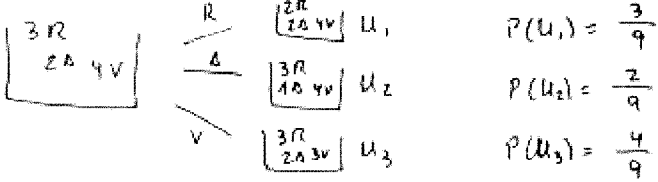
(2)



U_1 $P(U_1) = \frac{3}{9}$

U_2 $P(U_2) = \frac{2}{9}$

U_3 $P(U_3) = \frac{4}{9}$

a) A = "2R y 1 V"

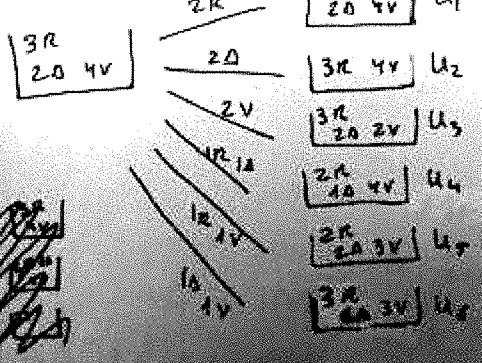
$$P(A) = P(A/U_1)P(U_1) + P(A/U_2)P(U_2) + P(A/U_3)P(U_3)$$

$$P(A/U_1) = \frac{2}{8}\frac{1}{7}\frac{4}{6}\binom{3}{2} = \frac{1}{42}\frac{3!}{2!} = \frac{6}{42\cdot 2} = \frac{3}{42} = \frac{1}{14}$$

$$P(A/U_2) = \frac{3}{8}\frac{2}{7}\frac{4}{6}\binom{3}{2} = \frac{3}{42}\frac{3!}{2!} = \frac{9}{42} = \frac{3}{14}$$

$$P(A/U_3) = \frac{3}{8}\frac{2}{7}\frac{3}{6}\binom{3}{2} = \frac{3}{56}\frac{3!}{2!} = \frac{9}{56}$$

b)



U_1 $P(U_1) = \frac{\binom{3}{2}}{\binom{9}{2}} = \frac{3!2!7!}{9!2!} = \frac{3\cdot 2}{9\cdot 8}$

U_2 $P(U_2) = \frac{\binom{3}{2}}{\binom{9}{2}}$

U_3 $P(U_3) = \frac{\binom{3}{2}}{\binom{9}{2}}$

U_4 $P(U_4) = \frac{\binom{3}{1}\binom{2}{1}}{\binom{9}{2}}$

U_5 $P(U_5) = \frac{\binom{3}{1}\binom{4}{1}}{\binom{9}{2}}$

U_6 $P(U_6) = \frac{\binom{2}{1}\binom{4}{1}}{\binom{9}{2}}$

- B = "bola azul"

$$P(B) = \sum_{i=1}^{6} P(B/U_i)P(U_i)$$

$P(B/U_1) = \frac{2}{7}$ $P(B/U_2) = 0$ $P(B/U_3) = \frac{2}{7}$ $P(B/U_4) = \frac{1}{7}$

$P(B/U_5) = \frac{2}{7}$ $P(B/U_6) = \frac{1}{7}$

- $P(U_2 \cup U_4 \cup U_6 / B) = P(U_2/B) + P(U_4/B) + P(U_6/B)$

$P(U_2/B) = \frac{P(B/U_2)P(U_2)}{P(B)} = 0$ $P(U_4/B) = \frac{P(B/U_4)P(U_4)}{P(B)}$ $P(U_6/B)$