

Question 77 (***)**

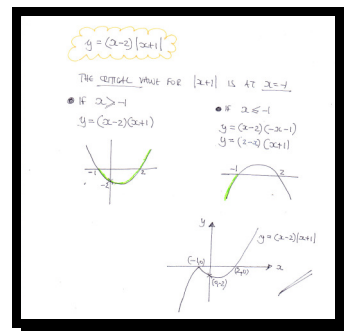
By considering the graphs of two separate curves, or otherwise, sketch the graph of

$$y = (x-2)|x+1|.$$

Indicate the coordinates of any intersections with the axes, and the coordinates of the cusp of the curve.

[No credit will be given to non analytical sketches based on plotting coordinates]

graph



Question 78 (***)**

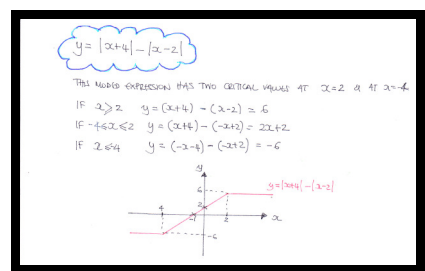
By considering the graphs of three separate lines, or otherwise, sketch the graph of

$$y = |x+4| - |x-2|$$

Indicate the coordinates of any intersections with the axes, and the coordinates of the cusp of the curve.

[No credit will be given to non analytical sketches based on plotting coordinates]

graph

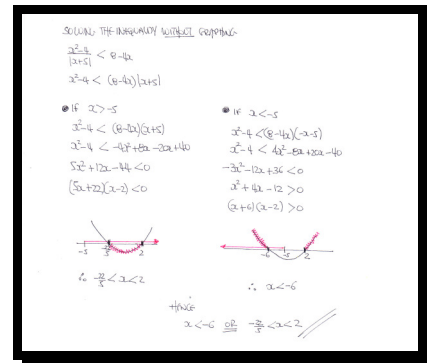


Question 79 (***)**

Find the set of values of x that satisfy the inequality

$$\frac{x^2 - 4}{|x + 5|} < 8 - 4x.$$

$$x < -6 \cup -\frac{22}{5} < x < 2$$



Question 80 (***)**

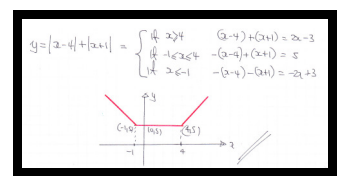
By considering the graphs of three separate lines, or otherwise, sketch the graph of

$$y = |x - 4| + |x + 1|$$

Indicate the coordinates of any intersections with the axes, and the coordinates of the cusp of the curve.

[No credit will be given to non analytical sketches based on plotting coordinates]

$$(-1, 5), (0, 5), (4, 5)$$



Question 81 (***)**

Sketch the curve with equation

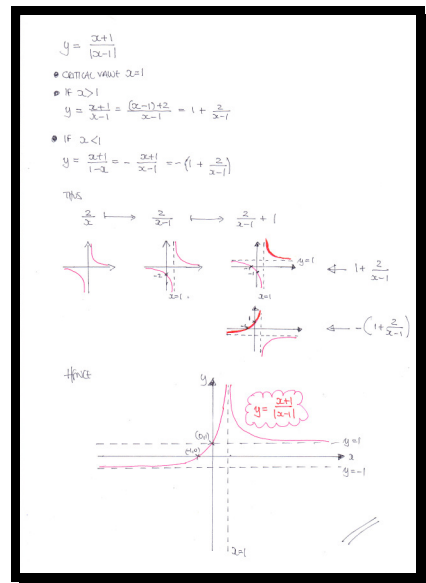
$$y = \frac{x+1}{|x-1|}, \quad x \in \mathbb{R}, \quad x \neq 1.$$

The sketch must include ...

- ... the coordinates of all the points where the curve meets the coordinate axes.
- ... the equations of the asymptotes of the curve.

[No credit will be given to non analytical sketches based on plotting coordinates]

graph



Question 82 (***)**

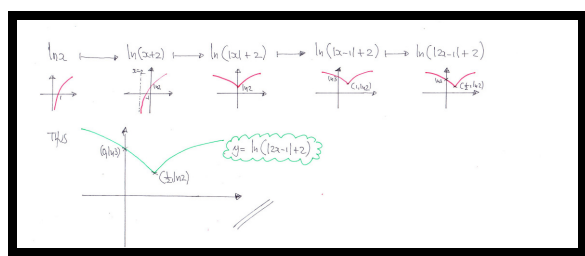
By considering a sequence of transformations, or otherwise, sketch the graph of

$$y = \ln(|2x-1|+2), \quad x \in \mathbb{R}.$$

Indicate the coordinates of any intersections with the axes, and the coordinates of the cusp of the curve.

[No credit will be given to non analytical sketches based on plotting coordinates]

graph



Question 83 (***)**

Sketch the curve with equation

$$y = \frac{x^2 - 4}{|x + 5|}, \quad x \in \mathbb{R}, \quad x \neq -5.$$

The sketch must include ...

- ... the coordinates of all the points where the curve meets the coordinate axes.
- ... the equations of the asymptotes of the curve.

[No credit will be given to non analytical sketches based on plotting coordinates]

graph

