

## Subject 15

**Please, do not write on the exam paper.**

A manufacturing company makes *door hinges*.

The cost function to make  $x$  hinges per hour is given by:  $C(x) = 0.0005x^3 - 0.17x^2 + 19x$

The company produces at least 50 hinges per hour, but knows that producing more than 150 an hour is useless, as the door hinges will not sell.

- 1) State the domain of  $C$ .
- 2) Draw a rough sketch of the graph of  $C$ .
- 3) Determine the minimum and maximum hourly costs, and the production levels when each occurs.

Nota:

*door hinges* : gonds de porte