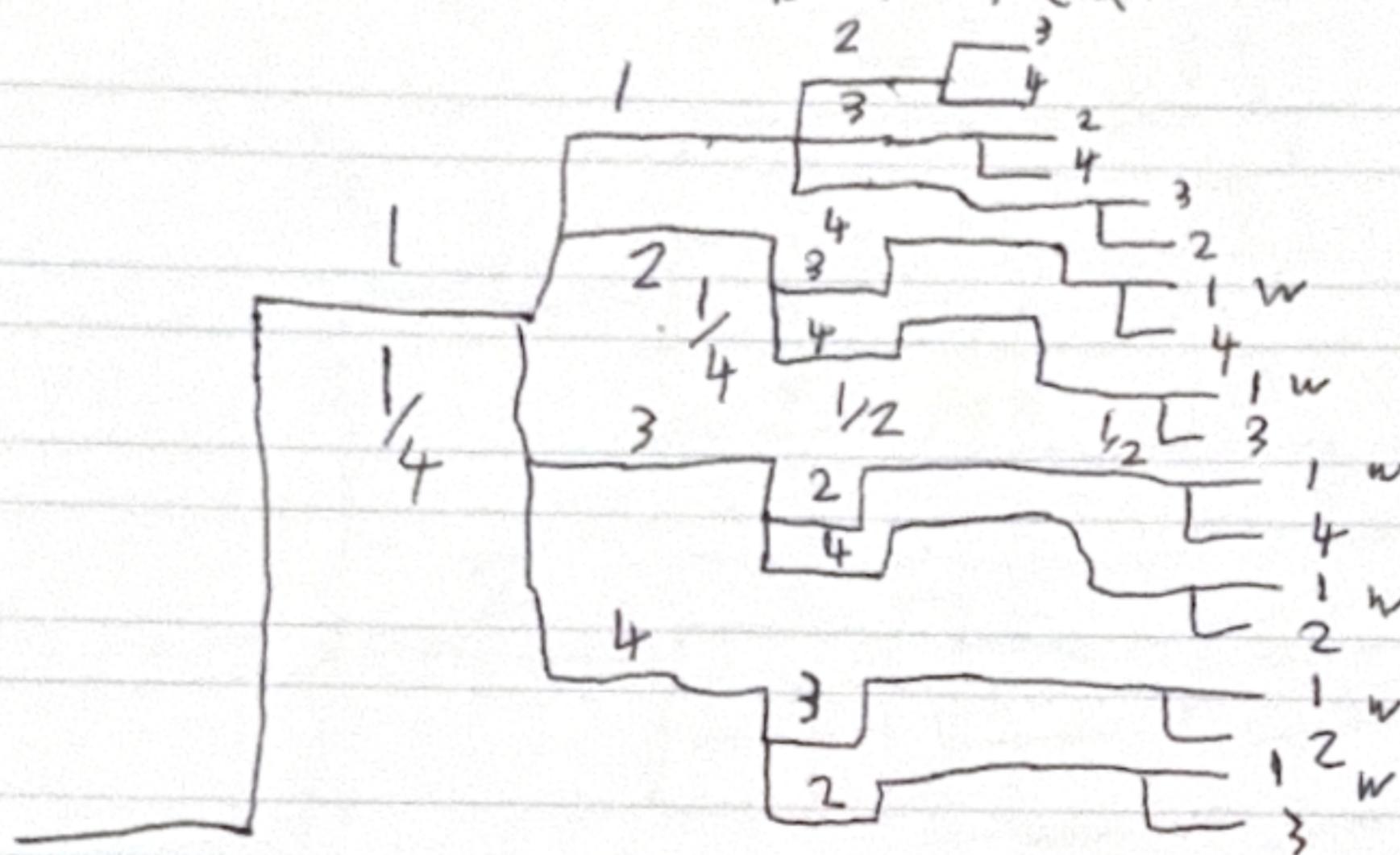


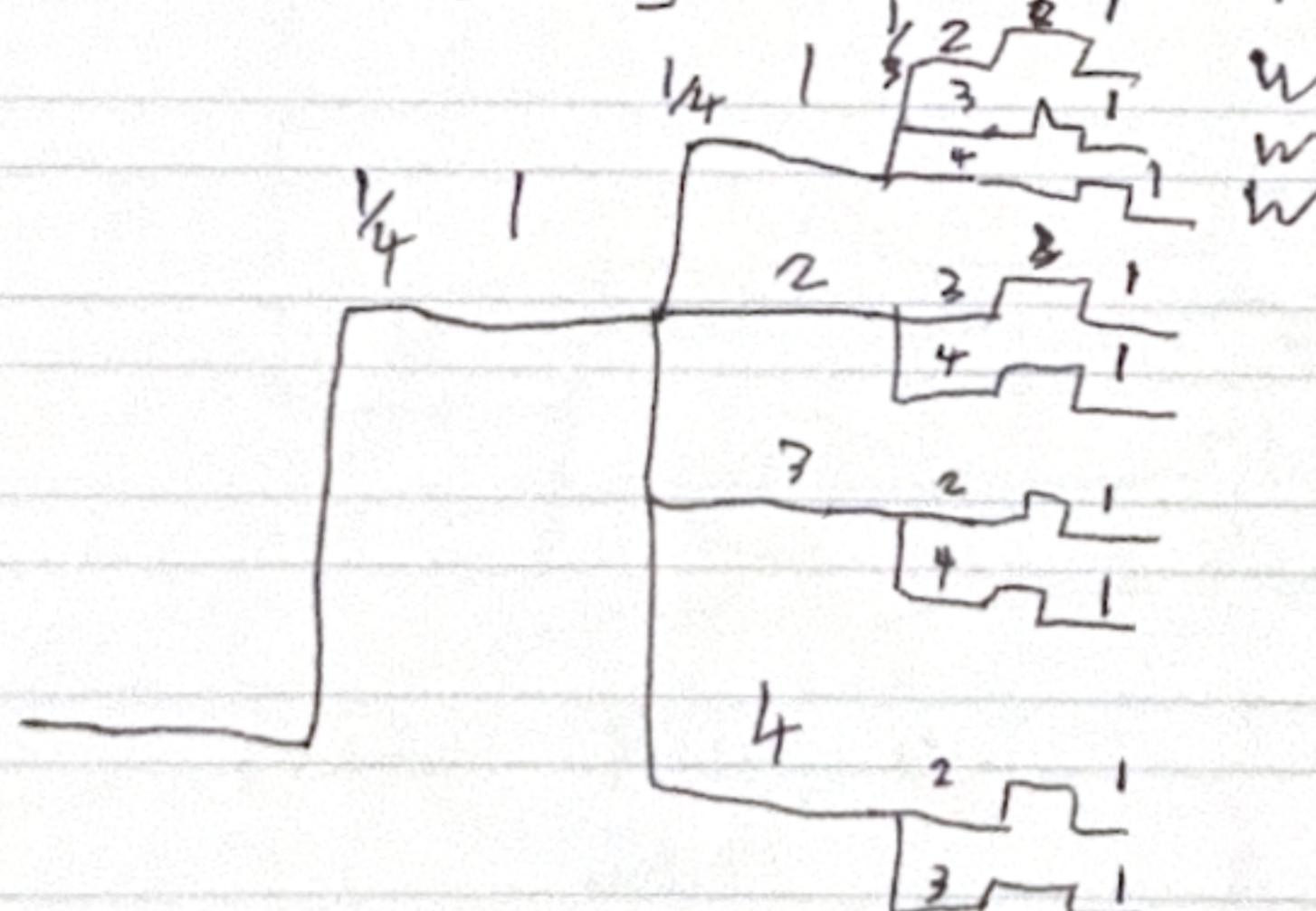
1 The Four-Door Deal



Prize Init Rev Switch
PICK PICK

12

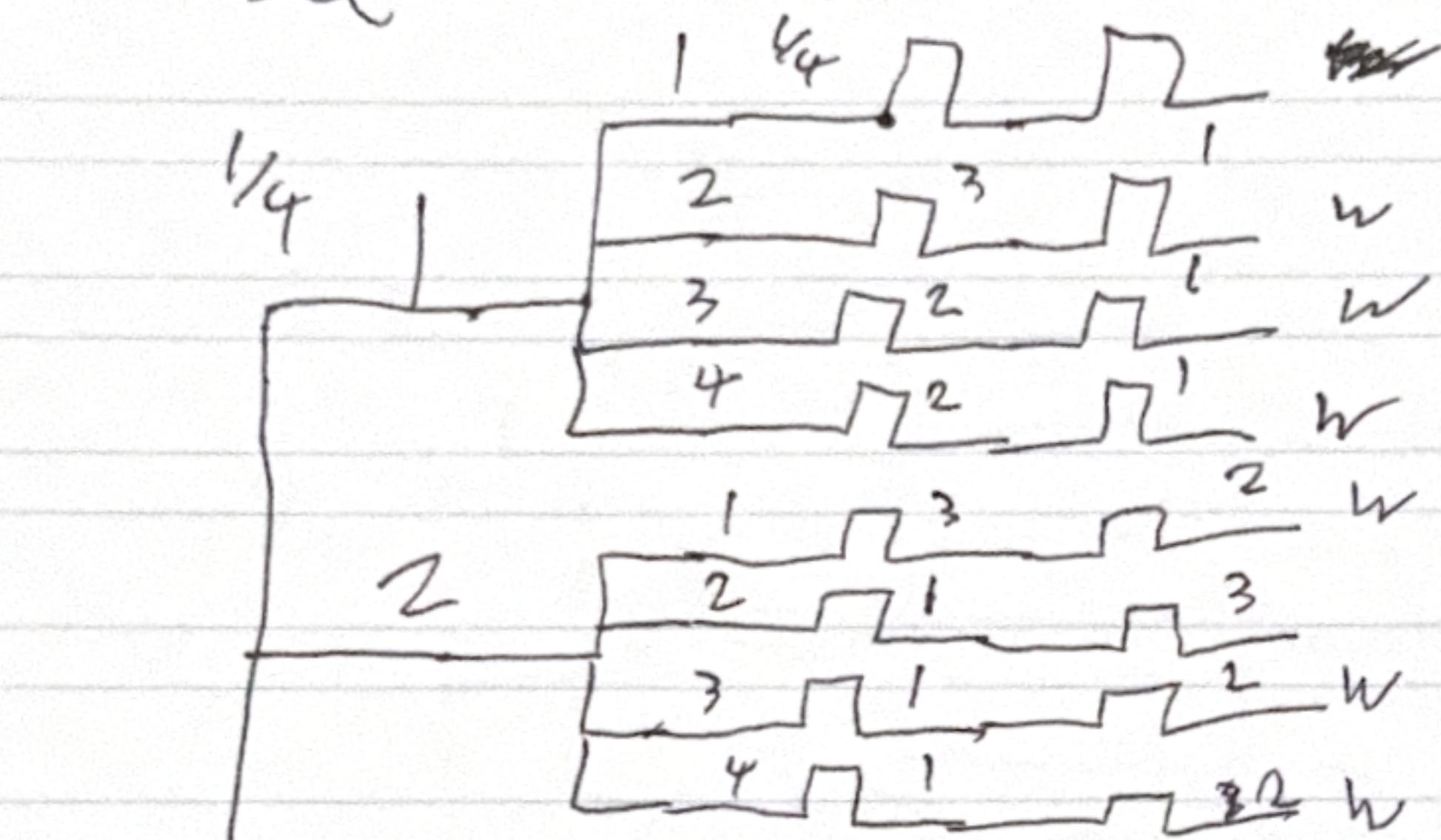
$$\Pr[w] = \frac{4}{12} \times \left(\frac{1}{4} \times \frac{1}{4} \times \frac{1}{2} \times \frac{1}{2}\right) = \frac{1}{32} = \frac{3}{8}$$



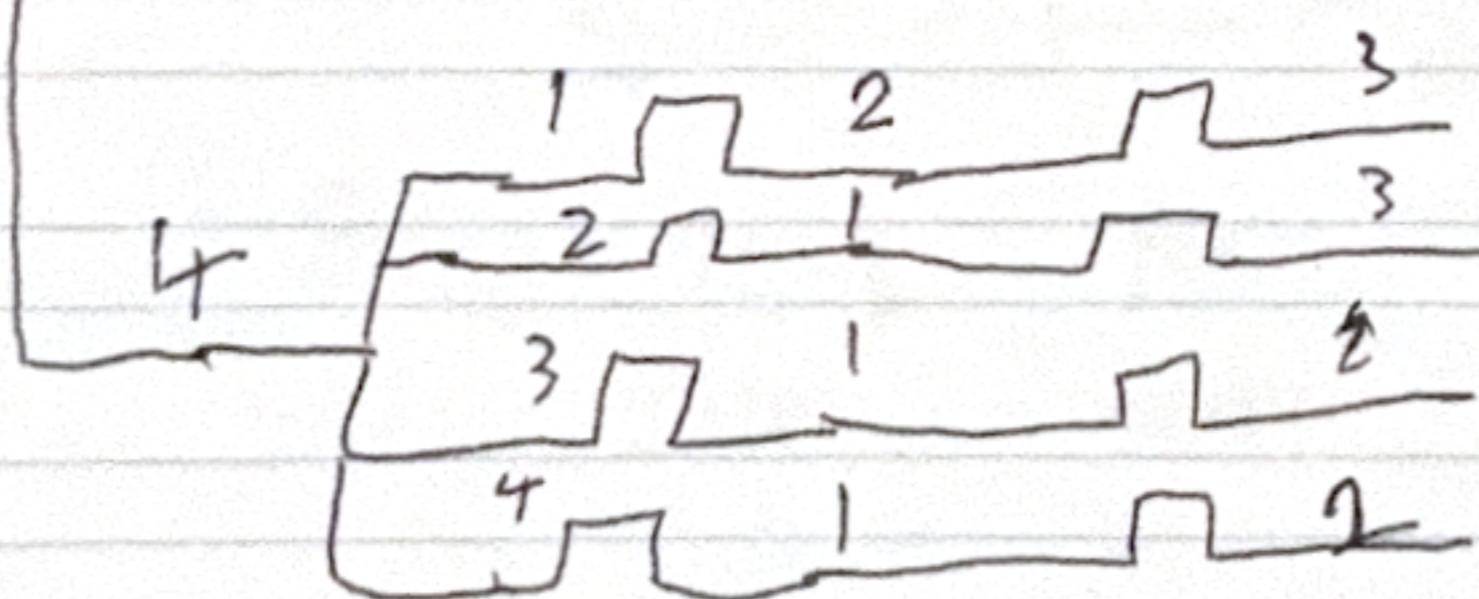
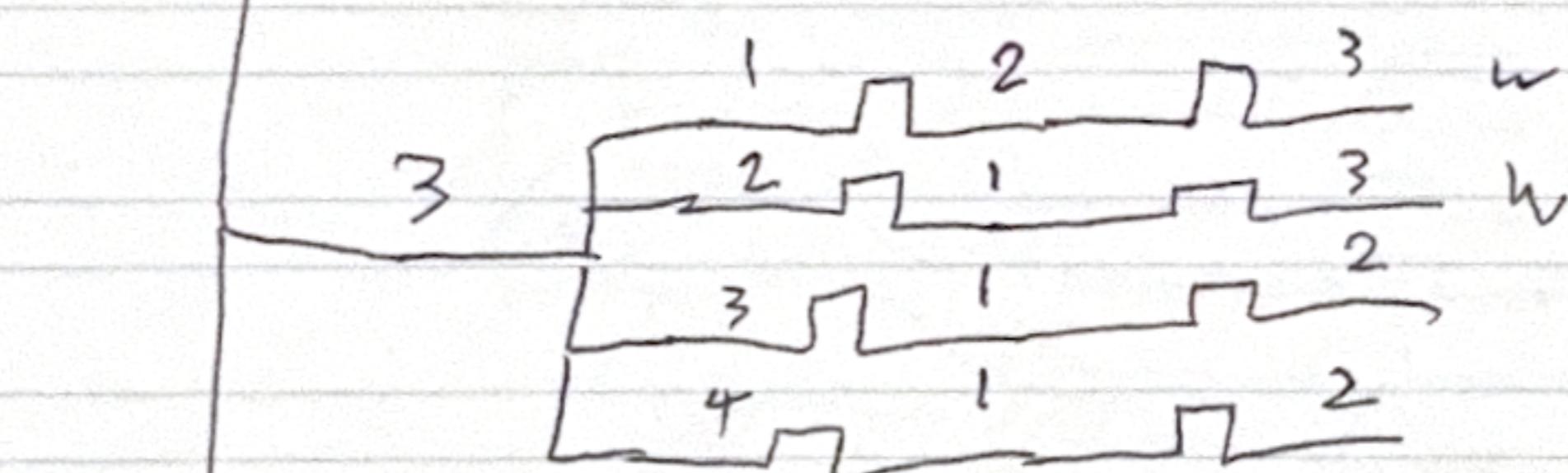
$$4 \times (3 \times \left(\frac{1}{4} \times \frac{1}{4} \times \frac{1}{3}\right)) = \frac{1}{4} = \Pr[w]$$

Prize Init Rev Stay
PICK PICK

2 Earliest Door 2 3

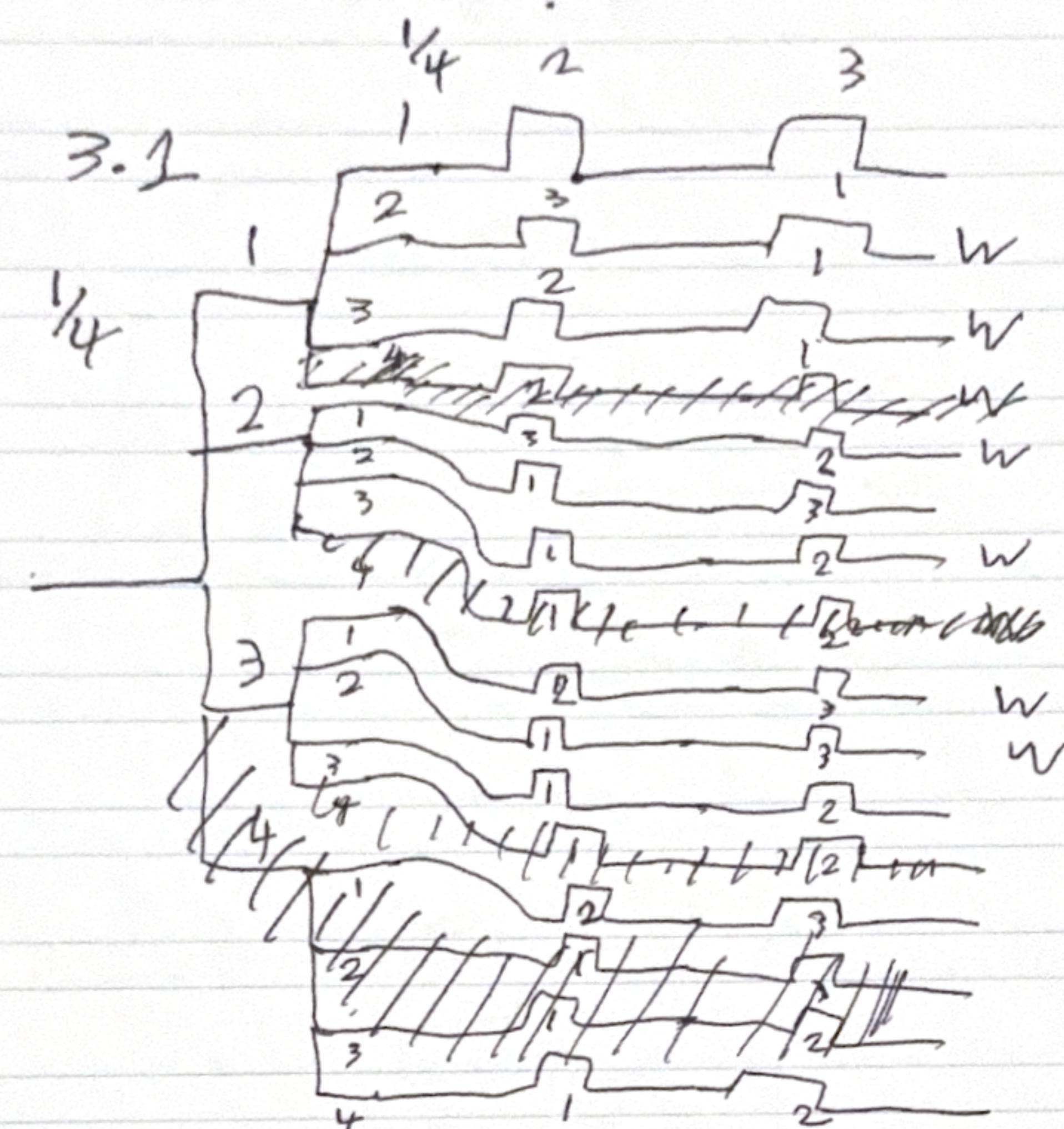


$$\frac{8}{16} \times \frac{1}{16} = \frac{1}{2}$$



Prize	Pick	Rev	Pick
Hit			Early

3 The 3 doors version revisited

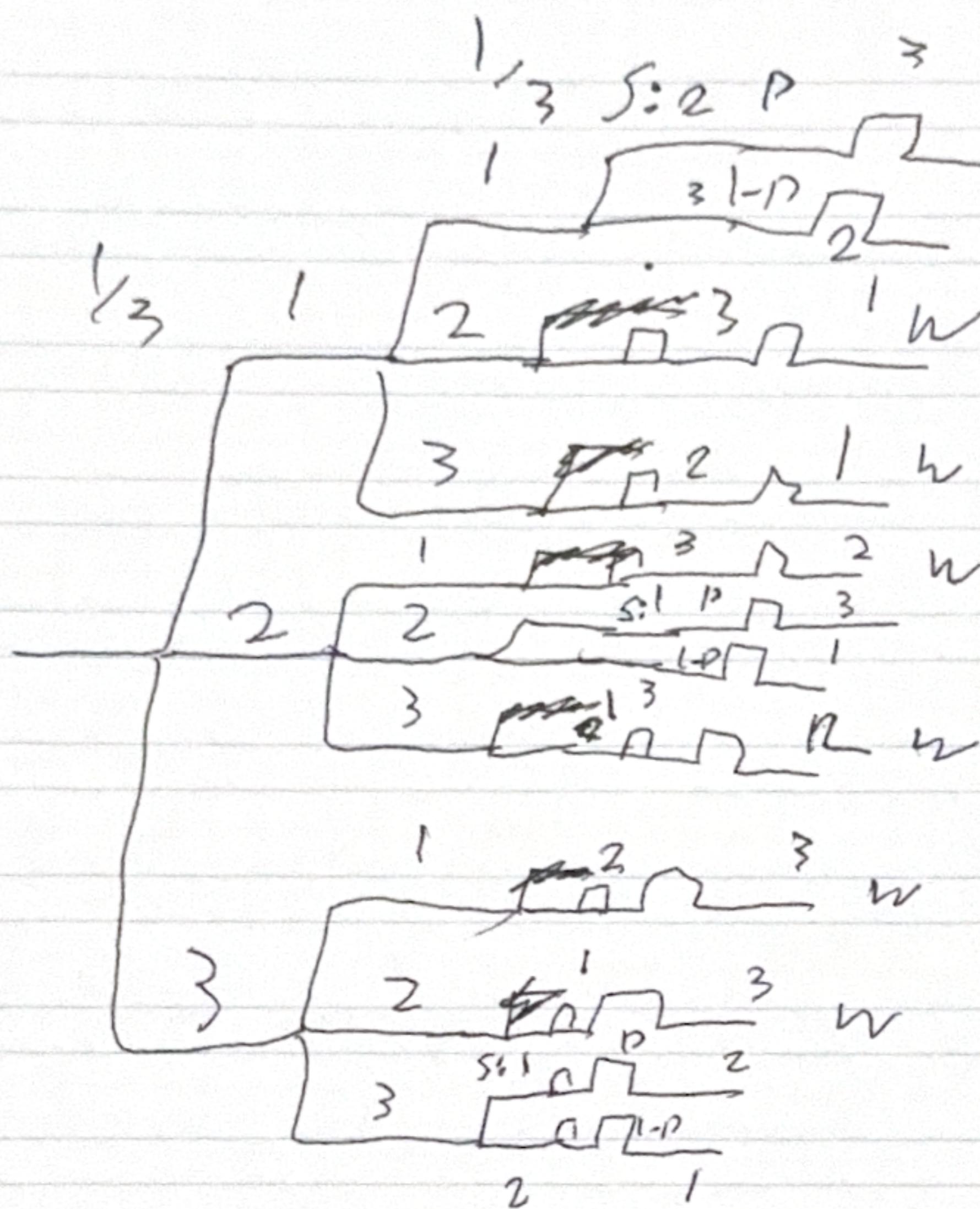


Prize Pick	Rev Pick
1st	Early switch
Shaw	

$$8 \times \frac{1}{4} \neq \frac{1}{2}$$

$$\text{Pr}[W] = 6 \times \frac{1}{3} \times \frac{1}{3} = \frac{6}{9}$$

3.2



Prize Hit Rev Switch

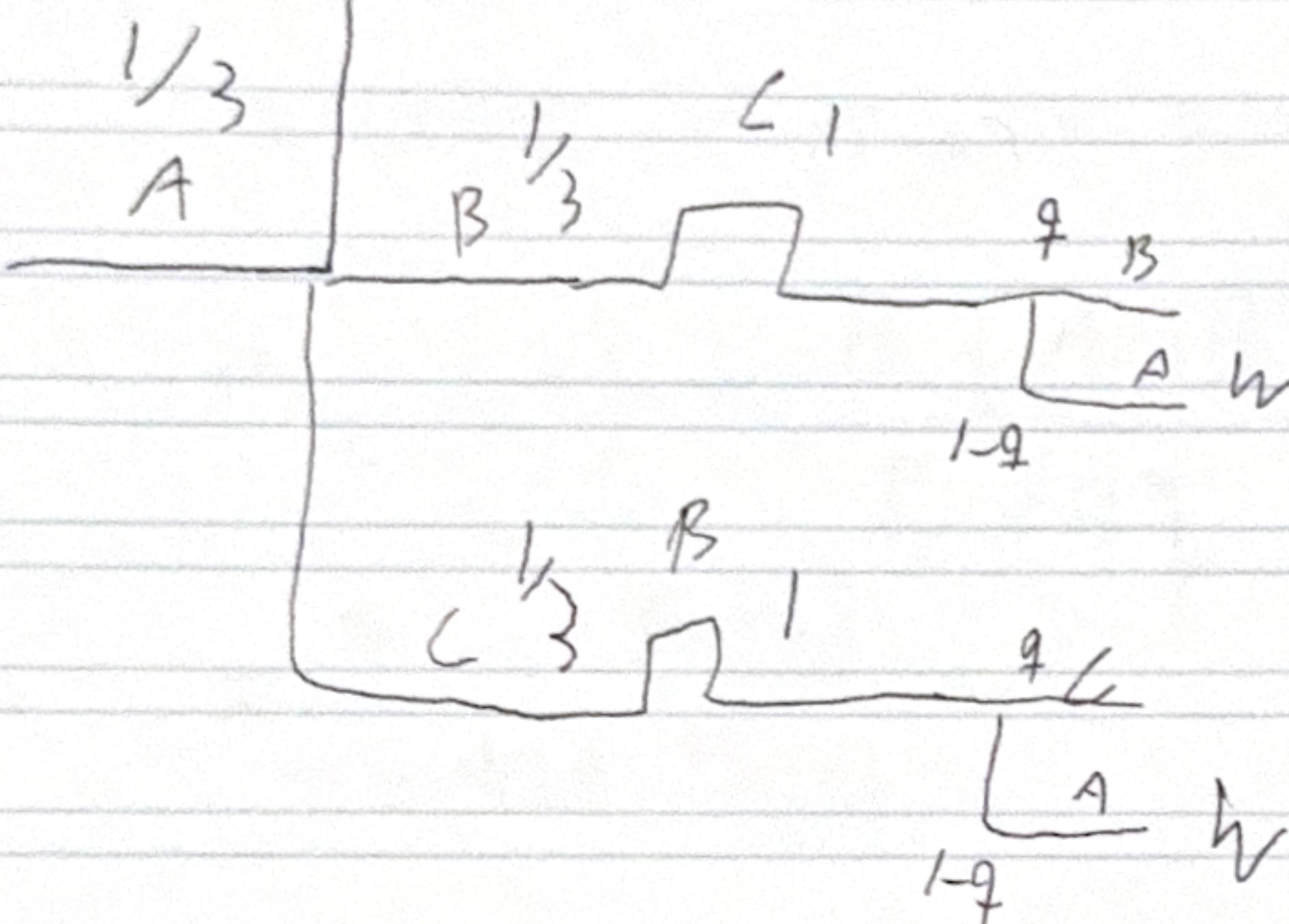
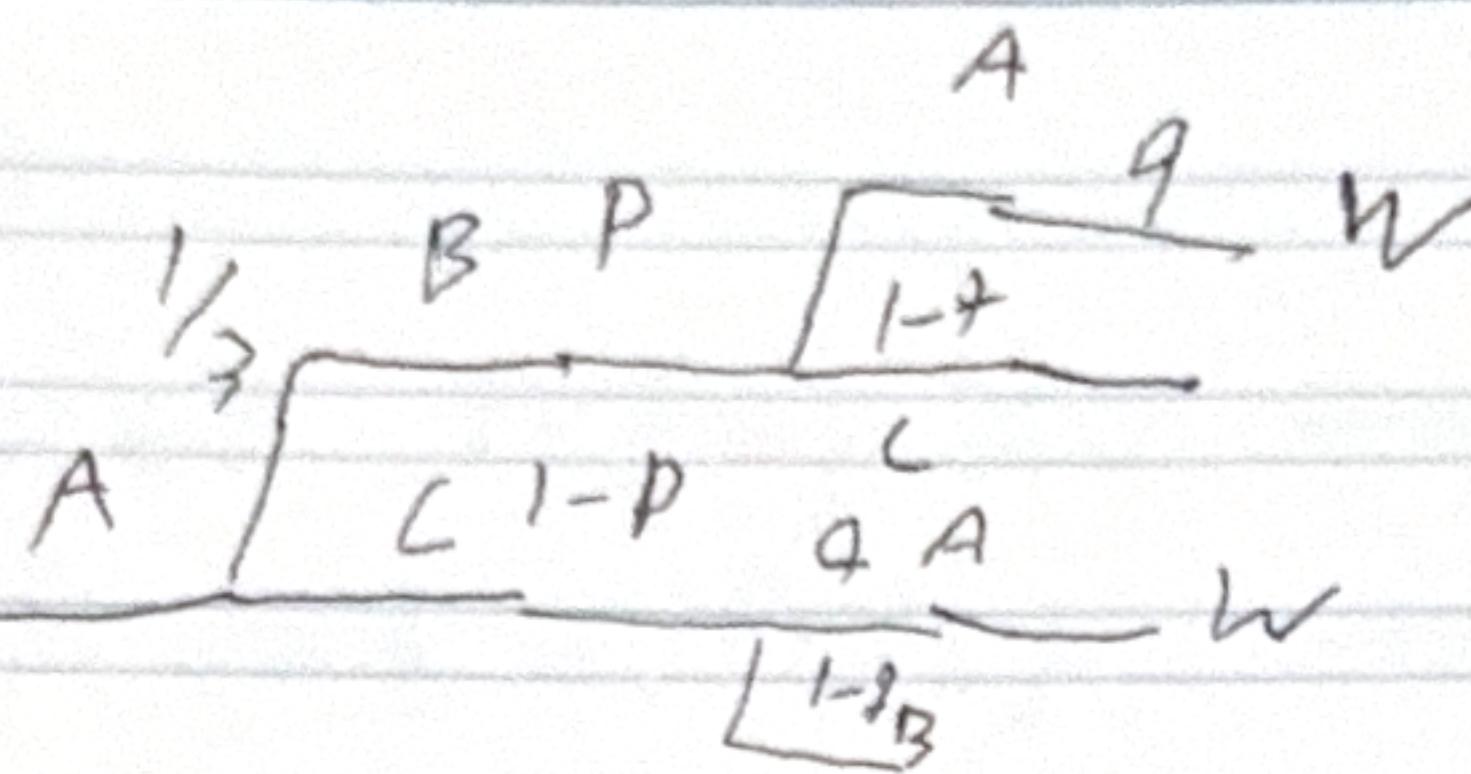
PICK

PICK

$$6 \times \frac{1}{9} = \frac{6}{9}$$

Recitation 17 (Contd..)

3.3



$$qP + q(1-P) + 1-q + 1-q = 2-q$$

$$\rightarrow \frac{2-q}{q} \rightarrow q=0 \rightarrow \text{Best}$$