⑧ $x = 400€$

$y = 953,367\, e^{-0,0030 \times 400}$

$y = 287,148$

Exercice 2 :

$$f(x) = e^{2x} + e^{x} - x - 2$$

① $\lim\limits_{x \to +\infty} = e^{x}\left(e^{x} + 1 - \frac{x}{e^{x}} - \frac{2}{e^{x}}\right)$

$\lim\limits_{x \to +\infty} = e^{x} + 1 - \frac{x}{e^{x}} - \frac{2}{e^{x}} = e^{+\infty} + 1 = +\infty$

($\frac{x}{e^{x}}$ et $\frac{2}{e^{x}}$ → 0)

② $\lim\limits_{x \to -\infty} = e^{y} = 0$

$\lim\limits_{x \to -\infty} e^{x} + 1 = 1$

$\lim\limits_{x \to -\infty} -x - 2 = +\infty$

$\lim\limits_{x \to -\infty} f(x) = +\infty$