

**Exercise 1**

Calc. : ✖

A company produces a new device. The monthly profit from selling these devices is modelled by the function  $P$ , defined by:

$$P(x) = -0.5x^2 + 60x - 500,$$

where  $x$  is the number of devices sold and  $P(x)$  is the monthly profit in euros.

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|--|---------|
| a) <b>Calculate</b> the company's monthly profit when they have sold 10 devices in a particular month. | 2 marks |
| b) <b>Determine</b> the number of devices to be sold monthly to maximise the monthly profit.           | 3 marks |