

6 A curve C , has equation $y = x^2 - 4x + k$, where k is a constant.

It crosses the x -axis at the points $(2 + \sqrt{5}, 0)$ and $(2 - \sqrt{5}, 0)$

6 (a) Find the value of k .

[2 marks]

6 (b) Sketch the curve C , labelling the exact values of all intersections with the axes.

[3 marks]