a) $f(x) = 1.16x^4 - 2x^3 + 0,75x^2 - x + 3,6$

$f'(x) = 4.64x^3 - 6x^2 + 1.5x$

$\tilde{x} = 1,75$

$\varepsilon_a = 0.05 \leftarrow \Delta\tilde{x}$

$x \in [1.7, 1.8]$ $\Delta f(1.75) = |4.64(1,75)^3 \cdot 6(1.75)^2 + 1.5(1.75)| \cdot 0.05$

$\Delta f(1.75) = 0.455875$

$f(1.75) = 1.16(1.75)^4 - 2(1.75)^3 + 0.75(1,75)^2 - (1.75) + 3.6$

$= 4.3076$

$f(x) \in [4.3076562S - 0.455875, 4.3076562S + 0,455875]$

$f(x) \in [3.85178125, 4.7635312S]$

b)

$f(x) = \text{sen}(x) = \ln(2x)$

$f'(x) = \cos(x)\ln(2x) + \frac{\text{sen}(x)}{x}$

$\tilde{x} = \frac{2\pi}{3}$ $\varepsilon_a = 0.005$

$x \in [2.08939, 2,09959]$

$\Delta f\left(\frac{2\pi}{3}\right) = \left|\cos\left(\frac{2\pi}{3}\right) \cdot \ln\left(2 \cdot \frac{2\pi}{3}\right) + \text{sen}\left(\frac{2\pi}{3}\right) \times \frac{1}{\frac{2\pi}{3}}\right| \cdot 0.005$

$\Delta f\left(\frac{2\pi}{3}\right) = 0.03195$

$f\left(\frac{2\pi}{3}\right) = \operatorname{Sen}\left(\frac{2\pi}{3}\right) * \ln\left(2 \cdot \frac{2\pi}{3}\right) = 0.022734$

$f(x) \in (0.022734 + 0.03795,\ 0.022734 - 0.03795)$

$f(x) \in (0,054684,\ 0.058897)$