

Week 6 (10/21/02)

Flipping a coin

- (a) Consider the following game. You flip a coin until you get a tails. The number of dollars you win equals the number of coins you end up flipping. (So if you immediately get a tails, you win one dollar; if you get one heads before a tails, you win two dollars, etc.) What is the expectation value of your winnings?
- (b) Play the same game, except now let the number of dollars you win be equal to 2^{n-1} , where n is the number of coins you end up flipping. How much do you expect to win now? Does your answer make sense?