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Complete the following problems. Show all work and explain your reasoning.

1. Draw two cards successively and without replacement from a standard deck of 52 cards. Find the probability of each of the following:
  - (a) getting a spade second given that you got a spade first
  
  
  
  
  
  
  
  
  
  
  - (b) no face cards
  
  
  
  
  
  
  
  
  
  
2. Consider the following game: roll a single fair die and win \$3 for a 6, \$2 for a 5, \$1 for a 4, and no payoff otherwise.
  - (a) What is the expected value of this game?
  
  
  
  
  
  
  
  
  
  
  - (b) If you earn the winnings as mentioned above, but have to pay when you roll a 3, a 2, or a 1, what is a fair price to pay to play this game?
  
  
  
  
  
  
  
  
  
  
3. Were you in class on Monday November 23rd? If yes, prove it - what is the secret phrase?