Taller 8 - Probabilidad

Probabilidad condicional y total

2)

a. $P(R) = P(1) \cdot P(R|1) + P(2) \cdot P(R|2)$

$P(R) = \frac{1}{3} \cdot \frac{3}{10} + \frac{2}{3} \cdot \frac{6}{10} = \frac{1}{10} + \frac{4}{10} = \frac{5}{10} = \frac{1}{2}$

b. $P(N) = P(1) \cdot P(N|1) + P(2) \cdot P(N|2)$

$P(N) = \frac{1}{3} \cdot \frac{1}{10} + \frac{2}{3} \cdot \frac{2}{10} = \frac{1}{30} + \frac{4}{30} = \frac{5}{30} = \frac{1}{6}$

$P(A \mid B) = \frac{P(A) \cdot P(B \mid A)}{P(B)}$

c. $P(1 \mid N) = \frac{1/3 \cdot 1/10}{1/6} = \frac{1}{5}$

d. $P(2 \mid N) = \frac{2/3 \cdot 2/10}{1/6} = \frac{4}{5}$

Diagrama: