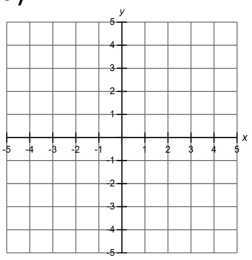
Graphs of functions Foundation

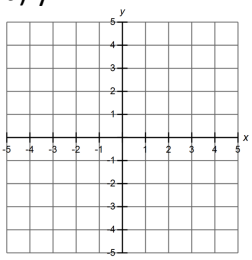
I can……

1 Plot the graphs of

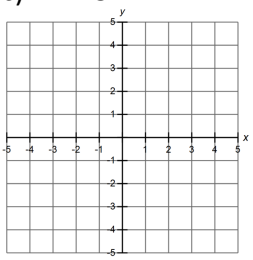
a) x = 4



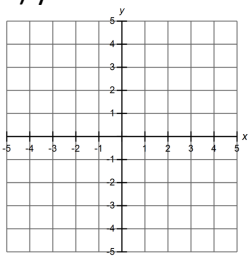
b) y = 2



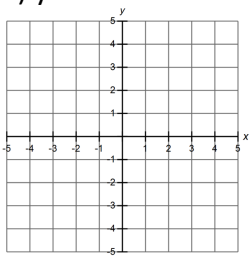
c) x = - 3



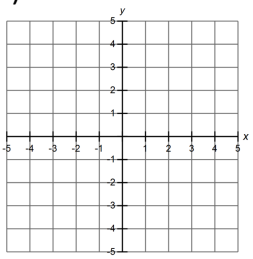
d) y = -2



e) y = 0



f) x = 1



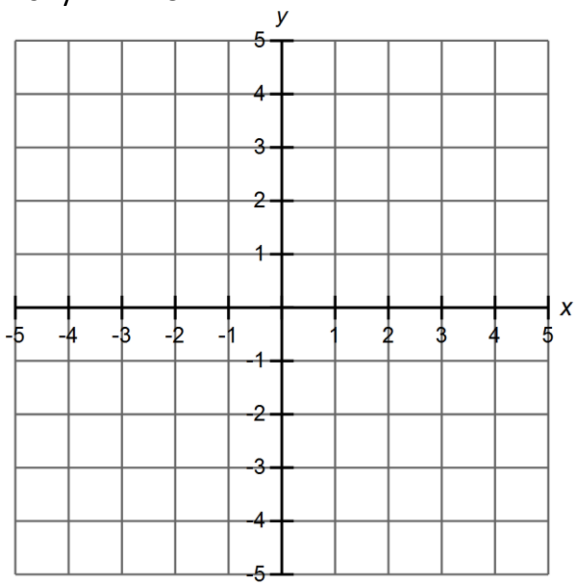
★ *Plot graphs of the form x = a, y = b*

☺ 😐 ☹

2 a) Complete the table of values for y = 4x – 3

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

b) Plot the graph of y = 4x – 3



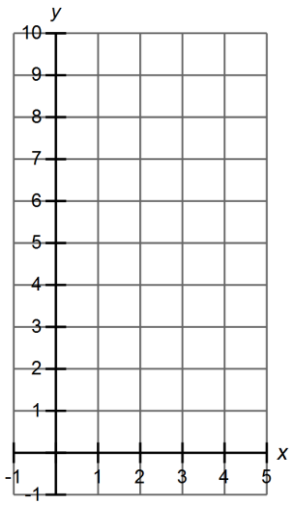
★ *Complete a table of values needed to plot a graph of a linear function*

☺ 😐 ☹

3 a) Complete the table of values for $y = 10 - 2x$

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

b) Plot the graph of $y = 10 - 2x$

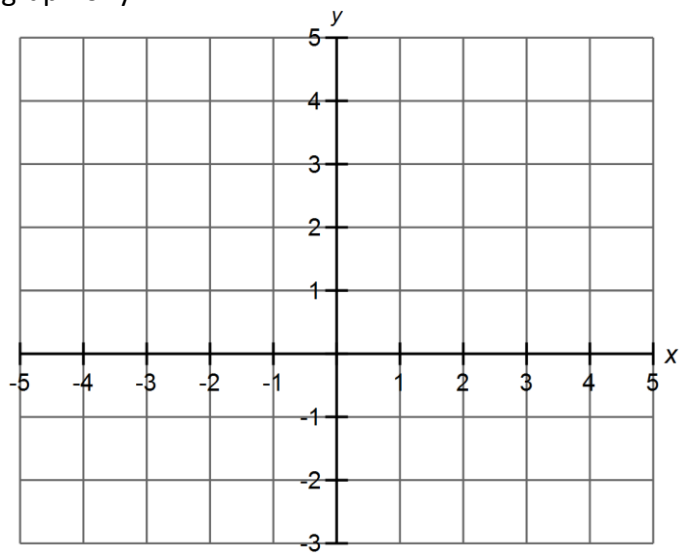


☺ 😐 ☹

4 a) Complete the table of values for $y = x^2 - 2$

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

b) Plot the graph of $y = x^2 - 2$



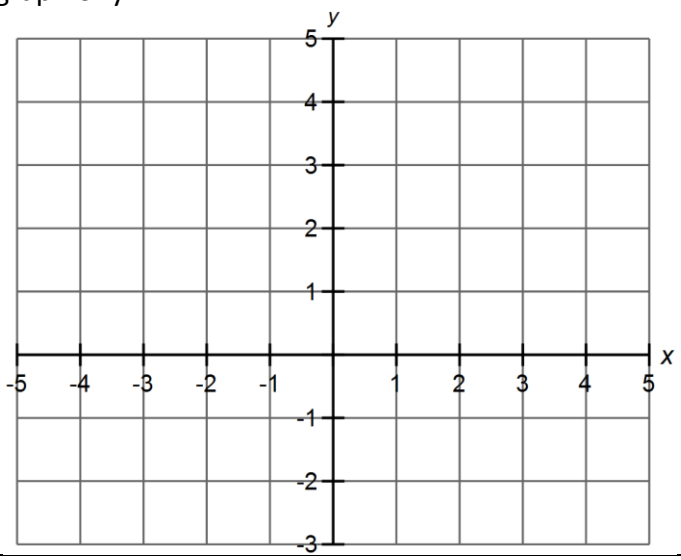
★★
Complete a table of values needed to plot a graph of a quadratic function

☺ 😐 ☹

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

x	-3	-2	-1	0	1	2	3	4
Y								

b) Plot the graph of $y = x^2 + x$

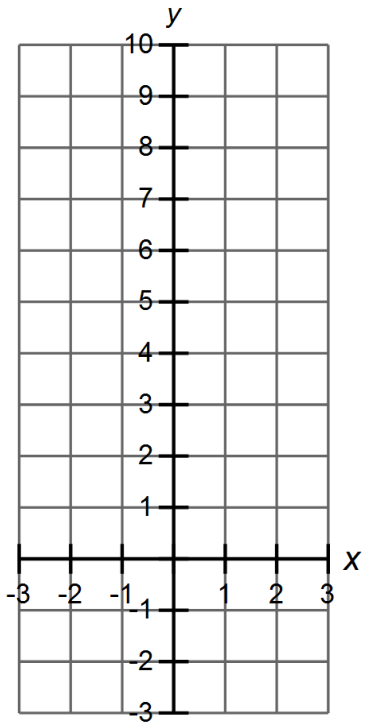


☺ 😐 ☹

6 a) Complete the table of values for $y = x^3 + 4$

x	-3	-2	-1	0	1	2	3
Y							

b) Plot the graph of $y = x^3 + 4$



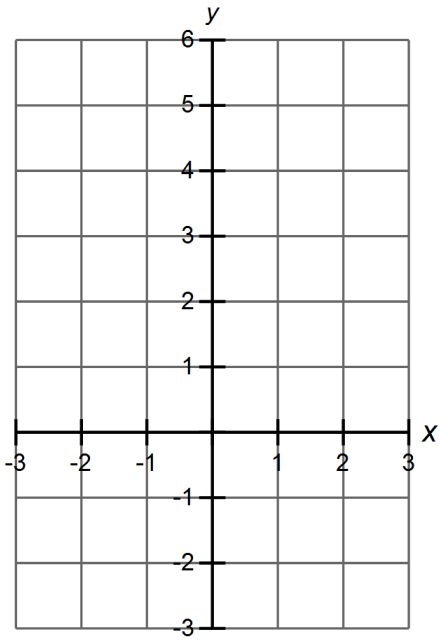
★★★
Complete a table of values to plot a graph of a cubic function

☺ 😐 ☹

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

x	-3	-2	-1	0	1	2	3	4
Y								

b) Plot the graph of $y = x^3 - x^2$

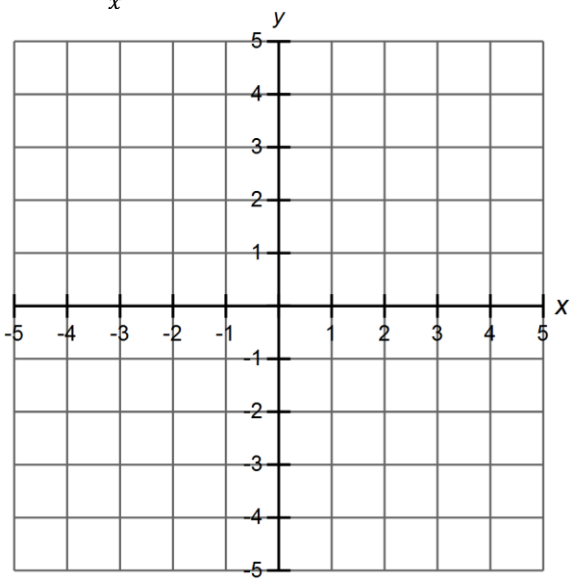


☺ 😐 ☹

8 a) Complete the table of values for $y = \frac{1}{x}$

x	-3	-2	-1	0	1	2	3	4
Y								

b) Plot the graph of $y = \frac{1}{x}$



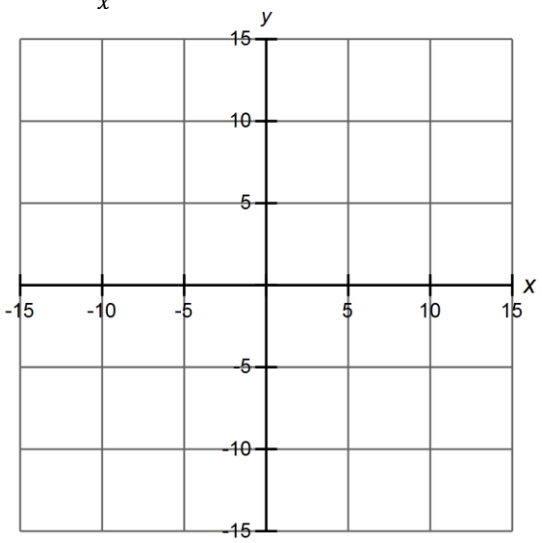
★★★
Complete a table of values to plot a graph of a reciprocal function

☺ 😐 ☹

9 a) Complete the table of values for $y = \frac{30}{x}$

x	-3	-2	-1	0	1	2	3	4
Y								

b) Plot the graph of $y = \frac{30}{x}$

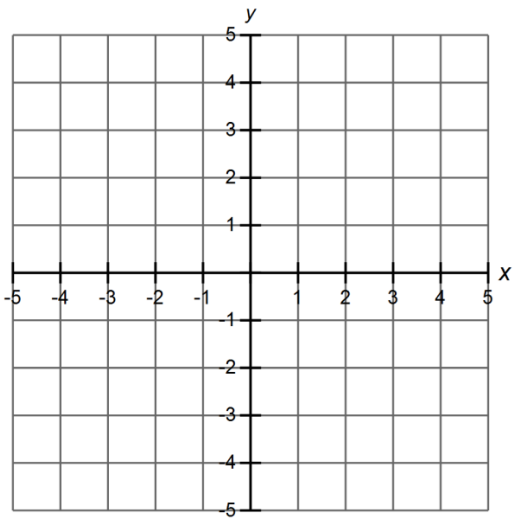


☺ 😐 ☹

10 a) Complete the table of values for $y = x^2 - 4x$

x	-1	0	1	2	3	4	5	6
Y								

b) Plot the graph of $y = x^2 - 4x$



c) Write down the coordinates of the turning point of the graph

d) Write down the coordinates of the points where the graph crosses the x – axis

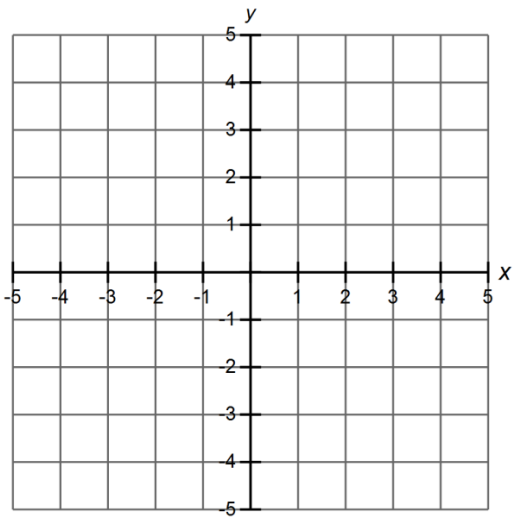
★★★
Identify the intercepts and turning points of graphs of quadratic functions.

☺ 😐 ☹

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

x	-4	-3	-2	-1	0	1	2
Y							

b) Plot the graph of $y = x^2 + 2x - 3$



c) Write down the coordinates of the turning point of the graph

d) Write down the coordinates of the points where the graph crosses the x-axis

☺ 😐 ☹

Graphs of functions

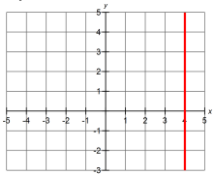
Foundation

I can……

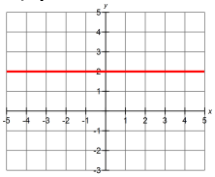
ANSWERS

1 Plot the graphs of

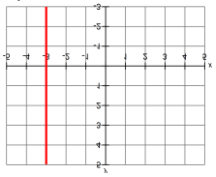
a) x = 4 ✓



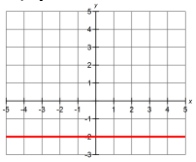
b) y = 2 ✓



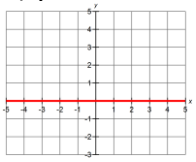
c) x = - 3 ✓



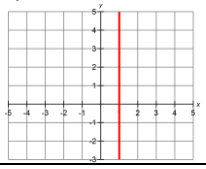
d) y = -2 ✓



e) y = 0 ✓



f) x = 1 ✓

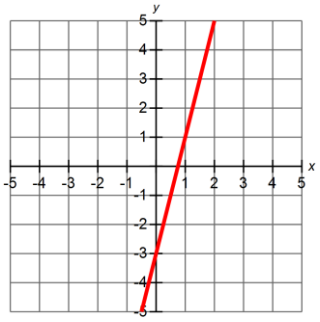


★ *Plot graphs of the form x = a, y = b*

2 a) Complete the table of values for y = 4x – 3 ✓✓

x	-3	-2	-1	0	1	2	3	4
y	-15	-11	-7	-3	1	5	9	13

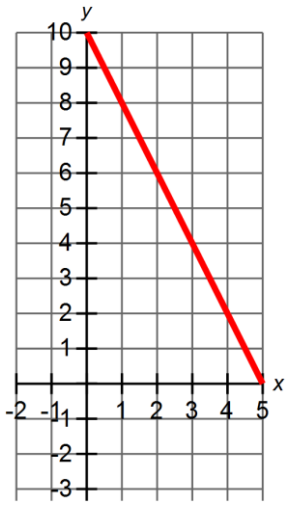
b) Plot the graph of y = 4x – 3 ✓✓



3 a) Complete the table of values for y = 10 – 2x ✓✓

x	-3	-2	-1	0	1	2	3	4
y	16	14	12	10	8	6	4	2

b) Plot the graph of y = 10 – 2x ✓✓

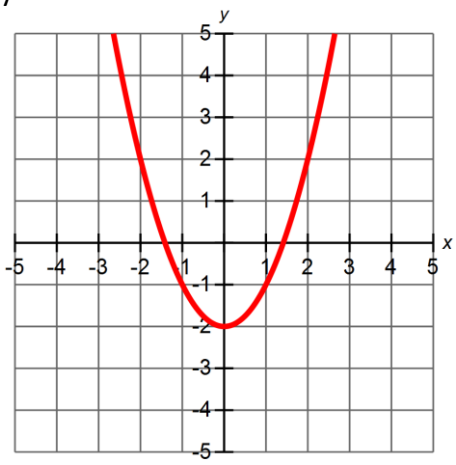


★ *Complete a table of values needed to plot a graph of a linear function*

4 a) Complete the table of values for $y = x^2 - 2$ ✓✓

x	-3	-2	-1	0	1	2	3	4
y	7	2	-1	-2	-1	2	7	14

b) Plot the graph of $y = x^2 - 2$ ✓✓



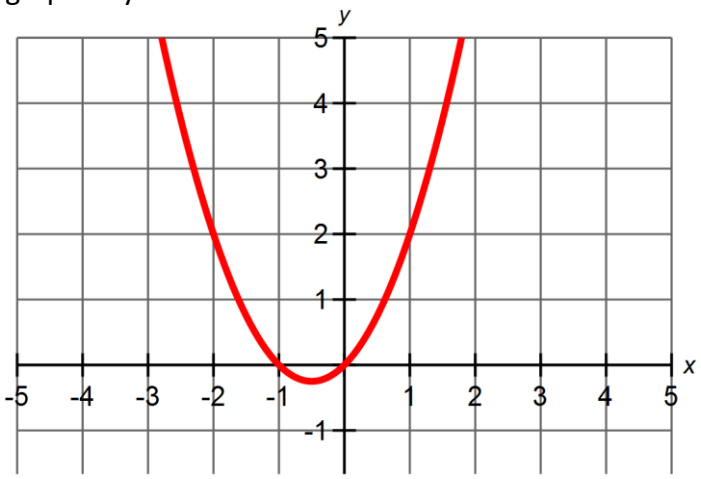
★★

Complete a table of values needed to plot a graph of a quadratic function

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

x	-3	-2	-1	0	1	2	3	4
y	6	2	0	0	2	6	12	20

b) Plot the graph of $y = x^2 + x$ ✓✓✓



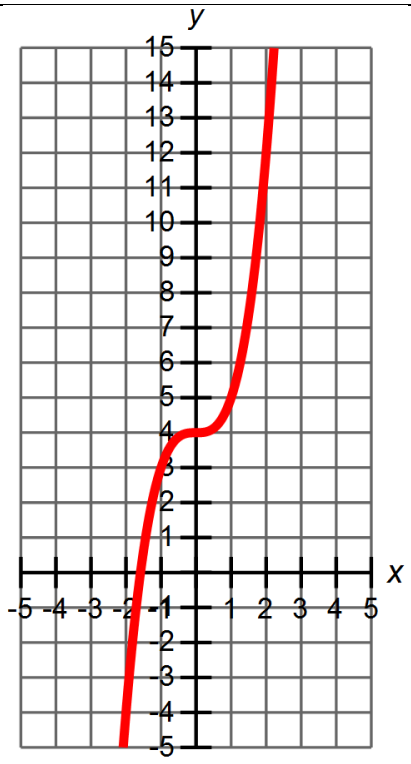
6 a) Complete the table of values for $y = x^3 + 4$ ✓✓

x	-3	-2	-1	0	1	2	3
y	-24	-4	3	4	5	12	31

b) Plot the graph of $y = x^3 + 4$ ✓✓

★★★

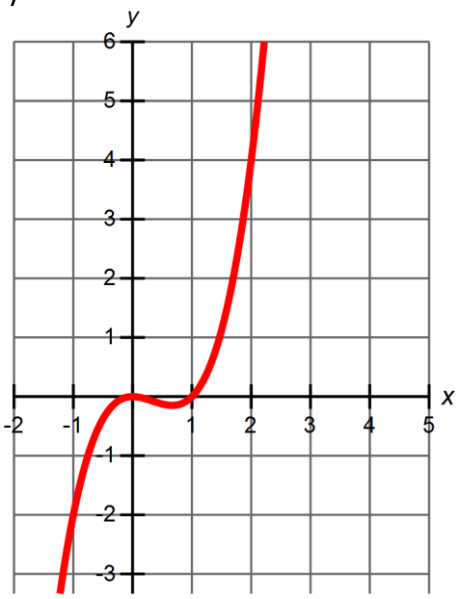
Complete a table of values to plot a graph of a cubic function



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

x	-3	-2	-1	0	1	2	3	4
y	-36	-12	-2	0	0	4	18	48

b) Plot the graph of $y = x^3 - x^2$ ✓✓✓



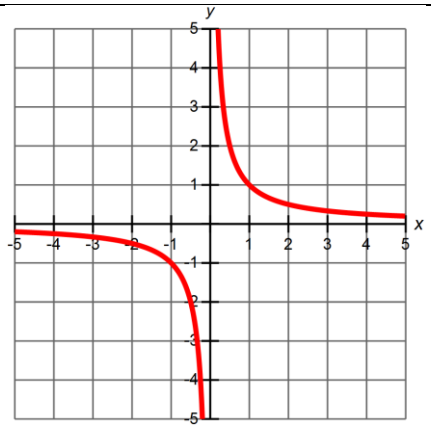
8 a) Complete the table of values for $y = \frac{1}{x}$ ✓✓

x	-3	-2	-1	0	1	2	3	4
y	-1/3	-1/2	-1		1	1/2	1/3	¼

b) Plot the graph of $y = \frac{1}{x}$ ✓✓

★★★

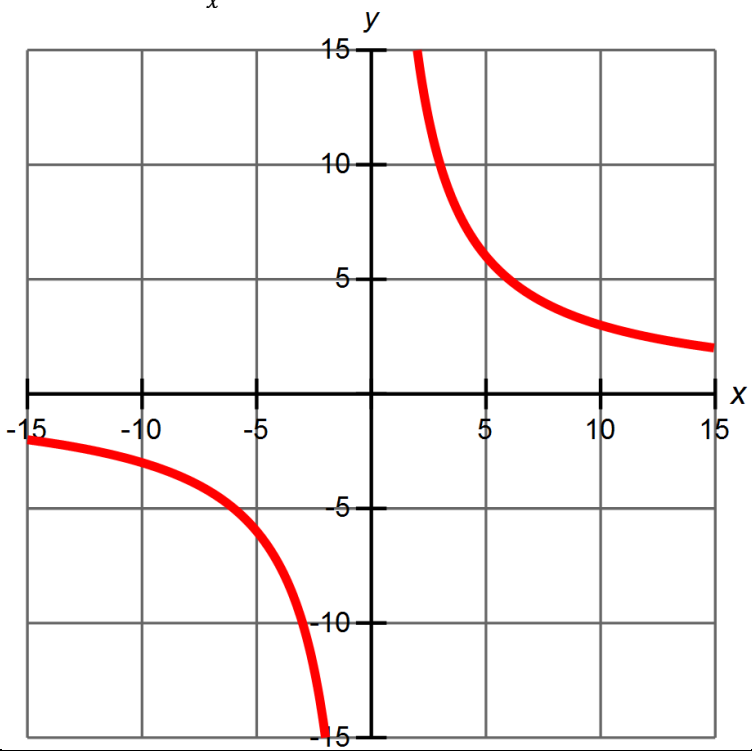
Complete a table of values to plot a graph of a reciprocal function



9 a) Complete the table of values for $y = \frac{30}{x}$ ✓✓✓

x	-3	-2	-1	0	1	2	3	4
y	-10	-15	-30		30	15	10	7.5

b) Plot the graph of $y = \frac{30}{x}$ ✓✓✓



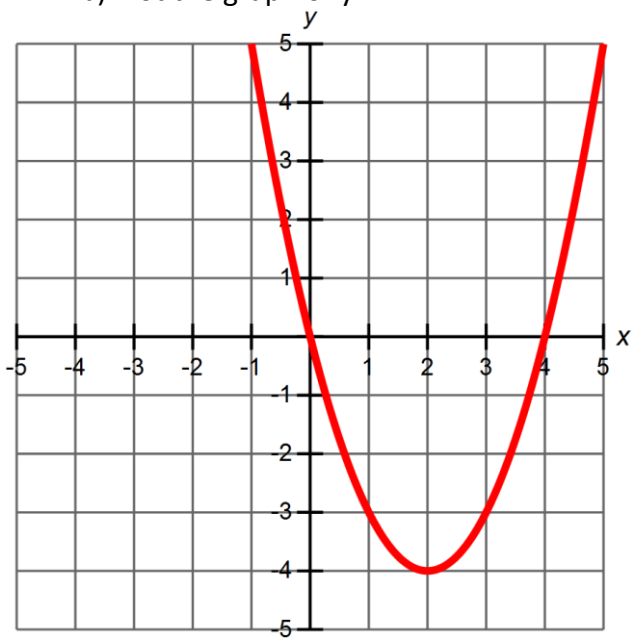
10 a) Complete the table of values for $y = x^2 - 4x$ ✓✓✓

x	-1	0	1	2	3	4	5	6
y	5	0	-3	-4	-3	0	5	12

★★★

Identify the intercepts and turning points of graphs of quadratic functions.

b) Plot the graph of $y = x^2 - 4x$ ✓✓✓



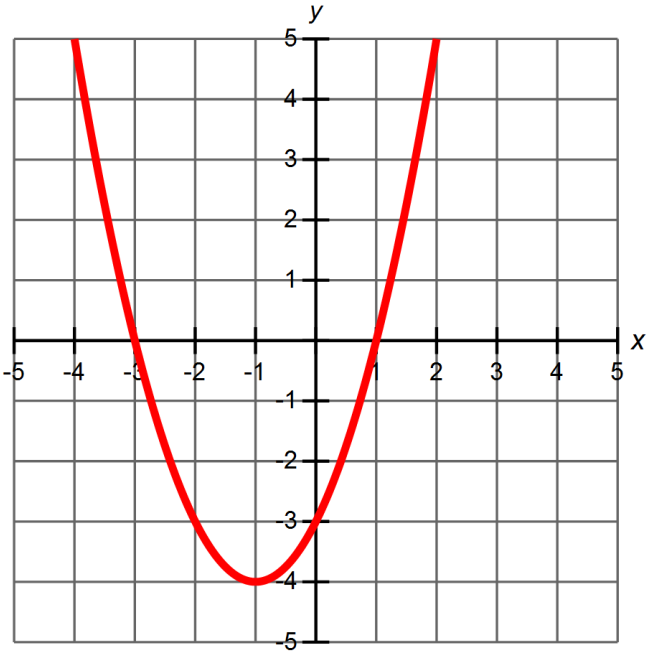
c) Write down the coordinates of the turning point of the graph (2, -4) ✓

d) Write down the coordinates of the points where the graph crosses the x – axis (0,0) and (4,0) ✓✓

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

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

b) Plot the graph of $y = x^2 + 2x - 3$ ✓✓✓



c) Write down the coordinates of the turning point of the graph (-1, -4) ✓

d) Write down the coordinates of the points where the graph crosses the x-axis (-3,0) and (1,0) ✓✓

60 marks