ZV $X_1, X_2, \dots, X_n \sim \mathcal{N}(\mu, \sigma^2)$: $\Phi(x)$, $\varphi(u)$

$\sim \mathrm{Exp}(\lambda)$

$\sim \mathrm{Bin}(n, p)$

$\Phi' = \varphi$

$$\mathbb{P}(X_i \leq x) = \int_{-\infty}^{x} f(u)\,du$$

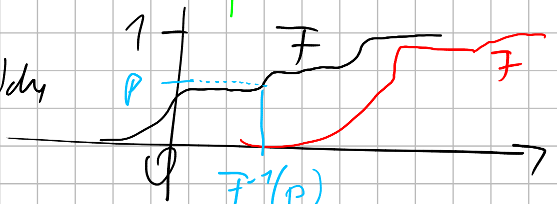
d....

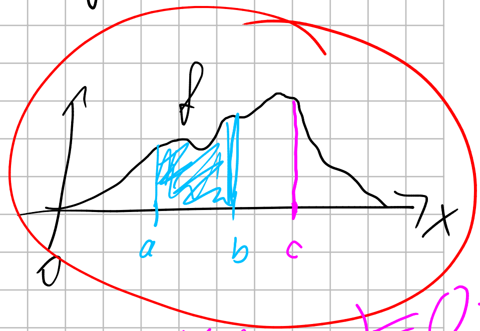
$$\mathbb{P}(X_i = x) = \int_{x}^{x} f(u)\,du = 0$$

$$= F(x) \quad : \quad F' = f$$

P....

$$\mathbb{P}(X \in (a,b]) = \int_{a}^{b} f(u)\,du$$



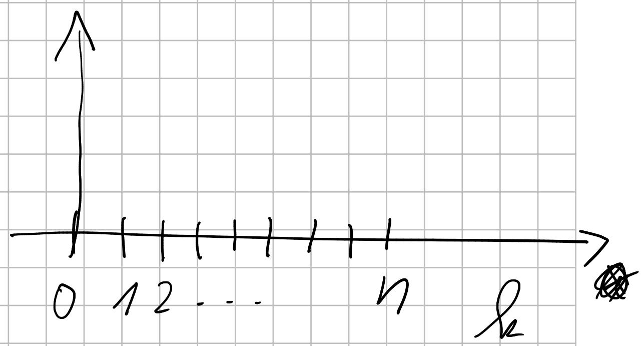




$$F^{-1}(p) = \inf\{x : F(x) \geq p\}$$

q....

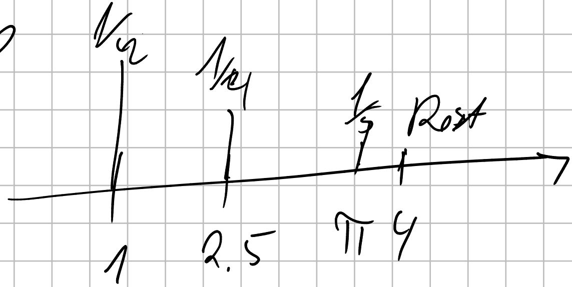
$\mathbb{P}(X = c) = 0 \;\forall c$

$$X \sim \mathrm{Bin}(n, p)$$




$$\mathbb{P}(X = k) = \binom{n}{k} p^k (1-p)^{n-k}, \quad k \in \{0, 1, \dots, n\}$$

$$\mathbb{P}(X = 0{,}73) = 0$$



$$X_1 := 0$$

$$X_{i+1} = \alpha \cdot X_i + \varepsilon_i \,, \quad i = 1, 2, \ldots$$

$$\varepsilon_i \sim \mathcal{N}(0, \sigma^2)$$

AR(1)

$$X_1 := 0$$

$$X_{i+1} := f(X_i) \,, \quad i = 1, 2, \ldots, n$$

$$= \alpha \cdot X_i + \varepsilon_i$$

Bsp.

Ergebnis: $(X_1, X_2, \ldots, X_n)$ !

c( X1, X2, X3 .. )

R:

```
X1 <- 0
Resultat <- X1
for( i in 1:n) {
    X1 <- f(X1)
    Resultat <- c(Resultat, X1 )
}
```

$$h(g(f(z)))$$

$$= (h \circ g \circ f)(z)$$

$$y \leftarrow f(z)$$

$$u \leftarrow g(y)$$

$$w \leftarrow h(u)$$

$$f(z)$$

$$z \rightsquigarrow f() \rightsquigarrow g() \rightsquigarrow h()$$

$$z \;|\!> f() \;|\!> g() \;|\!> h()$$

$$\rightsquigarrow \times$$

$$x \leftarrow 3$$

$$> 3 \rightarrow x$$