

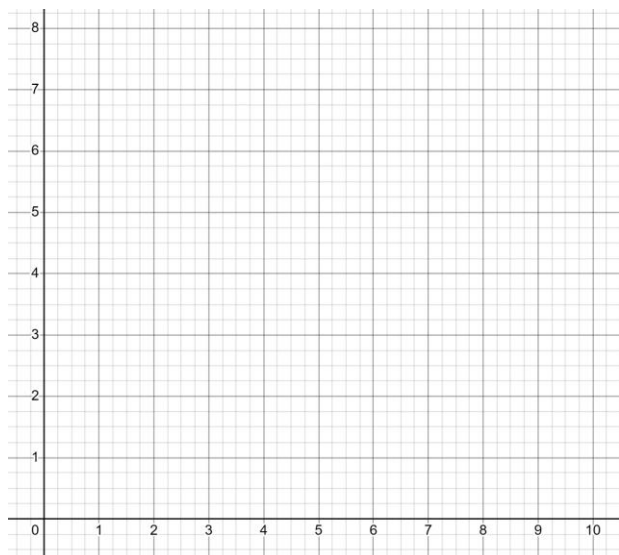


## Cubic & Reciprocal Graphs Exam Practice

Q1. Complete the table below for  $y = \frac{2}{x}$

x	0.5	1	2	3	4	5	10
y							

Sketch the graph of  $y = \frac{2}{x}$  on the axes below:

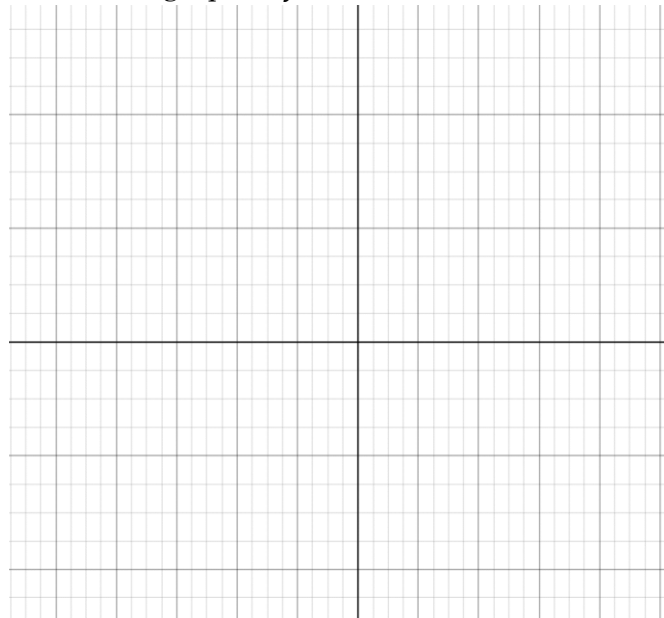


(4 marks)

Q2. Complete the table for  $y = x^3 - 3x^2 + x - 4$

x	-10	-8	-6	-2	0	2	4	6	8	10
y										

Sketch the graph of  $y = x^3 - 3x^2 + x - 4$  below:

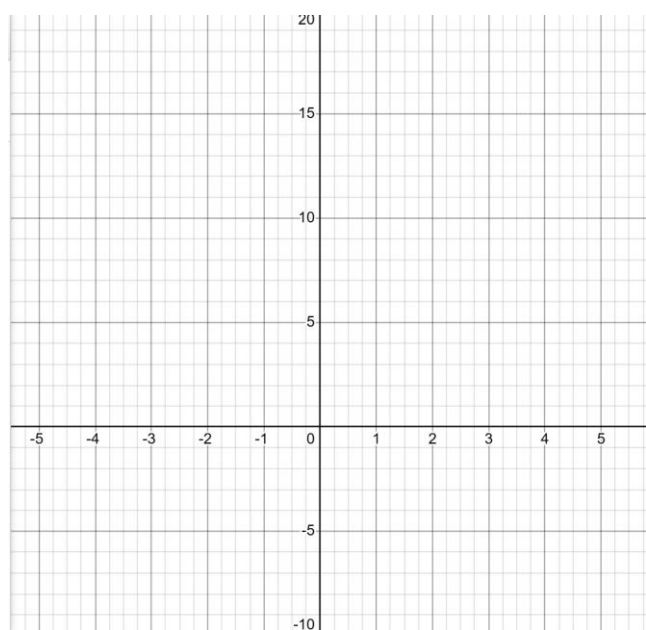


(4 marks)

Q3. Complete the table below for  $y = 5 - \frac{1}{x}$

x	-4	-3	-2	-1	-0.5	0.5	1	2	3	4
y										

Sketch the graph of  $y = 5 - \frac{1}{x}$  on the axes below:

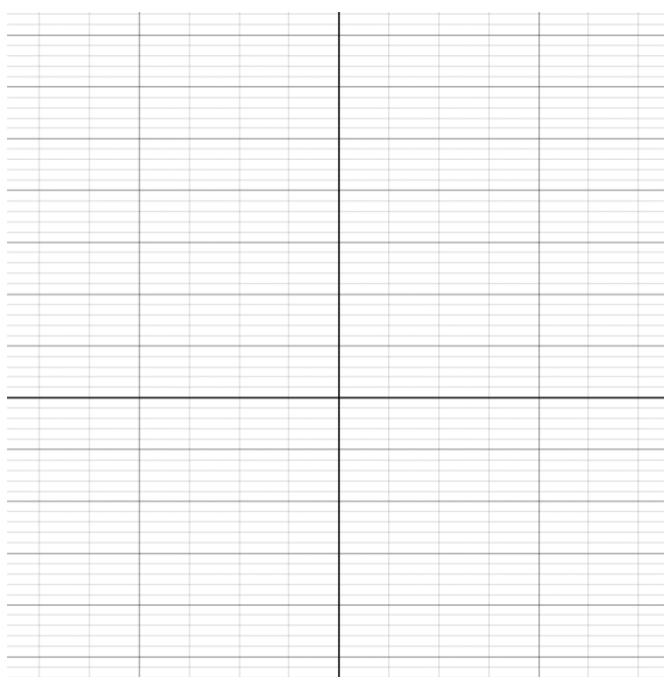


(4 marks)

Q4. Complete the table for  $y = 10 - x^2 + 3x^3$

x	-2	-1.5	-1	-0.5	0	0.5	1	1.5	2
y									

Sketch the graph of  $y = 10 - x^2 + 3x^3$  below:

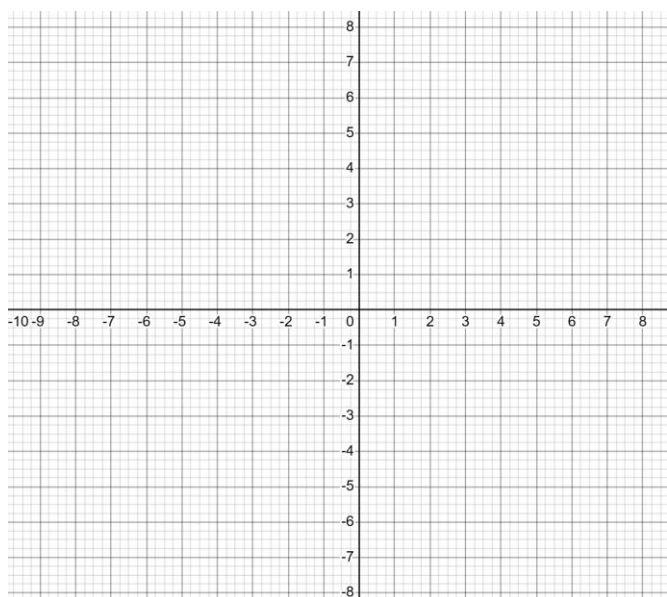


(4 marks)



Q5 a) Sketch the graphs of  $xy = 1$  and  $y = -3x - 7$  on the axes below

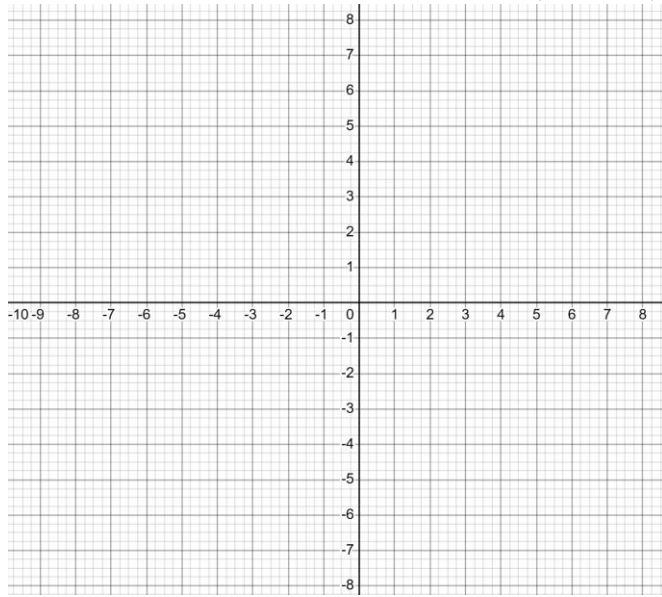
(4 marks)



b) Hence state the number of solutions of the equation,  $\frac{1}{x} + 3x + 7 = 0$ . (1 mark)

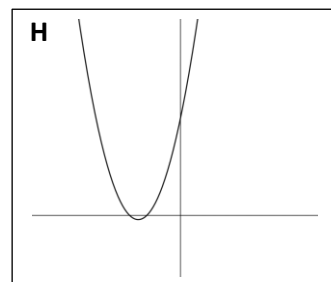
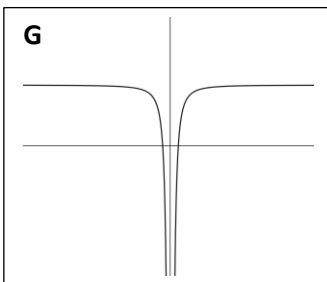
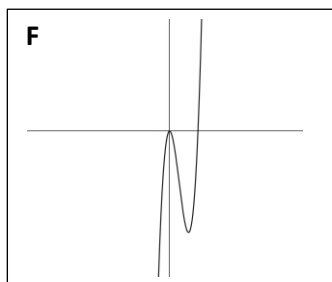
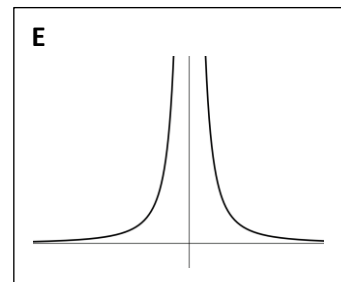
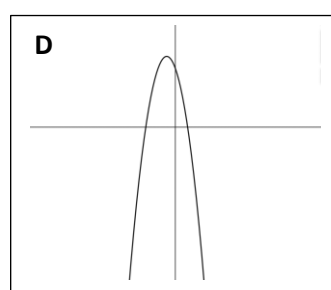
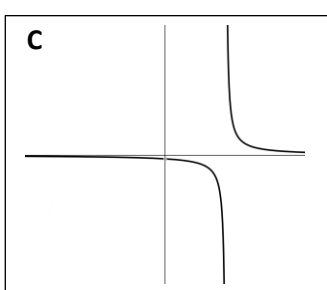
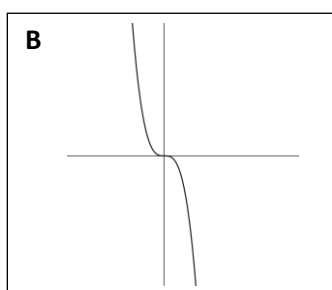
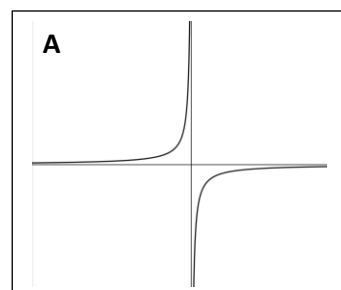
Q6 a) Sketch the graphs of  $y = -x(x + 1)(x + 2)$  and  $y = \frac{1}{x^2}$  on the axes below:

(4 marks)



b) Hence state the number of solutions of the equation  $\frac{1}{x^2} + x(x + 1)(x + 2) - 10 = 0$  (1 mark)

Q7. Write the letter of the graph next to each of the matching equations below:



- (i)  $y = \frac{1}{x^2}$       (ii)  $y = (x + 2)(x + 3)$       (iii)  $y = -\frac{1}{x}$       (iv)  $y = x^3 - 5x^2$   
(v)  $y = (2 - x)(x - 3)$       (vi)  $y = -x^3$       (vii)  $y = -\frac{1}{x^2} + 5$       (viii)  $y = \frac{1}{x-4}$

(4 marks)