# Plotting Graphs Exam Questions

## Questions

Q1.

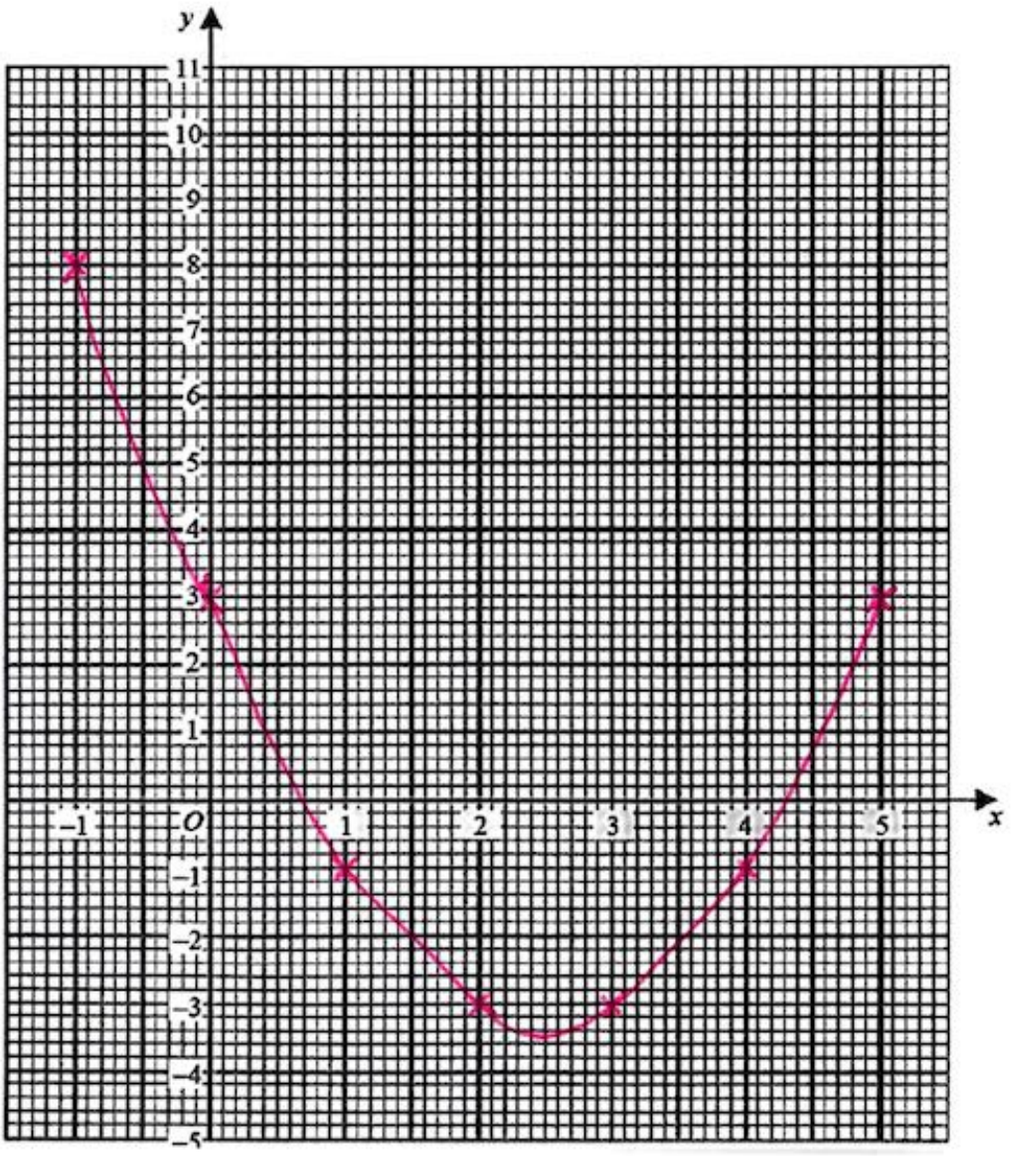
$y = (-1)^2 - 5(-1) + 3 \quad y = 2^2 - 5(2) + 3$
$= 1 + 5 + 3 \quad = 4 - 10 + 3$

(a) Complete the table of values for $y = x^2 - 5x + 3$

| $x$ | –1 | 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| $y$ | 8 | 3 | –1 | –3 | –3 | –1 | 3 |

**(2)**

(b) On the grid below, draw the graph of $y = x^2 - 5x + 3$ for values of $x$ from $x = -1$ to $x = 5$




**(2)**

(c) Find estimates of the solutions of the equation $x^2 - 5x + 3 = 0$

$x =$ 0.7

or $x =$ 4.3

**(2)**

**(Total for Question is 6 marks)**

Q2.

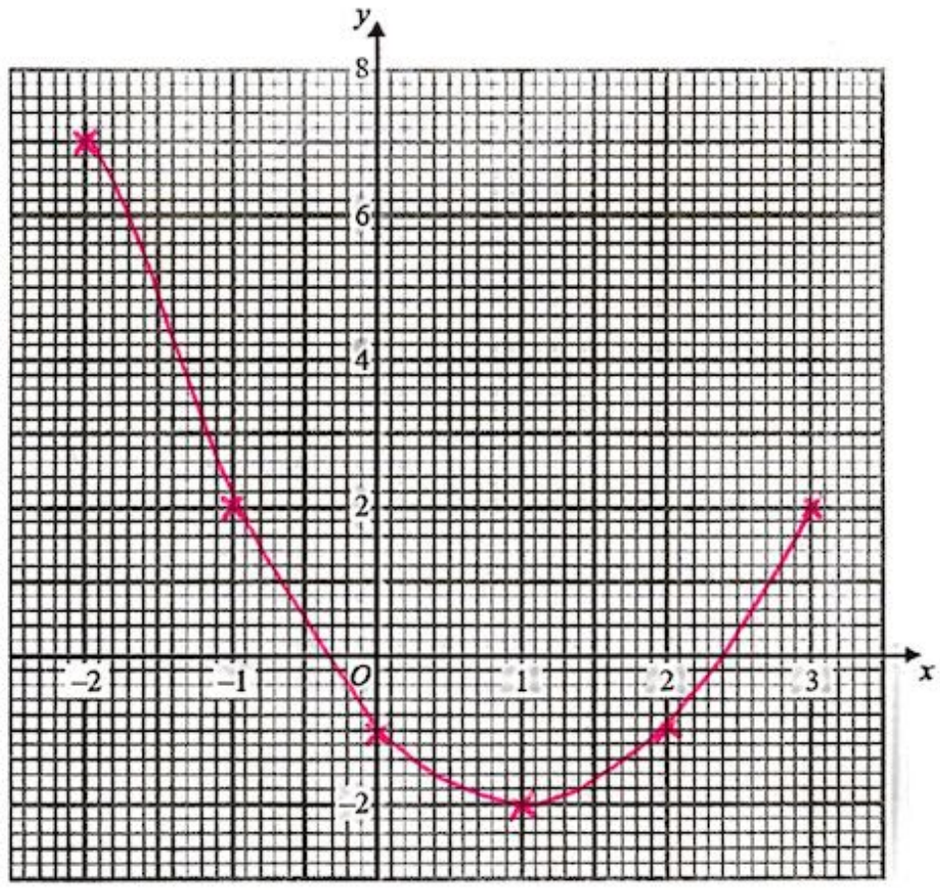
$y = (-1)^2 - 2(-1) - 1$
$= 1 + 2 - 1 = 2$

(a) Complete the table of values for $y = x^2 - 2x - 1$ $y = 3^2 - 2(3) - 1$

| $x$ | −2 | −1 | 0 | 1 | 2 | 3 |
|---|---|---|---|---|---|---|
| $y$ | 7 | 2 | −1 | −2 | −1 | 2 |

**(2)**

(b) On the grid, draw the graph of $y = x^2 - 2x - 1$ for values of $x$ from $x = -2 = 3$




**(2)**

(c) Find estimates for the solutions of the equation $x^2 - 2x - 1 = 0$

$x = -0.3$ $x = 2.4$

**(2)**

**(Total for Question is 6 marks)**

Q3.

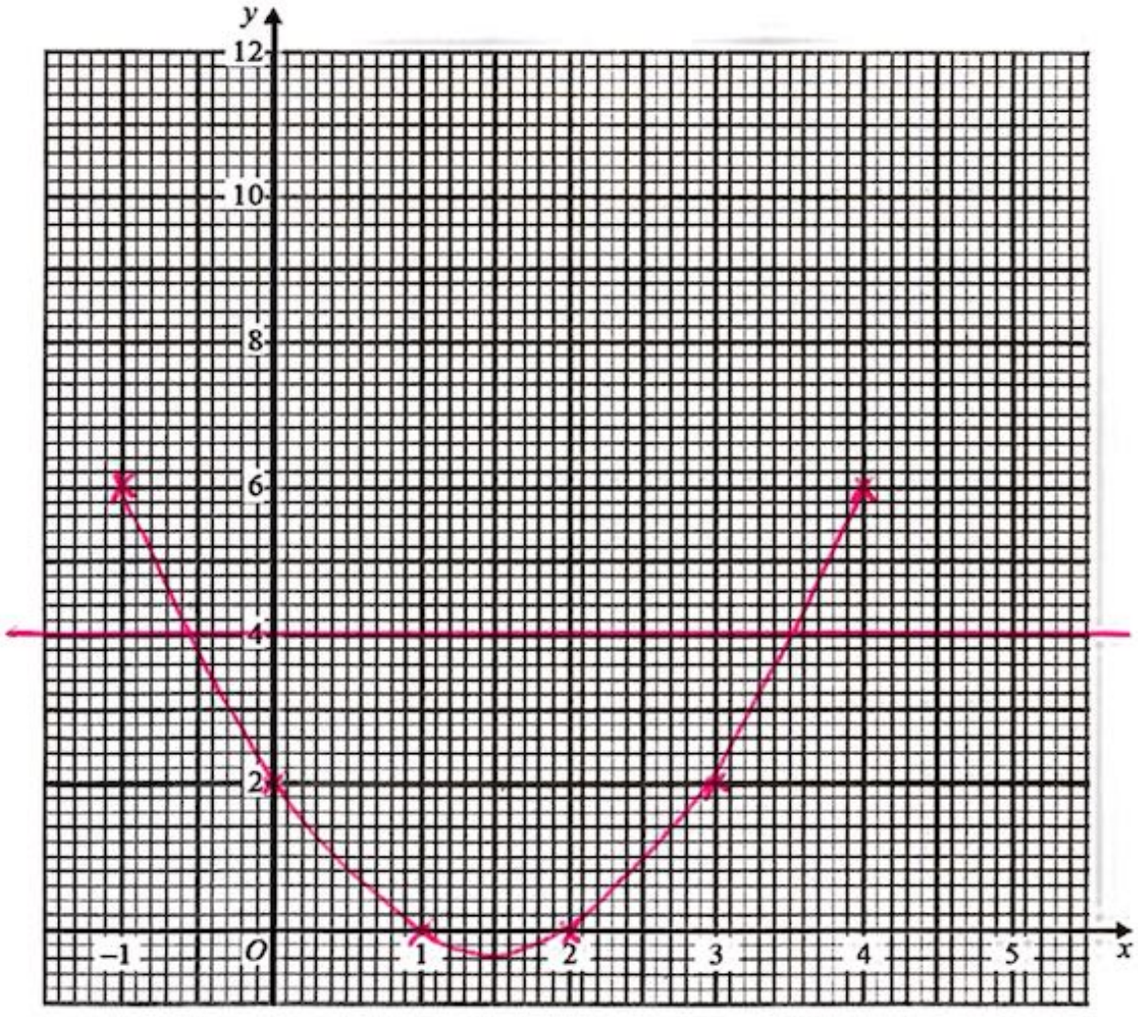
(a) Complete the table of values for $y = x^2 - 3x + 2$

| $x$ | −1 | 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| $y$ | 6 | 2 | 0 | 0 | 2 | 6 | 12 |

**(2)**

(b) On the grid, draw the graph of $y = x^2 - 3x + 2$ for values of $x$ from –1 to 5

**(2)**




(c) Find estimates for the solutions of the equation $x^2 - 3x + 2 = 4$

$x = -0.55$ $x = 3.55$

**(2)**

**(Total for question = 6 marks)**

$y = (-2)^3 - 3(-2) + 1$
$= -8 + 6 + 1$
$= -1$

$y = 1^3 - 3(1) + 1$
$y = 1 - 3 + 1$

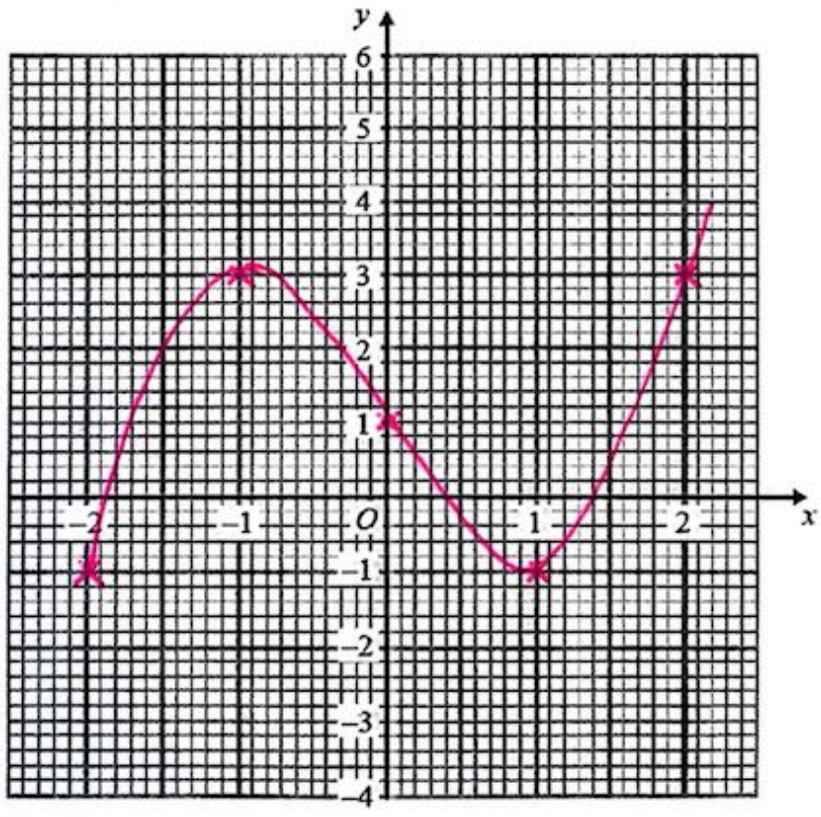
Q4.

(a) Complete the table of values for $y = x^3 - 3x + 1$

| $x$ | –2 | –1 | 0 | 1 | 2 |
|---|---|---|---|---|---|
| $y$ | −1 | 3 | 1 | −1 | 3 |

**(2)**

(b) On the grid, draw the graph of $y = x^3 - 3x + 1$ for values of $x$ from –2 to 2




**(2)**

**(Total for question = 4 marks)**

Q5.

(a) Complete this table of values for $y = x^3 + 2x - 1$

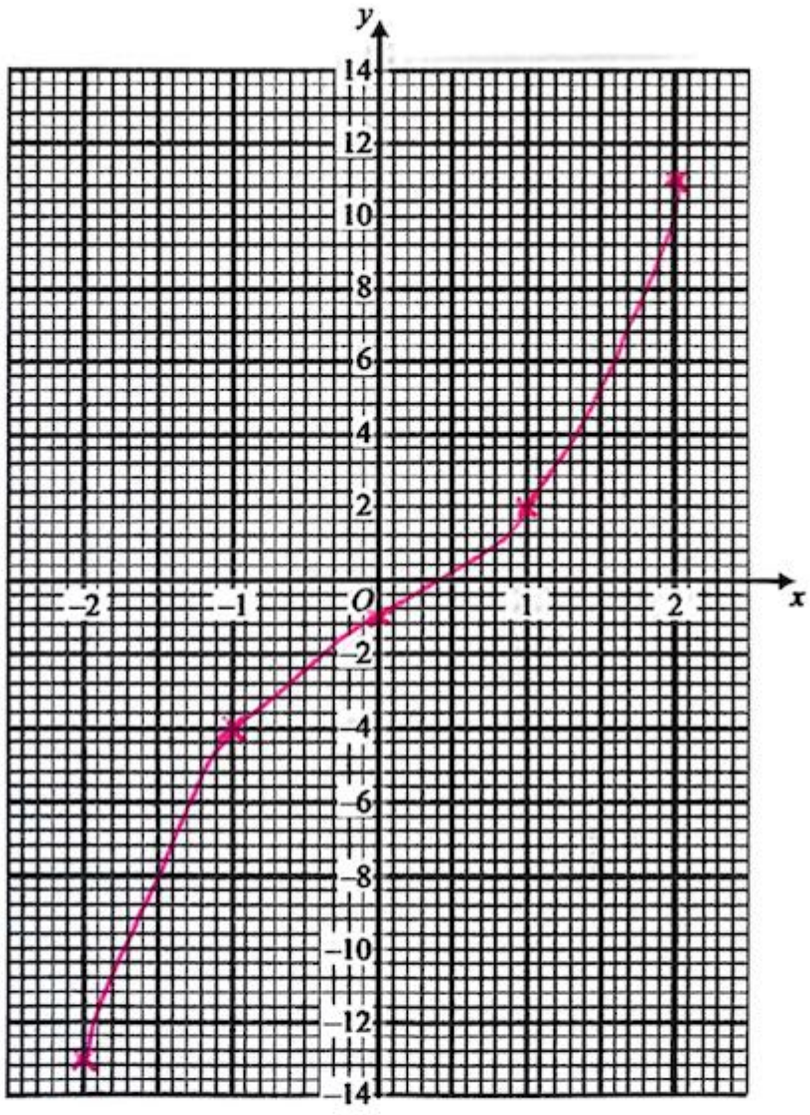
| $x$ | $-2$ | $-1$ | $0$ | $1$ | $2$ |
|---|---|---|---|---|---|
| $y$ | $-13$ | $-4$ | $-1$ | $2$ | $11$ |

$y = (-2)^3 + 2(-2) - 1$
$= -8 - 4 - 1 = -13$

$y = 1^3 + 2(1) - 1$
$= 1 + 2 - 1$
$= 2$

**(2)**

(b) On the grid, draw the graph of $y = x^3 + 2x - 1$




**(2)**

**(Total for Question is 4 marks)**

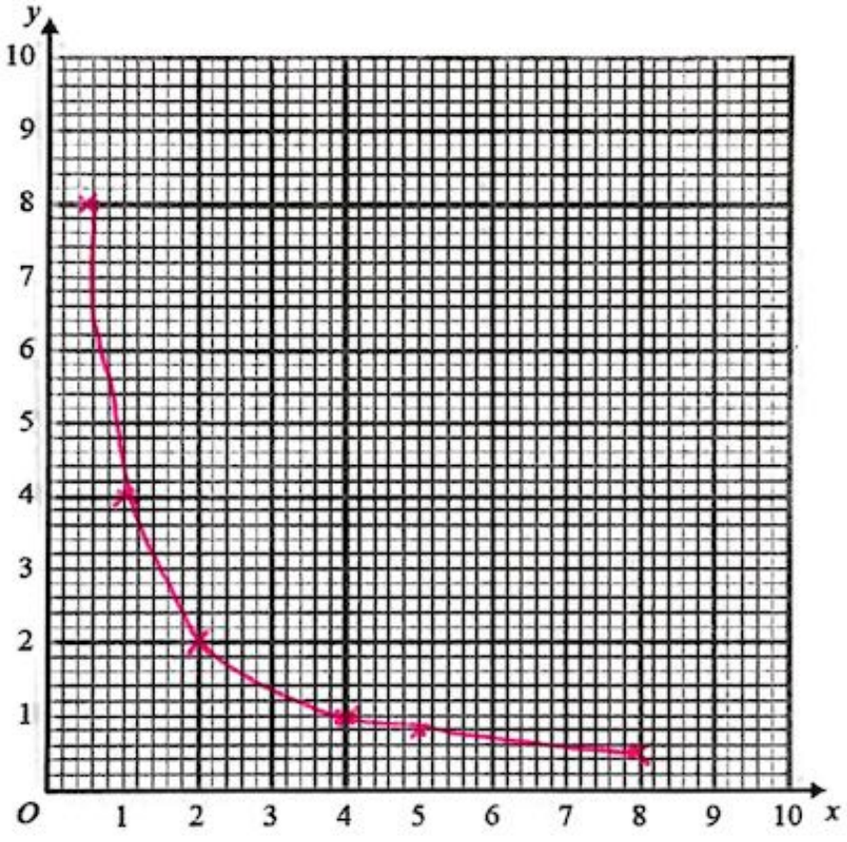
Q6.

(a) Complete the table of values for $y = \frac{4}{x}$

| $x$ | 0.5 | 1 | 2 | 4 | 5 | 8 |
|---|---|---|---|---|---|---|
| $y$ | 8 | 4 | 2 | 1 | 0·8 | 0·5 |

**(2)**

(b) On the grid, draw the graph of $y = \frac{4}{x}$ for $0.5 \leq x \leq 8$




**(2)**

**(Total for Question is 4 marks)**