

MATH 10B, SPRING 2017, QUIZ 5

- (1) Suppose you draw 10 cards from a standard deck (52 cards, 13 of each suit). After each draw, you put the card back into the deck and reshuffle (so it is possible to draw the same card more than once).
- (a) What is the probability that all 10 cards are diamonds?

 - (b) What is the probability that all 10 cards are different (i.e. you never draw the same card twice)?
- (2) Suppose that 10% of all emails are spam. The word “money” appears in 40% of all spam emails and 1% of all non-spam emails. If an email contains the word “money,” what is the probability that it is spam? You do not need to simplify your answer—i.e. it is fine to write an expression with numbers that you could type into a calculator to find the answer.