P(money back) = P(Money back without ETP) + P(ETP with money back) + P(DBP with money back) = 7.81% + 0.24% + 0.24 = **8.29%**

Note: The following below is the probability of the house losing and let E(x) stand for expected value

P($2) = P(+2 tokens) + P(ETP*+2 tokens) = 15.63% + 0.49% = **16.12%**
P($4) = P(DBP*+2 tokens (+4)) = **0.49%**
P($20) = P(win double) + P(ETP*win double) = 9.38% + 0.29% = **9.67%**
P($40) = P(win triple) + P(ETP*win triple) = 3.13% + 0.10% = **3.23%**
P($60) = P(jackpot) + P(ETP*jackpot) + P(DBP*win double (x4)) = 1.56% + 0.05% + 0.29% = **1.90%**
P($100) = P(DBP*win triple (x6)) = **0.10%**
P($140) = P(DBP*jackpot (x8)) = **0.05%**

E(x)= P(Player losing) - (P($2) + P($4) + P($20) + P($40) + P($60) + P($100) + P($140))
E(x) = 20(0.6016) - [2(0.1612) + 4(0.0049) + 20(0.0967) + 40(0.0323) + 60(0.019) + 100(0.001) + 140(0.0005)] = **$7.1540**

7.1540/20 = $0.3577 per dollar bet

Therefore, the house is expected to make **$0.36** for every dollar when a player bets $20

<u>Expected value per dollar bet:</u>

Average gain per dollar bet = ($0.2038 + $0.3064 + $0.3406 + $0.3577) / 4
= $0.302125
= $ 0.30

Therefore, the house is expected to make an average of **$0.30** for every dollar when a player bets any amount.