1) $P(X=k) = \binom{n}{k} \cdot p^k \cdot (1-p)^{n-k}$

↓ Kombinat. ↓ Treffer ↓ Würfe

$\binom{n}{k} = \frac{n!}{k!\,(n-k)!}$

$\binom{5}{2} = \frac{5!}{2! \cdot 3!} = 10$

a) $n = 20 \; ; \; k = 4 \; ; \; p = 1/6 \; ; \; q = 5/6$

$P(x=4) = \binom{20}{4} \cdot (1/6)^4 \cdot (5/6)^{16} = 0{,}2022$

b) $P(x=0) = \binom{20}{0} (1/6)^0 \underline{(5/6)^{20}} = 0{,}026$

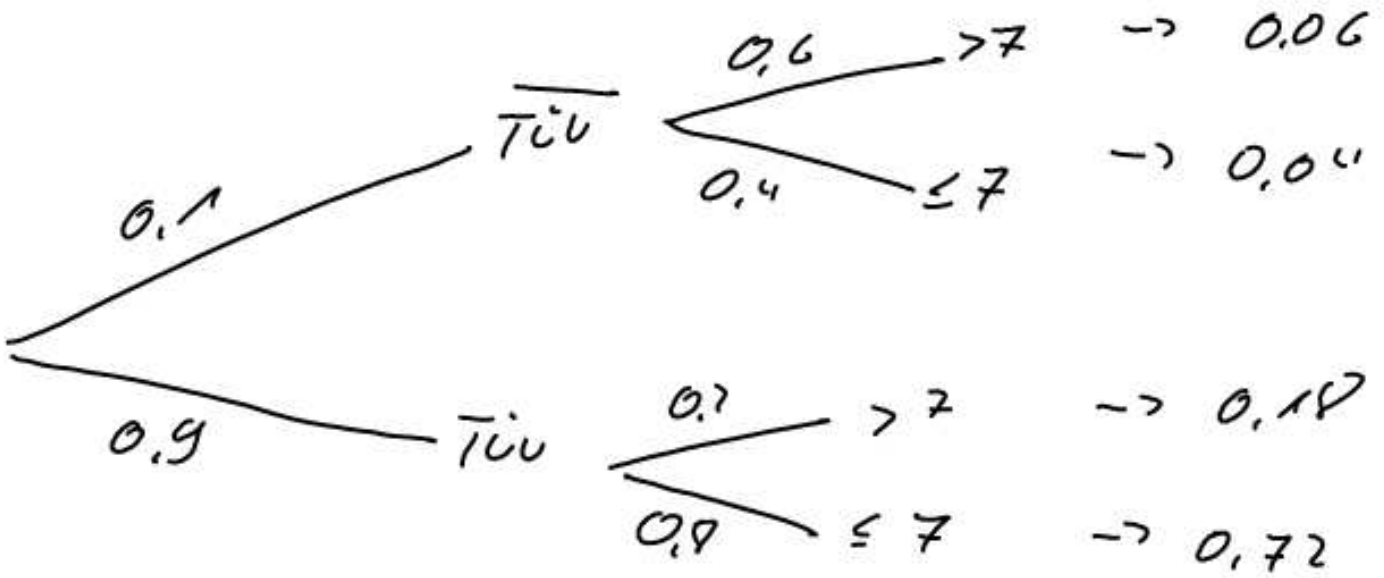
↓ ↓

c) $n = 5 \; ; \; k = 2 \; ; \; p = 3/20 \; , \; q = 17/20$

$P(x=2) = \binom{5}{2} \cdot (3/20)^2 \cdot (17/20)^3 = 0{,}138$

d) $n = 100 \; ; \; P(x \leq 9) \; , \; p = 1/6 \quad \Rightarrow P(x \leq 9) = 0{,}0213$

3)



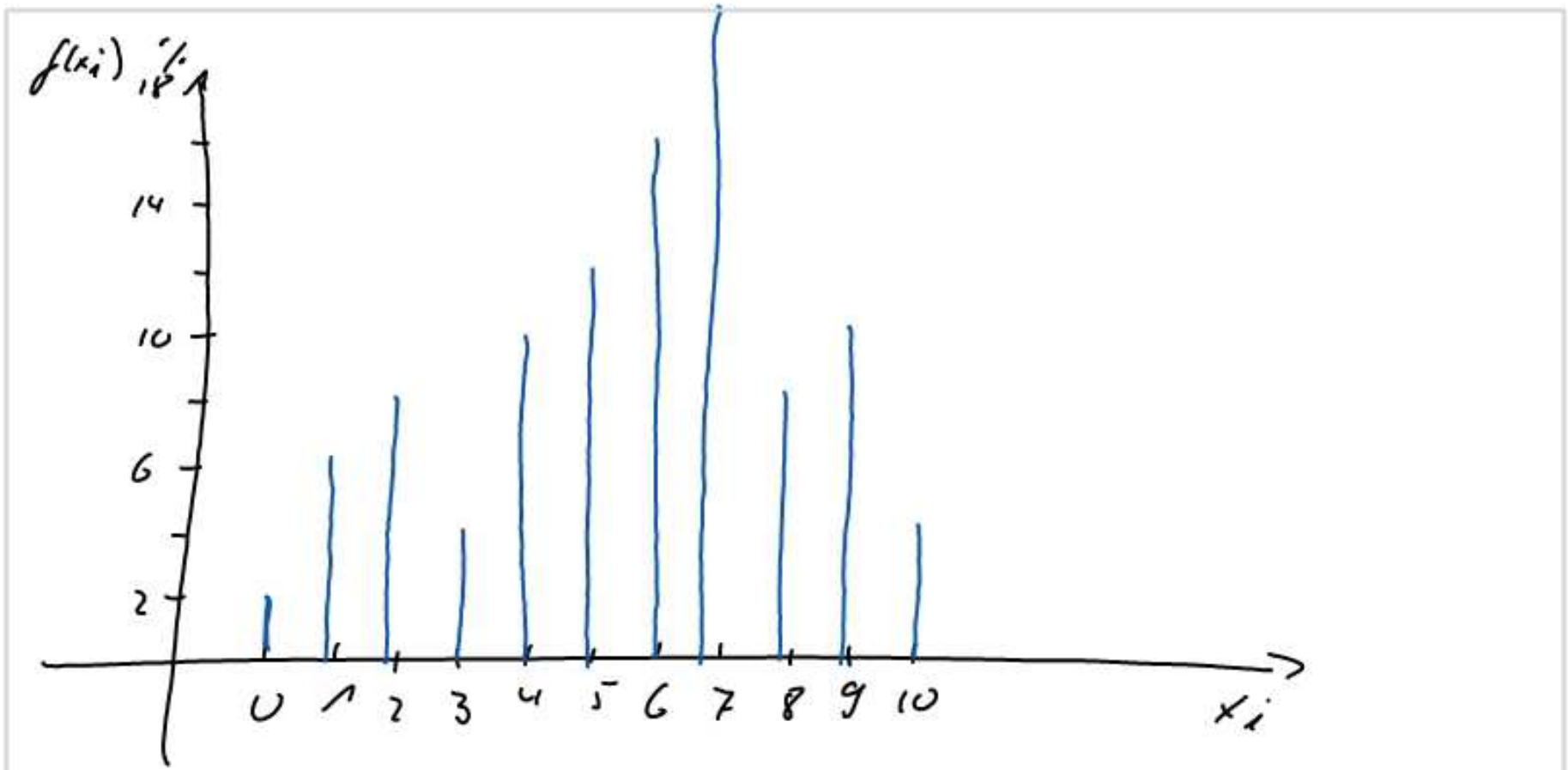
	>7	≤7	
$T\ddot{U}V$	0,18	0,72	0,9
$\overline{T\ddot{U}V}$	0,06	0,04	0,1
	0,24	0,76	1

$$P_{>7}(\overline{T\ddot{U}V}) = \frac{0,06}{0,24}$$

$$= 1/4$$

1)

x_i	0	1	2	3	4	5	6	7	8	9	10	n
$h(x_i)$	1	3	4	2	5	6	8	10	4	5	2	50
$f(x_i)$ (%)	2	6	8	4	10	12	16	20	8	10	4	100
$H(x_i)$	1	4	8	10	15	21	29	39	43	48	50	
$F(x_i)$ %	2	8	16	20	30	42	58	78	86	96	100	
$H_R(x_i)$	49	46	42	40	35	29	21	11	7	2	0	
$F_R(x_i)$ %	98	92	84	80	70	58	42	22	14	4	0	


f(xi) %
18
14
10
6
2
0
1
2
3
4
5
6
7
8
9
10
xi