

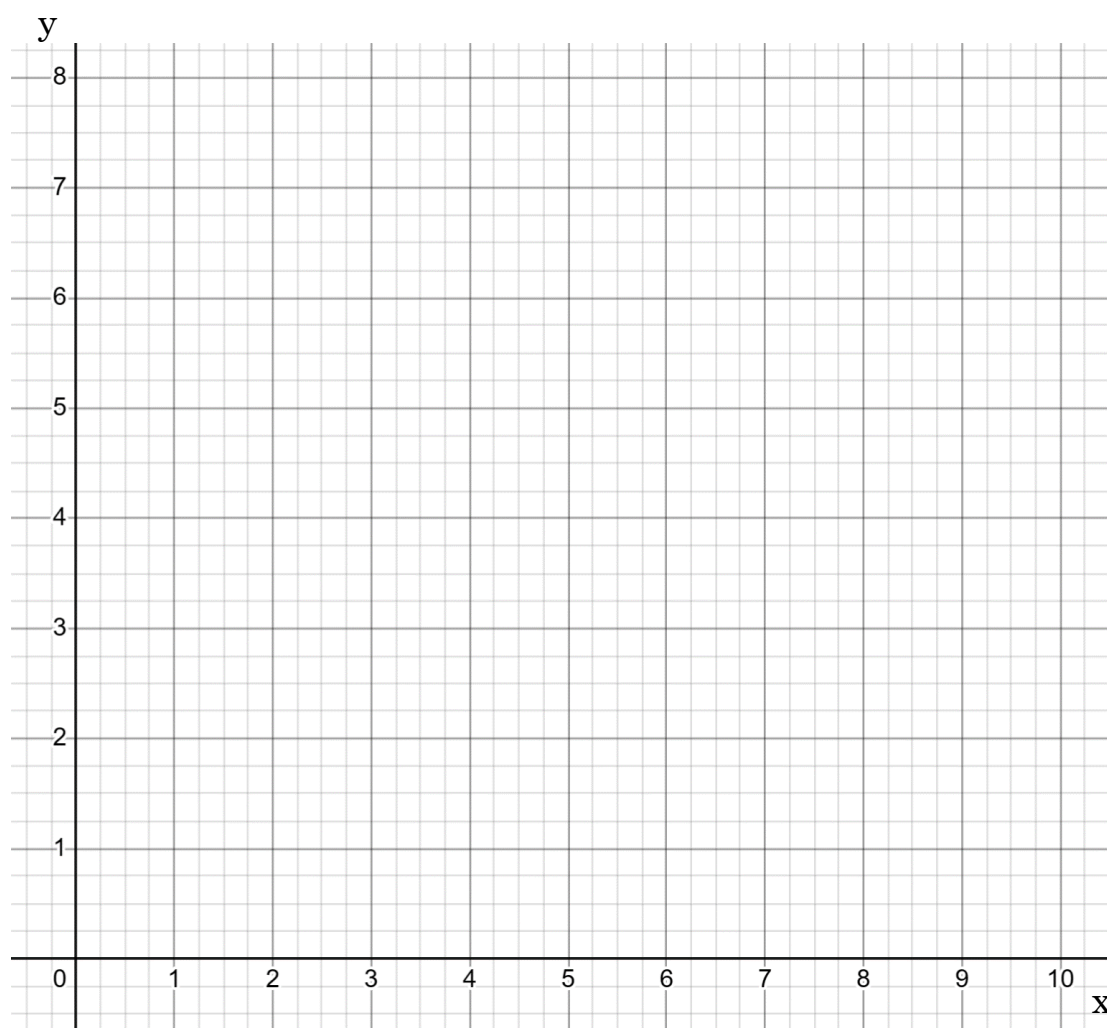


Cubic & Reciprocal Graphs Exam Practice

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

x	0.5	1	2	3	4	5	10
y							

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



Answer: _____

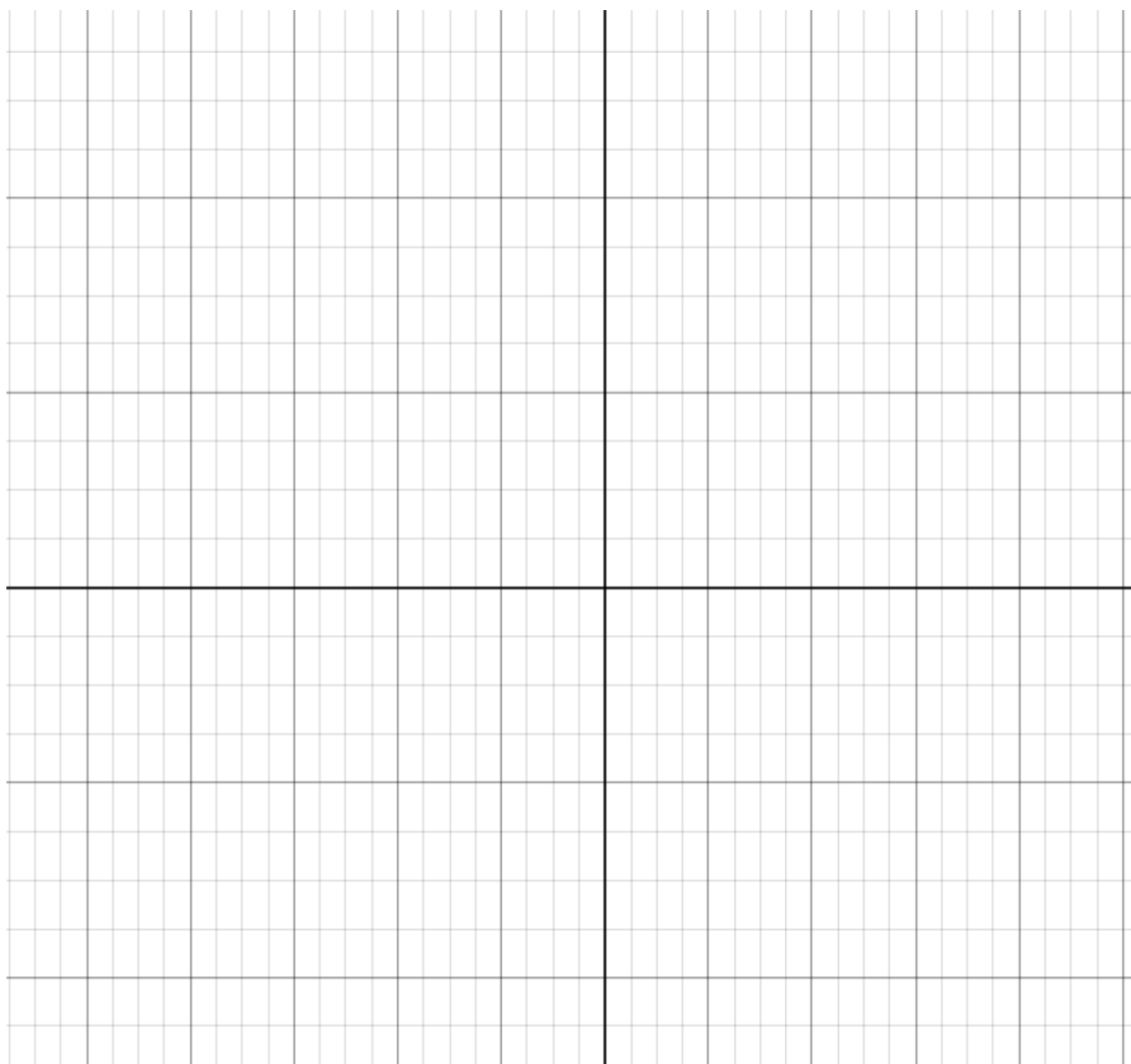
(4 marks)



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

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

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



Answer: _____

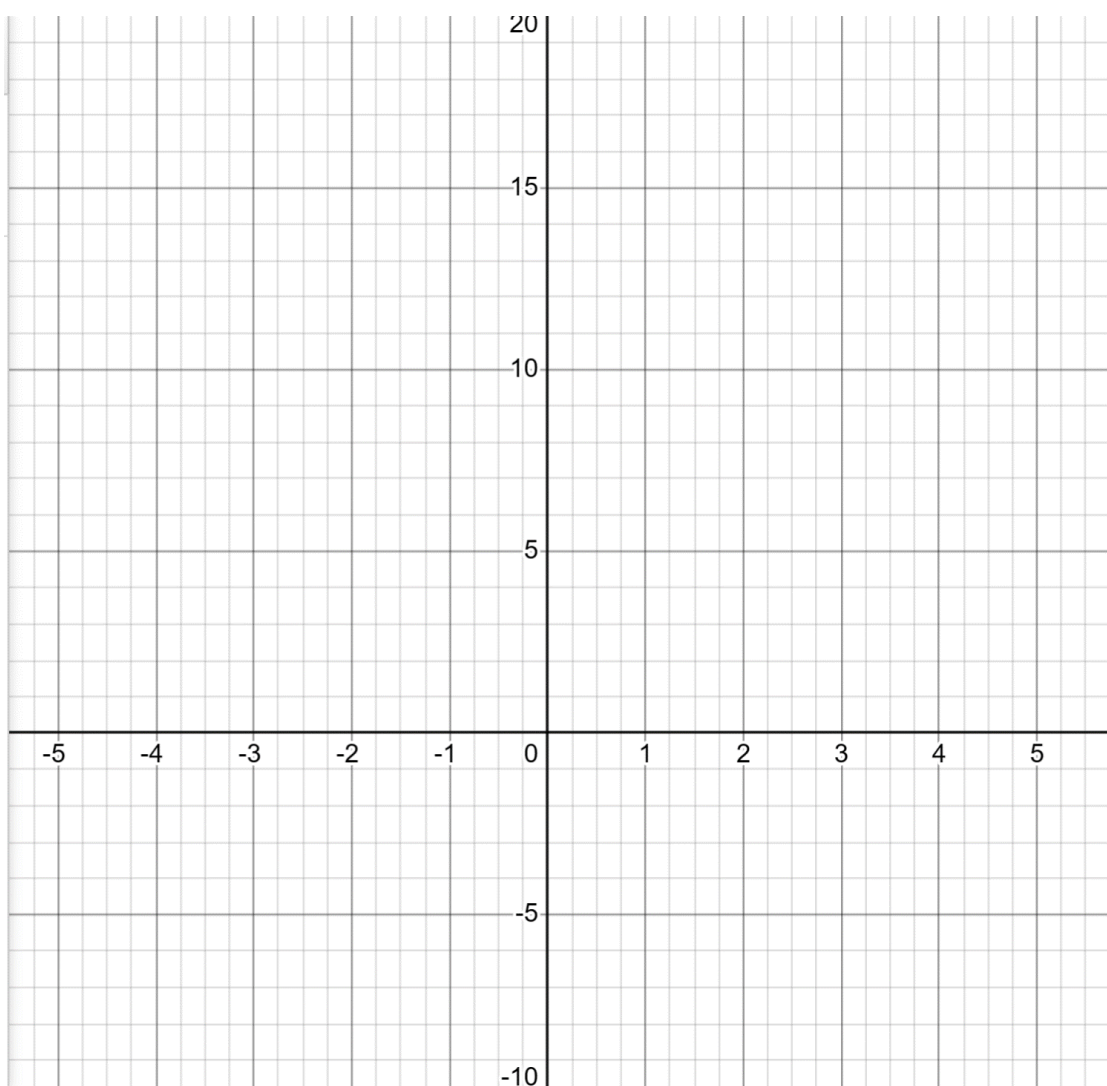
(4 marks)



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:



Answer: _____

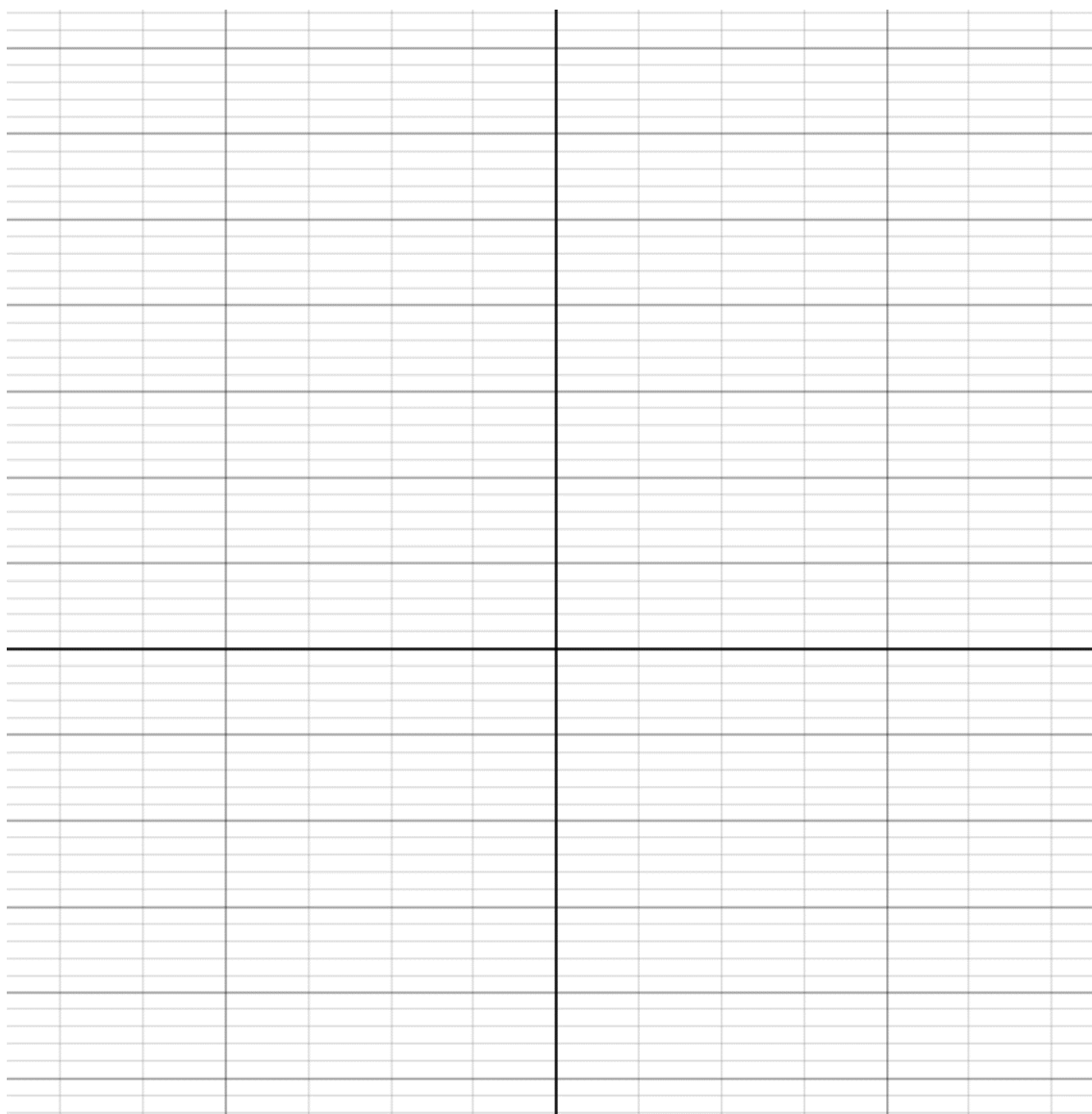
(4 marks)



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 $y = 10 - x^2 + 3x^3$ on the axes below:

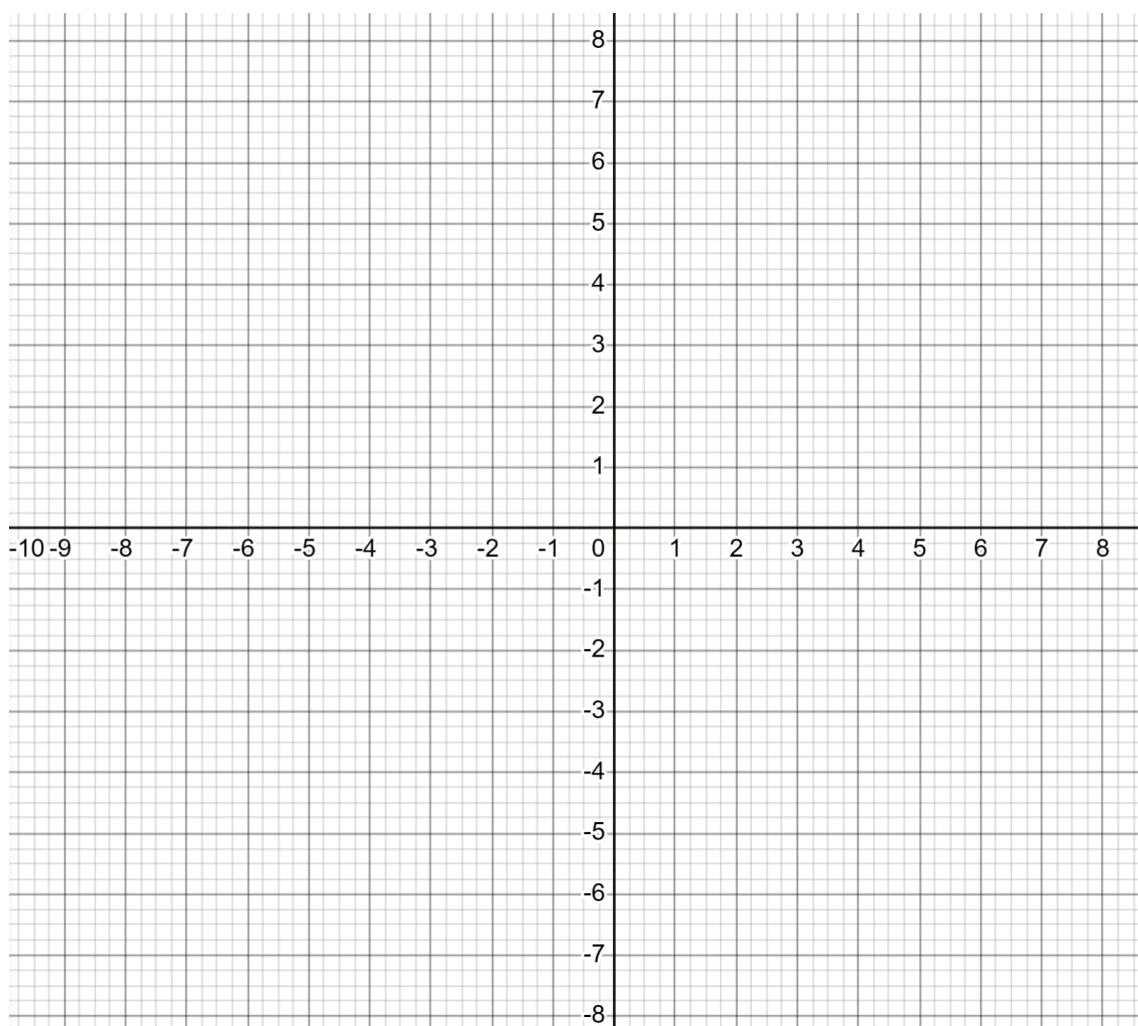


Answer: _____

(4 marks)



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



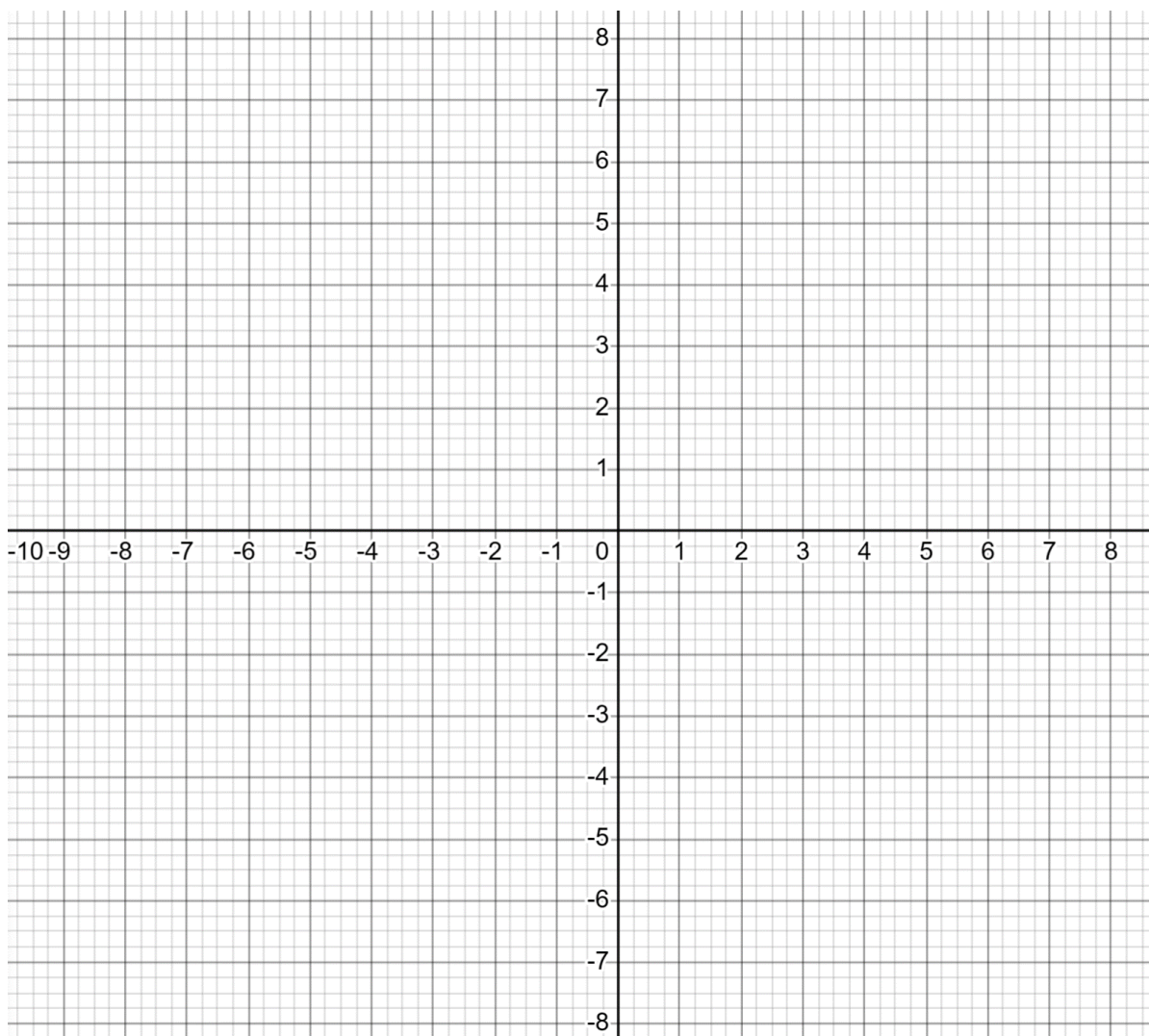
Answer: _____
(4 marks)

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

Answer: _____
(1 mark)



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



Answer: _____
(4 marks)

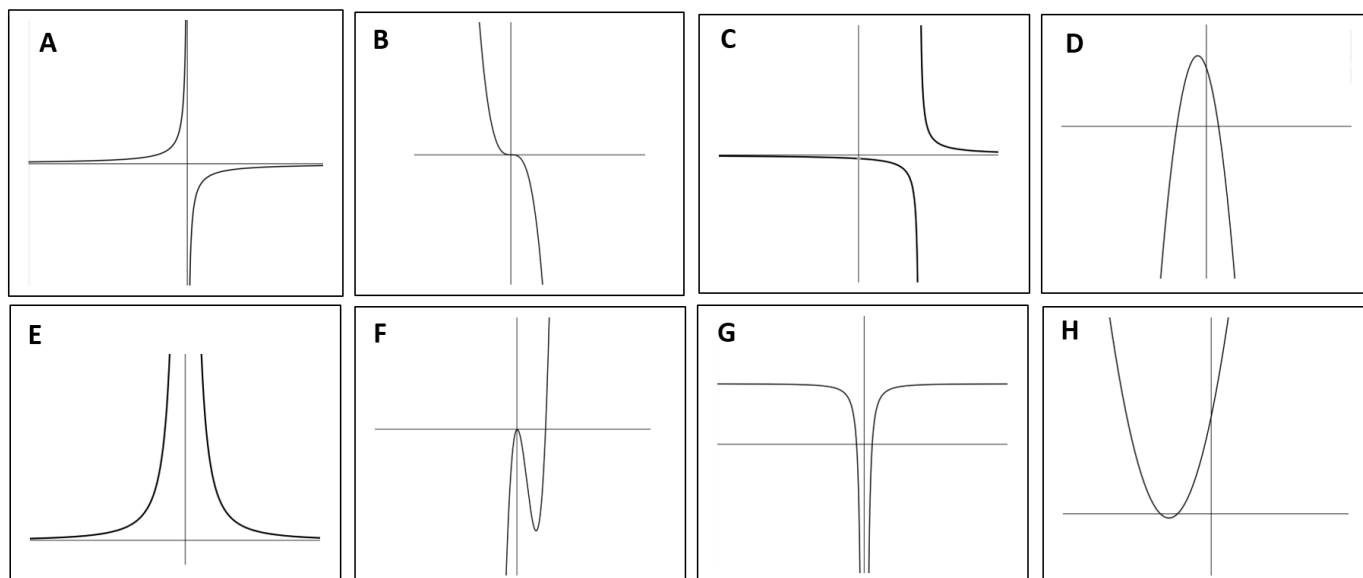
b) Hence state the number of solutions of the equation

$$\frac{1}{x^2} + x(x + 1)(x + 2) - 10 = 0$$

Answer: _____
(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) $y = \frac{1}{x-4}$

Answer: _____

(4 marks)