1.   Your friend hands you a coin and tells you to flip it. If you get heads, she will give you \$10. If you get tails, you will have to give her \$5. Seems like a great deal! But, unbeknownst to you, the coin your friend has handed you is actually biased and lands heads with probability $1/5$. What is the expected value of your winnings?

(A) -\$2

(B) -\$1

(C) \$0

(D) None of the above

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Follow-up. Calculate the standard deviation of your expected winninngs.

There are 10 questions on a multiple-choice test, and each question has 4 options. You didn't study very much for the test, though. For two of the questions, you're pretty confident you can rule out 2 of the possible answers; you then guess randomly between the remaining two options. For the remaining 8 questions, you just guess randomly out of all four options.

2. What is your expected score on this exam?

(A) 2/10

(B) 3/10

(C) 4/10

(D) None of the above