

D CSOPORT

① a) LA'SD B CSOPORT

b) -|| - -|| -

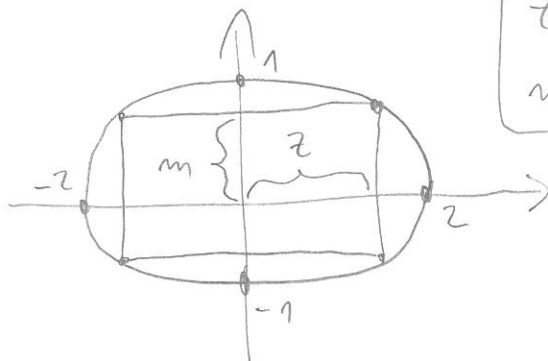
① c) +|| - -|| - :

$$T(x) = \frac{1 - \cos(2x)}{2}$$

② (LA'SD 93.00DAL)

ITT $a=2$ $b=1$

MEGOCDA'S:



$$z = \sqrt{2}$$
$$m = 1/\sqrt{2}$$

③ a) $f(x) = \ln(x)$ $f'(x) = \frac{1}{x}$ $f''(x) = -\frac{1}{x^2}$

$f(1) = 0$ $f'(1) = 1$ $f''(1) = -1$

$$T_2(x) = f(1) + f'(1) \cdot (x-1) + \frac{f''(1)}{2} \cdot (x-1)^2 =$$

$$= (x-1) - \frac{1}{2} \cdot (x-1)^2$$

1.00DAL

$$\textcircled{3} \text{ b) } T_2(1.1) = (1.1-1) - \frac{1}{2} \cdot (1.1-1)^2 =$$

$$= \frac{1}{10} - \frac{1}{2} \cdot \frac{1}{100}$$

$$\textcircled{3} \text{ c) } |f(1.1) - T_2(1.1)| = |R_2(1.1)| \leq \text{TAYLOR TÉTEL}$$

$$\leq \max_{1 \leq k \leq 1.1} \left| \frac{f^{(3)}(k)}{3!} \cdot (1.1-1)^3 \right| = \textcircled{\ddot{u}}$$

$$f^{(3)}(x) = \frac{d}{dx} \left(-\frac{1}{x^2} \right) = 2 \cdot \frac{1}{x^3}, \text{ így}$$

HIBA BECSLÉS

$$\textcircled{\ddot{u}} = \frac{1}{1000} \cdot \max_{1 \leq k \leq 1.1} \left| \frac{1}{3!} \cdot 2 \cdot \frac{1}{k^3} \right| = \frac{1}{1000} \cdot \frac{2}{3!} \cdot \frac{1}{1^3} = \frac{1}{3000}$$

$$\textcircled{4} \text{ a) } \int \frac{4e^{3x} - e^{-x}}{e^{2x}} dx = \int (4e^x - e^{3x}) dx =$$

$$= 4e^x - \frac{1}{3}e^{3x} + C$$

$$\textcircled{4} \text{ b) } \int (x^2+1) \cdot \operatorname{ch}(x) dx = \text{PARCIÁLIS}$$

INTEGRÁCIÓ KÉT SZER =

$$(x^2+3) \cdot \operatorname{sh}(x) - 2x \cdot \operatorname{ch}(x) + C$$

2. OLDAL