

Kansen oefening 3 antwoorden

1. X p

$$0 \quad \frac{\binom{48}{6} \binom{4}{0}}{\binom{52}{6}} = 0,6028$$

$$1 \quad \frac{\binom{4}{1} \binom{48}{5}}{\binom{52}{6}} = 0,3364$$

$$2 \quad \frac{\binom{4}{2} \binom{48}{4}}{\binom{52}{6}} = 0,0573$$

$$3 \quad \frac{\binom{4}{3} \binom{48}{3}}{\binom{52}{6}} = 0,0034$$

$$4 \quad \frac{\binom{4}{4} \binom{48}{2}}{\binom{52}{6}} = 0,0001$$

$$E(X) = 0,46$$

2.

7	8	9	10	11	12	13
6	7	8	9	10	11	12
5	6	7	8	9	10	11
3	4	5	6	7	8	9
2	3	4	5	6	7	8
1	2	3	4	5	6	7
	1	2	3	4	5	6

Som S

S p

7	7	7	7	7	7	6
6	6	6	6	6	6	6
5	5	5	5	5	5	6
3	3	3	3	4	5	6
2	2	2	3	4	5	6
1	1	2	3	4	5	6
	1	2	3	4	5	6

Grootste G

G p

2	$1/36 = 0,0278$
3	$2/36 = 0,0556$
4	$3/36 = 0,0833$
5	$3/36 = 0,0833$
6	$4/36 = 0,1111$
7	$5/36 = 0,1389$
8	$5/36 = 0,1389$
9	$4/36 = 0,1111$
10	$3/36 = 0,0833$
11	$3/36 = 0,0833$
12	$2/36 = 0,0556$
13	$1/36 = 0,0278$

$$E(S) = 7,5$$

1	$1/36 = 0,0278$
2	$3/36 = 0,0833$
3	$5/36 = 0,1389$
4	$3/36 = 0,0833$
5	$8/36 = 0,2222$
6	$10/36 = 0,2778$
7	$6/36 = 0,1667$

$$E(G) = 4,89$$

3.

X	p
2	0,38
3	0,44
4	0,18

$$P(\text{A wint in 2}) = 0,2 \times 0,2 = 0,04$$

$$P(\text{B wint in 2}) = 0,3 \times 0,3 = 0,09$$

$$P(\text{C wint in 2}) = 0,5 \times 0,5 = 0,25$$

$$P(\text{A wint in 3}) = 0,2 \times 0,2 \times 0,3 \times 2 + 0,2 \times 0,2 \times 0,5 \times 2 = 0,064$$

$$P(\text{B wint in 3}) = 0,3 \times 0,3 \times 0,2 \times 2 + 0,3 \times 0,3 \times 0,5 \times 2 = 0,126$$

$$P(\text{C wint in 3}) = 0,5 \times 0,5 \times 0,2 \times 2 + 0,5 \times 0,5 \times 0,3 \times 2 = 0,25$$

$$E(X) = 2,8$$

4.

X	p
0	$4/5^4 = 0,4096$
1	$4/5^3 \times 1/5 \times 4 = 0,4096$
2	$4/5^2 \times 1/5^2 \times 6 = 0,02048$
3	$4/5 \times 1/5^3 \times 4 = 0,0256$
4	$1/5^4 = 0,0016$

$$E(X) = 0,53376$$