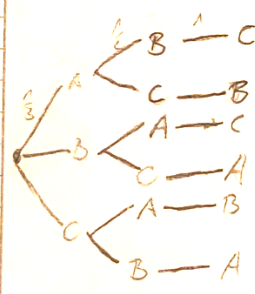


S. 613

a)  $\Omega = \{ \overset{w_1}{(ABC)}, \overset{w_2}{(ACB)}, \overset{w_3}{(BAC)}, \overset{w_4}{(BCA)}, \overset{w_5}{(CAB)}, \overset{w_6}{(CBA)} \}$

$w_i$	(ABC)	(ACB)	(BAC)	(BCA)	(CAB)	(CBA)
$G(w_i)$ "Gewinn"	2	2	1	1	-3	-3



b)  $G=2$ : A wird als erstes gezogen  $\{ (ABC), (ACB) \}$   
 $G=-3$ : " " " letztes "  $\{ (BCA), (CBA) \}$

$G \leq 2$ :  $\Omega$  "sicheres Ereignis"

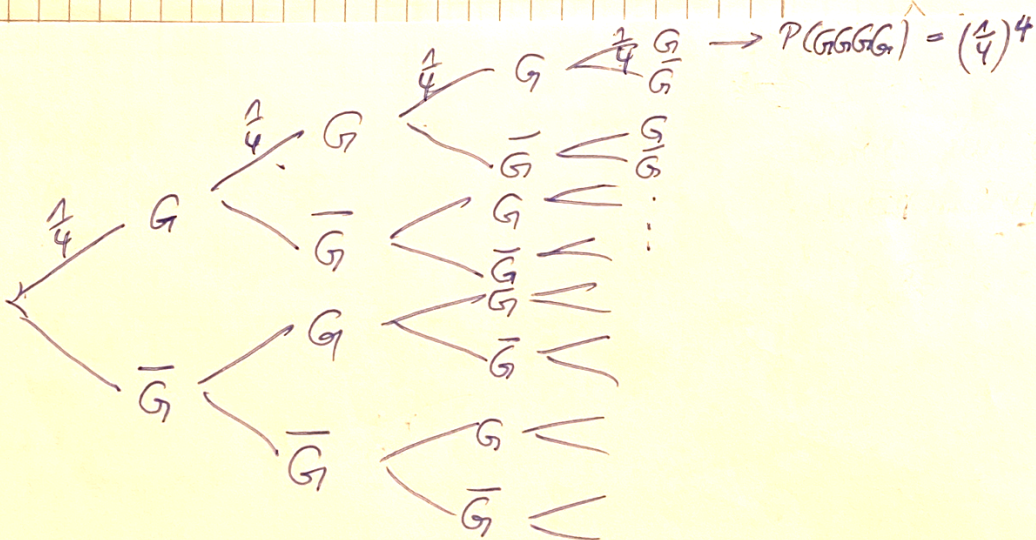
c)  $P(G \leq 1) = P(G=1) + P(G=-3) = P(\{ (BAC), (CAB), (BCA), (CBA) \}) = \frac{4}{6} = \frac{2}{3}$

Zusatz: Geben sie die Wahrscheinlichkeitsverteilung an!

$g_i$	-3	1	2
$Q(G=g_i)$	$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$
$P(G=g_i)$			

S. 614

a)



$|\Omega| = 2 \cdot 2 \cdot 2 \cdot 2 = 16$

$|\Omega| = \{ (GGGG), (GGG\bar{G}), (GG\bar{G}\bar{G}), \dots, (\bar{G}\bar{G}\bar{G}\bar{G}) \}$

b)  $X=0$ : "keinmal gelb getroffen"  $E_1 = \{ (\bar{G}\bar{G}\bar{G}\bar{G}) \}$

$X=2$ : "zweimal — " — "  $E_2 = \{ (GG\bar{G}\bar{G}), (G\bar{G}\bar{G}G), (\bar{G}\bar{G}GG), (G\bar{G}G\bar{G}), (\bar{G}GG\bar{G}), (\bar{G}\bar{G}\bar{G}G) \}$

$X \leq 1$ : "höchstens einmal gelb getroffen"

$E_3 = \{ (\bar{G}\bar{G}\bar{G}\bar{G}), (\bar{G}\bar{G}\bar{G}G), (\bar{G}\bar{G}G\bar{G}), (\bar{G}G\bar{G}\bar{G}), (G\bar{G}\bar{G}\bar{G}) \}$

c)  $P(X=0) = (\frac{3}{4})^4 \approx 31,64\%$

$P(X=2) = 6 \cdot (\frac{1}{4})^2 \cdot (\frac{3}{4})^2 = 21,09\%$

$P(X \leq 1) = P(X=0) + P(X=1) = (\frac{3}{4})^4 + 4 \cdot \frac{1}{4} \cdot (\frac{3}{4})^3 = 73,83\%$