

Exercise 1Calc. : **X**

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.

a) **Calculate** the company's monthly profit when they have sold 10 devices in a particular month. 2 marks

b) **Determine** the number of devices to be sold monthly to maximise the monthly profit. 3 marks