There are three possible states in the game:

1. The initial state.
2. The state after a head.
3. The state after a tail.

Let:

x = Probability of winning from state 2
y = Probability of winning from state 3

x=0.6 + 0.4*y
y = 0.6*x

x = 0.6 + 0.24x
x = 15/19

y = 0.6*(15/19) = 9/19

So the initial probability is 0.6*(15/19) + 0.4*(9/19) = 63/95