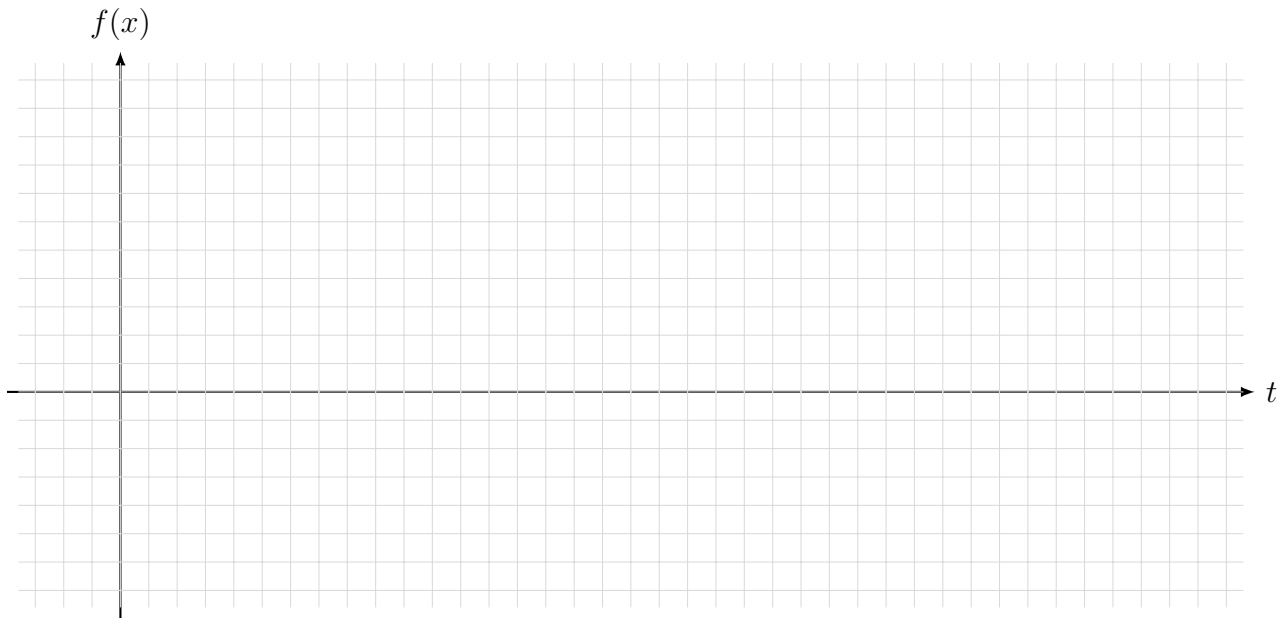


Sys 1

5%

1. Zeichnen sie die folgende Signale als Funktion:

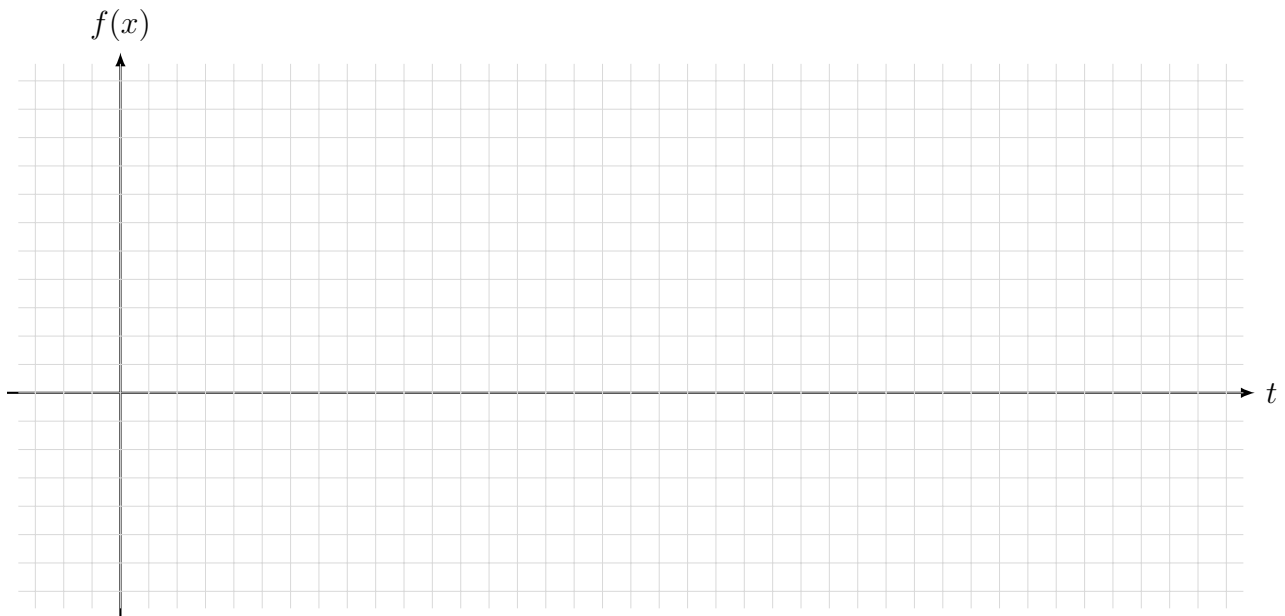
$$x(t) = 2 + \cos\left(\frac{\pi t}{2s} + \pi\right)$$



5%

2.

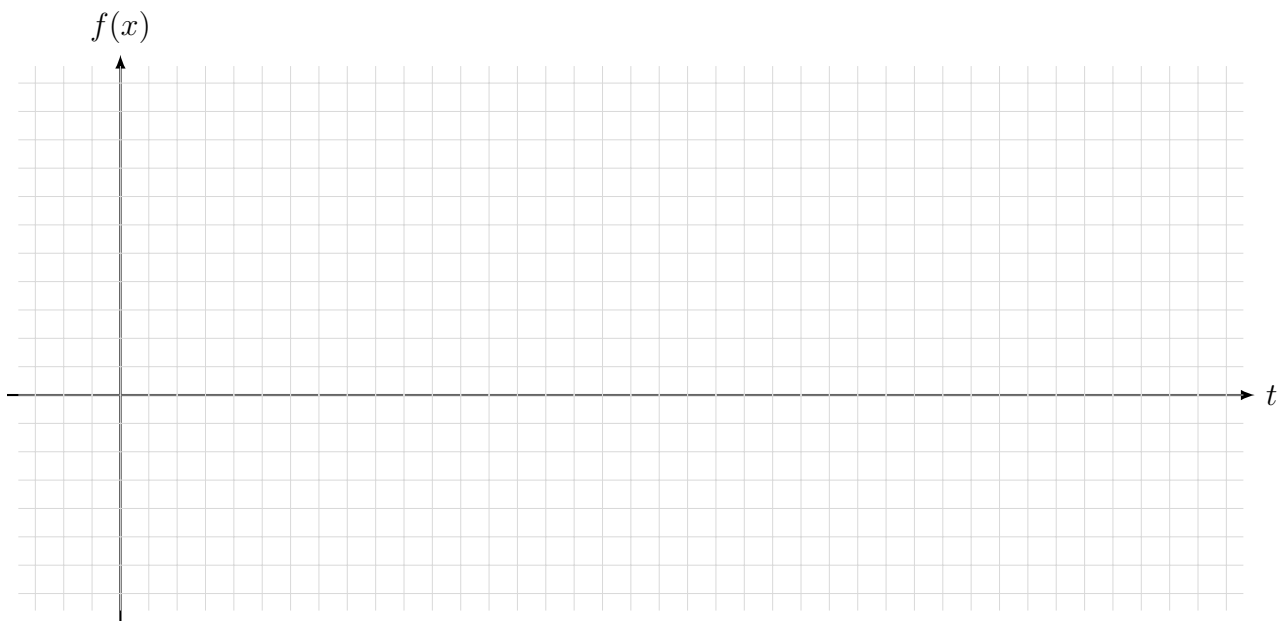
$$x(t) = 5e^{-t/0.5T} \cdot \varepsilon(t)$$



5%

3.

$$x(t) = \frac{2}{T} \cdot \text{rect}\left(\frac{T - T/2}{T/2}\right)$$



10%

4. Schreiben sie einen Matlab code, der diese Funktion als ein Plot darstellt.

A large empty rectangular box for writing the Matlab code.



Info2

Boolsche Algebra Übungen (quelle:ocw.mit.edu)



- | | |
|--|---|
| 1) $a + 0 =$ _____ | 14) $y + y\bar{y} =$ _____ |
| 2) $\bar{a} \cdot 0 =$ _____ | 15) $xy + x\bar{y} =$ _____ |
| 3) $a + \bar{a} =$ _____ | 16) $\bar{x} + y\bar{x} =$ _____ |
| 4) $a + a =$ _____ | 17) $(w + \bar{x} + y + \bar{z})y =$ _____ |
| 5) $a + ab =$ _____ | 18) $(x + \bar{y})(x + y) =$ _____ |
| 6) $a + \bar{a}b =$ _____ | 19) $w + [w + (wx)] =$ _____ |
| 7) $a(\bar{a} + b) =$ _____ | 20) $x[x + (xy)] =$ _____ |
| 8) $ab + \bar{a}b =$ _____ | 21) $\overline{(x + x)} =$ _____ |
| 9) $(\bar{a} + \bar{b})(\bar{a} + b) =$ _____ | 22) $\overline{(x + \bar{x})} =$ _____ |
| 10) $a(a + b + c + \dots) =$ _____ | 23) $w + (\overline{wxyz}) =$ _____ |
| For (11), (12), (13), $f(a, b, c) = a + b + c$ | 24) $\bar{w} \cdot \overline{(wxyz)} =$ _____ |
| 11) $f(a, b, ab) =$ _____ | 25) $xz + \bar{x}y + zy =$ _____ |
| 12) $f(a, b, \bar{a} \cdot \bar{b}) =$ _____ | 26) $(x + z)(\bar{x} + y)(z + y) =$ _____ |
| 13) $f[a, b, \overline{(ab)}] =$ _____ | 27) $\bar{x} + \bar{y} + xy\bar{z} =$ _____ |