Extra Credit Final
Worth Up to 10 Quiz Points (40 percent of one quiz)
Due when you take the final.

1. (a) A game show offers its contestant a choice of three doors. Behind two of the doors are goats, behind the other is a prize (new car, washer/dryer, living room group, whatever). After the contestant chooses, the host opens one of the unchosen doors and shows the contestant a goat. He then offers the contestant the option of switching from their original choice to the other unopened door. Should the contestant switch to the unopened door, stick with their original choice, or doesn't it matter?

   (b) Same setup as in (a), but now there are 10 doors, one with a prize, 9 with goats, and the host will show the contestant 8 goats after they make their choice.

2. A casino offers the following game: A fair coin is tossed until it lands tails. If it lands tails on first toss, the player wins $1. If it lands tails on the second toss, the contestant wins $2. If it lands tails on the third toss, $4, the fourth, $8, and so on.

   (a) How much would you pay to play this game once. (Note: "$1, because then I'd be guaranteed to win something" is not a good answer).

   (b) How much would you pay *per try* to play this game as many times as you liked?

   (c) How much should the casino charge to play this game?

3. You have a benevolent uncle who wants to give you a gift. He gives you two envelopes, labeled A and B. You may take envelope A only, or you may take both A and B. Envelope B has $1,000 in it. Envelope A is yet to be filled. Your uncle will look in your eyes and determine, with 95% accuracy, your plan. If you plan to take both envelopes, then envelope A will contain nothing. If you plan to take only envelope A, then he will put $10,000 in it. Should you plan to take just A, or both A and B, and why? (For full marks, give arguments for *both* courses of action.)