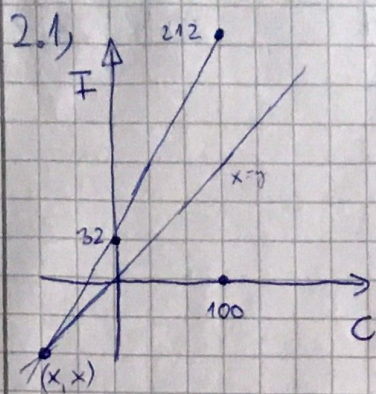


2, FUNCTIONS OF ONE VARIABLE



C	F
0	32
100	212

$$F = m \cdot C + b$$

$$32 = m \cdot 0 + b \rightarrow b = 32$$

$$212 = m \cdot 100 + 32$$

$$180 = m \cdot 100$$

$$m = 1,8$$

$$x = 1,8x + 32$$

$$-32 = 0,8x$$

$$\underline{\underline{x = -40}}$$

2.2,

$$f(x) = 5x + 4$$

$$f(y) = 24 = 5y + 4$$

$$5y = 20$$

$$\underline{\underline{y = 4}}$$

2.3,

$$10^{x^2 - 2x + 2} = 100 = 10^2 \quad / \log_{10}$$

$$x^2 - 2x + 2 = 2$$

$$x^2 - 2x = 0$$

$$x(x - 2) = 0 \rightarrow \begin{matrix} \nearrow x_1 = 0 \\ \rightarrow x_2 = 2 \end{matrix}$$

2.4,

$$x = ? \quad 1,03^x \geq 2$$

$$\ln(1,03^x) \geq \ln 2$$

$$x \cdot \ln(1,03) \geq \ln 2$$

$$x \geq \frac{\ln 2}{\ln 1,03} \approx 23,45 \rightarrow \underline{\underline{24 \text{ years}}}$$

2.5,

$$\ln\left(\frac{1}{e}\right) = \ln(e^{-1}) = \underline{\underline{-1}}$$