$$f(x) = e^{0.9x} - x^2$$

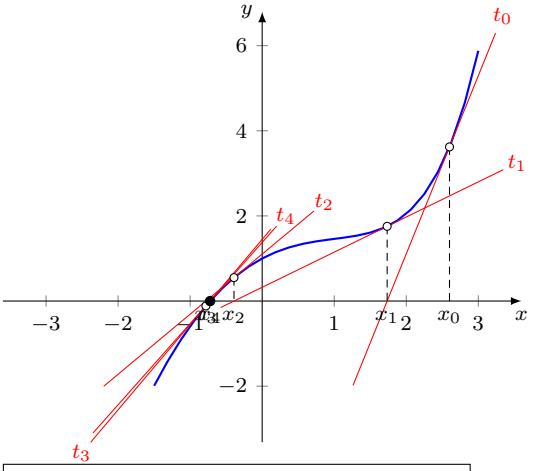
$$f'(x) \approx \frac{f(x+\Delta x) - f(x)}{\Delta x}, \quad \Delta x = 0.01$$

$$t_k(x) = f'(x_k) \cdot (x - x_k) + f(x_k)$$

$$x_0 = 2.6, \quad x_{k+1} = x_k - \frac{f(x_k)}{f'(x_k)}$$

n	x_k	$f(x_k)$	$f'(x_k)$	x_{k+1}
0	2.60000	3.62064	4.18396	1.73465
1	1.73465	1.75519	0.82550	−0.39150
2	−0.39150	0.54991	1.41144	−0.78110
3	−0.78110	−0.11490	2.00195	−0.72370
4	−0.72370	−0.00230	1.90735	−0.72249

$\Rightarrow$ $\boldsymbol{x \approx -0.72249}$



$f(x) = e^{0.9x} - x^2$

$t_0(x) = 4.18396 \cdot (x - 2.6) + 3.62064$

$t_1(x) = 0.8255 \cdot (x - 1.73465) + 1.75519$

$t_2(x) = 1.41144 \cdot (x + 0.3915) + 0.54991$

$t_3(x) = 2.00195 \cdot (x + 0.7811) - 0.1149$

$t_4(x) = 1.90735 \cdot (x + 0.7237) - 0.0023$