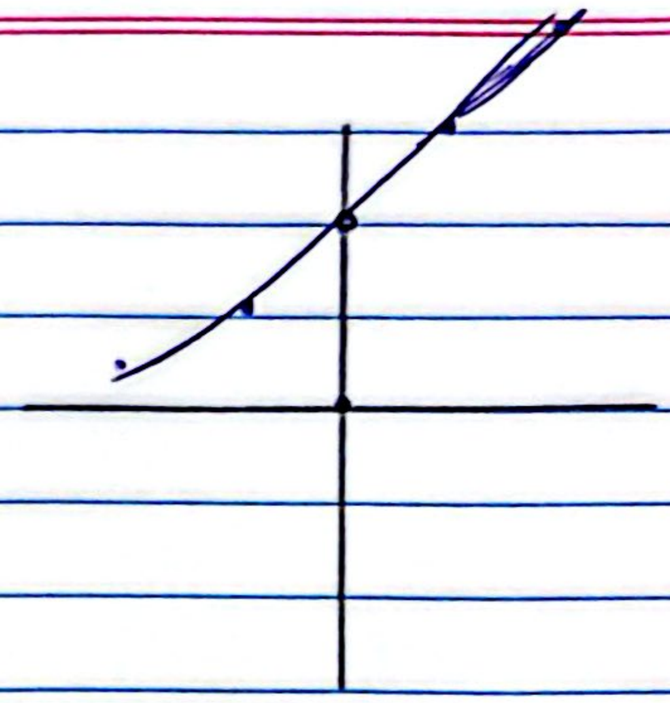
2. $y = x + 3$

| x | y |
|---|---|
| 0 | 3 |
| 1 | 4 |
| 2 | 5 |
| -1 | 2 |
| -2 | 1 |



$D = \{x : x \in R\}$

المدى $\Rightarrow x = y - 3$

المدى $= \{y : y \in R\} = (-\infty, \infty)$

3. $y = x^2 + 3x + 4$

Solu $x^2 + 3x + 4 - y = 0$

معامل $x^2$ $a =$

معامل $x$ $b =$

الثابت $c =$

طريقة المميز $\Delta = b^2 - 4ac \geq 0$

The denstinctive method

$\Delta = 9 - 4(1)(4-y) \geq 0$

$\therefore 9 - 4(4-y) \geq 0$

$9 - 16 + 4y \geq 0$

$-7 + 4y \geq 0$

$4y \geq 7 \Rightarrow y \geq \frac{7}{4}$ = المدى domain

4. $y = \frac{x}{x^2 + 2}$

Solu

$x^2 y + 2y = x$

$a = y$

$b = -1$

$c = 2y$

$yx^2 - x + 2y = 0$

$\Delta = (-1)^2 - 4y\,2y \geq 0$

$1 - 8y^2 \geq 0$

$\therefore y \leq \pm \frac{1}{8}$

$$\therefore |y| \leq \frac{1}{2\sqrt{2}}$$

$$-\frac{1}{2\sqrt{2}} \leq y \leq \frac{1}{2\sqrt{2}}$$

$$\text{Sol}^{n} \Rightarrow R = \{y : y \in R\} = \left[-\frac{1}{2\sqrt{2}}, \frac{1}{2\sqrt{2}}\right]$$

H.W.

5. $y = \dfrac{2x-1}{x^2-9}$

Soln

$$yx^2 - 9y = 2x - 1$$

$$yx^2 - 2x + 1 - 9y = 0$$

$a = y$

$b = -2$

$c = 1 - 9y$

$$\Delta = (-2)^2 - 4y(1-9y) \geq 0$$

$$4 - 4y + 36y^2 \geq 0$$

$$4(1 - y + 9y^2) \geq 0$$