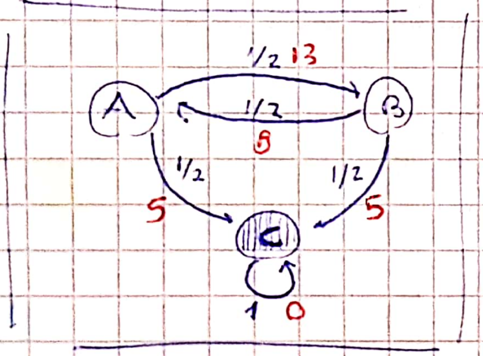
5.14 Rata, laberinto, 3 rendijas. Inicialmente, elige al azar. C/ vez que vuelve a su posición inicial, elige al azar entre las dos rendijas que no eligió.

- El primer camino → + 8 hs.
- El segundo " → + 13 hs
- El tercero " → + 5 hs y sale.



$(D_1 \mid P_1 = A) = 13$

$(D_1 \mid P_2 = B) = 8$

$(D_1 \mid P_3 = C) = 5$

$G_0 = D_1 + G_1, \quad G_1 = D_2 + G_2, \ldots$

$$G_0 = \begin{cases} 8 + G_1 | A & p = 1/3 \\ 13 + G_1 | B & p = 1/3 \\ 5 & p = 1/3 \end{cases}$$

$$G_m | A = \begin{cases} 13 + G_{m+1} | B & p = 1/2 \\ 5 & p = 1/2 \end{cases}$$

$$G_m | B = \begin{cases} 8 + G_{m+1} | A & p = 1/2 \\ 5 & p = 1/2 \end{cases}$$

$$G_m | A \overset{iid}{=} G_{m+1} | A \quad \forall m$$
$$B \qquad\quad B$$

$$\begin{cases} 3 \cdot \mathbb{E}[G_0] = 8 + \mathbb{E}[G_m | A] + 13 + \mathbb{E}[G_m | B] + 5 \\ 2 \cdot \mathbb{E}[G_m | A] = 13 + \mathbb{E}[G_m | B] + 5 \\ 2 \mathbb{E}[G_m | B] = 8 + \mathbb{E}[G_m | A] + 5. \end{cases}$$

Resolviendo el sistema,

$\mathbb{E}[G_0] = 19.$