If it was only two rolls, then

$5 \to 5 = \left(\frac{1}{6}\right)\left(\frac{1}{6}\right) = \frac{1}{36}$ as they are independent

$5 \to 6 = \left(\frac{1}{6}\right)\left(\frac{1}{6}\right) = \frac{1}{36}$ similarly

but it played until you win

$5 \to 6$ : if you roll 5 you can: 1. roll 6 → win
2. roll 5 → head starts on another game
3. roll 1-4 → lose

So $5 \to 6$ is slightly better

EV ≈ 36

Program estimates

$5 \to 5$: if you roll 5 you can: 1. roll 5 → win
2. roll 1,2,3,4,6 → lose

EV ≈ 42