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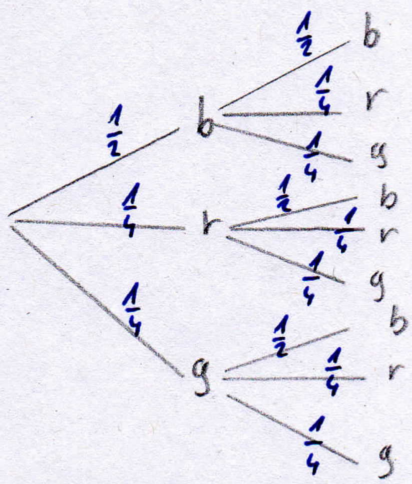
Nr. 1)



e_i	bb	br	bg	rb	rr
$P(e_i)$	$\frac{1}{2}\cdot\frac{1}{2}=\frac{1}{4}$	$\frac{1}{2}\cdot\frac{1}{4}=\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{16}$

e	rg	gb	gr	gg
$P(e_i)$	$\frac{1}{16}$	$\frac{1}{8}$	$\frac{1}{16}$	$\frac{1}{16}$

Nr. 2)

a) Fig. 1) $P(\text{blau}) = \frac{3}{6} = \frac{1}{2}$; $P(\text{grün}) = \frac{2}{6} = \frac{1}{3}$; $P(\text{gelb}) = \frac{1}{6}$

Fig. 2) $P(\text{blau}) = \frac{4}{16} = \frac{1}{4}$; $P(\text{grün}) = \frac{8}{16} = \frac{1}{2}$; $P(\text{gelb}) = \frac{4}{16} = \frac{1}{4}$

b) Fig. 1) $P(E) = P(\text{gelb oder blau}) = \frac{4}{6} = \frac{2}{3}$

Fig. 2) $P(E) = P(\text{gelb} \cup \text{blau}) = \frac{8}{16} = \frac{1}{2}$

c) $P(E) = P(\text{gelb} \cup \text{blau}) = 0{,}46 + 0{,}21 = 0{,}67 = 67\%$

Nr. 3) 4 rot 3 blau

a) $P(rr) = \frac{4}{7}\cdot\frac{4}{7} = \frac{16}{49}$

b) $P(br; rb) = \frac{4}{7}\cdot\frac{3}{7} + \frac{3}{7}\cdot\frac{4}{7} = 2\cdot\frac{4}{7}\cdot\frac{3}{7} = \frac{24}{49}$

c) $P(\text{mindestens eine rot}) = 1 - P(\text{keine rot}) = 1 - \frac{3}{7}\cdot\frac{3}{7} = \frac{40}{49}$

d) $P(\text{höchstens eine blau}) = P(rr) + P(rb) + P(br)$

$$= \frac{4}{7}\cdot\frac{4}{7} + \frac{4}{7}\cdot\frac{3}{7} + \frac{3}{7}\cdot\frac{4}{7} = \frac{40}{49}$$

oder

$P(\text{höchstens eine blau}) = 1 - P(bb) = 1 - \frac{3}{7}\cdot\frac{3}{7} = \frac{40}{49}$

O. Fell