

8. A curve C has equation,

$$y = 2|x^2 - 16| + 4(x - 4), \quad x \in \mathbb{R}$$

- (a) Sketch a detailed graph of C in the space below, including the coordinates of any points of intersection or turning points.

You must show your working when finding the x -intercepts.

(9)

- (b) Hence, or otherwise, find the area of the finite region bounded by C and the x -axis, for which $y < 0$.

(5)