show that

$$x^2 + 4x - 8 = 0.$$

(2)

(b) Hence, or otherwise, solve the simultaneous equations

$$y = x - 4,$$

$$2x^2 - xy = 8,$$

giving your answers in the form $a \pm b\sqrt{3}$, where a and b are integers.

(5)

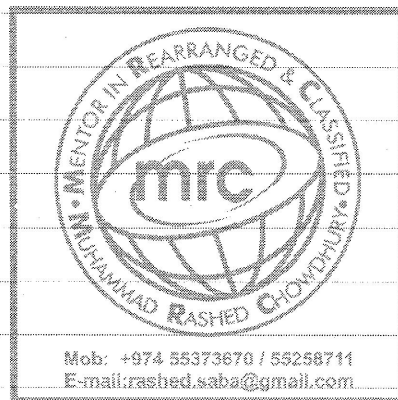


2. Find the set of values of x for which

$$x^2 - 7x - 18 > 0.$$

JN-6

(4)



Q2

(Total 4 marks)



6. Find the set of values of x for which

(a) $3(2x + 1) > 5 - 2x,$

(2)

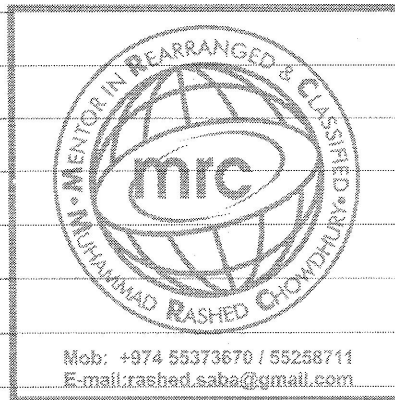
(b) $2x^2 - 7x + 3 > 0,$

(4)

(c) **both** $3(2x + 1) > 5 - 2x$ **and** $2x^2 - 7x + 3 > 0.$

√N-5

(2)



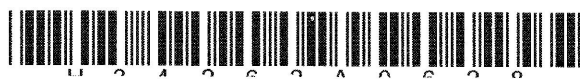
4. Find the set of values of x for which

(a) $4x - 3 > 7 - x$ (2)

(b) $2x^2 - 5x - 12 < 0$ (4)

$\sqrt{49} - 9$

(c) both $4x - 3 > 7 - x$ and $2x^2 - 5x - 12 < 0$ (1)



3. Find the set of values of x for which

(a) $3(x-2) < 8-2x$ (2)

(b) $(2x-7)(1+x) < 0$ (3)

$7x-10$

(c) both $3(x-2) < 8-2x$ and $(2x-7)(1+x) < 0$ (1)



3. Find the set of values of x for which

(a) $3x - 7 > 3 - x$

(2)

(b) $x^2 - 9x \leq 36$

(4)

(c) **both** $3x - 7 > 3 - x$ **and** $x^2 - 9x \leq 36$

(1)

JN-14



3. Find the set of values of x for which

(a) $4x - 5 > 15 - x$

(2)

(b) $x(x - 4) > 12$

(4)

Jan-12



