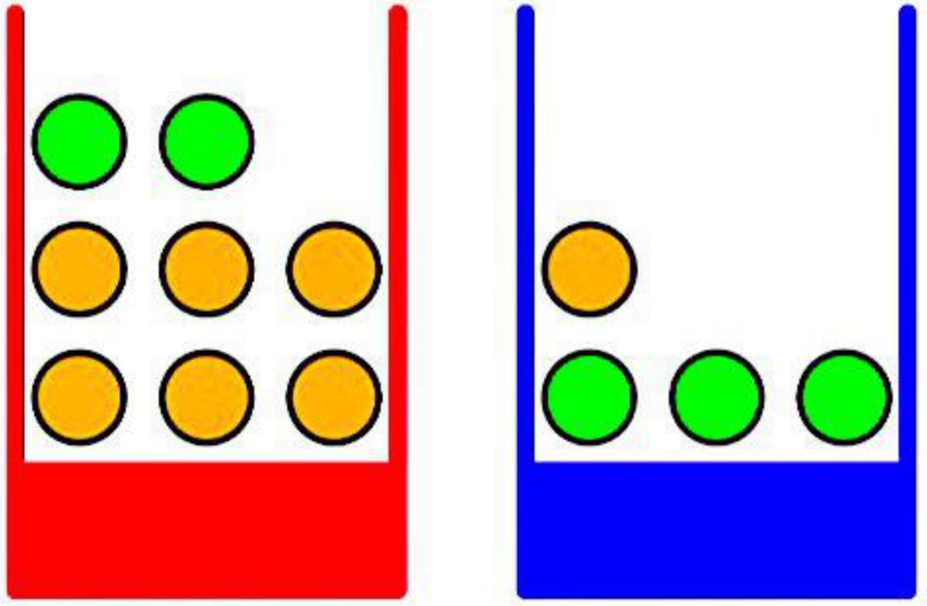
Ejercicio: Para

$p(B=r) = 0.4$ y $p(B=b) = 0.6$,

$p(B=r) + p(B=b) = 1$. y



a: apple

o: orange.

B: Box

F: Fruit.

según la figura, encontrar:

$p(F=a) = ?$

$p(F=o) = ?$

$p(B=r \mid F=o) = ?$

$p(B=b \mid F=o) = ?$

$p(B=r \mid F=a) = ?$

$p(B=b \mid F=a) = ?$

TALLER

Para $P(B=r)=0,4$ y $P(B=b)=0,6$

$P(B=r)+P(B=b)=1$

Encontrar:

$$P(F=9)=\frac{2+3}{12}=\frac{5}{12}$$

$$P(F=0)=\frac{6+1}{12}=\frac{7}{12}$$

$$P(B=r|F=0)=\frac{P(F=0|B=r)\,P(B=r)}{P(F=0)}$$

$$P(F=0|B=r)=\frac{\#F=0}{\#f \text{ en } B=r}=\frac{6}{8}=\frac{3}{4}$$

$$P(B=r|F=0)=\frac{\frac{3}{4}*0,4}{\frac{7}{12}}=\frac{18}{35}\approx 0,51$$

$$P(B=b|F=0)=\frac{P(F=0|B=b)\,P(B=b)}{P(F=0)}$$

$$P(F=0|B=b)=\frac{\#F=0}{\#f \text{ en } B=b}=\frac{1}{4}$$

DD MM AA

$$P(B=b \mid F=0) = \frac{\frac{1}{4} * 0{,}6}{\frac{7}{12}} = \frac{9}{35} \simeq 0{,}26$$

$$P(B=r \mid F=a) = \frac{P(F=a \mid B=r)\,P(B=r)}{P(F=a)}$$

$$P(F=a \mid B=r) = \frac{\#\ F=a}{\#\ F \text{ en } B=r} = \frac{2}{8} = \frac{1}{4}$$

$$P(B=r \mid F=a) = \frac{\frac{1}{4} * 0{,}4}{\frac{5}{12}} = \frac{6}{25} = 0{,}24.$$

$$p(B=b \mid F=a) = \frac{p \mid F=a \mid B=b)\,P(B=b)}{P(F=a)}$$

$$p \mid F=a \mid B=b) = \frac{\#\ F=a}{\#\ F \text{ en } B=b} = \frac{3}{4}$$

$$p(B=b \mid f=a) = \frac{\frac{3}{4} * 0{,}6}{\frac{5}{12}} = \frac{27}{25} \simeq 1{,}08.$$