

Questions 1 & 2 refer to the following information:

Jelly Belly brand jelly beans have 50 official flavors which are evenly distributed in every standard bag.

1) If you select one jelly bean at random from a bag, what is the probability that the bean is not Licorice?

2) What is the probability that a randomly-selected bean is Top Banana, Toasted Marshmallow, or Coconut?

3) True or false: if you roll two six-sided dice, the probability that at least one die will show a six is one third. Why or why not?

4) Suppose you shuffle two decks of cards together and draw a single card at random from the deck. What is the probability that the card will be both a club and an eight, nine, or ten?

5) A recent survey of employees at a firm showed that 55% drink coffee, 25% drink tea, and 35% drink neither. How many of those surveyed drink both coffee and tea?

6) A university survey on mobile computing finds that 85% of their students own smartphones, 30% own tablets, and 25% own both. What percentage of students own neither?

7) Among the guests who stay at a casino hotel, 30% play poker, 40% play blackjack, 10% play both poker and blackjack, 15% play craps, and 25% do not gamble at all. True or false: playing poker and playing craps are mutually exclusive.

8) Each year, Inc. Magazine ranks the top 5000 U.S.-based privately-held companies in terms of their overall percentage revenue growth over the previous three years. Last year, the company ranked #5000 had revenues that were 134% of what they were three years prior. You recently started a company and are hoping to make the list in three years' time. By what percentage will you need to increase revenues per year to meet the mark set by #5000 from this year's list (34% growth over three years) in order to give your company a good chance of making the list three years from now?

9) A video game manufacturer offers three different purchase options. Customers can buy the base game for \$40, a \$60 premium package with additional accessories and exclusive in-game content, or a deluxe package for \$100 which contains all of the premium content and allows purchasers the opportunity to beta test content for new updates and expansions. Based on historical data, 70% of the company's customers elect to purchase the base game, 20% buy the premium, and 10% opt for the deluxe package. If, during one holiday weekend, 40,000 game packages are purchased, what dollar amount can the company expect to receive in revenue?

10) During one hour at a retail clothing store, five customers make purchases. The amounts of their purchases are as follows: \$99, \$78, \$14, \$49, and \$130. What is the standard deviation of these five purchases?