

- 1a) If a six-sided die is rolled twice, is rolling a five and a two just as likely as rolling two sixes?
  - b) If a six-sided die is rolled twice, is rolling a one and a six just as likely as rolling a three and a five?
  - c) If a six-sided die is rolled twice, is rolling a sum of 4 just as likely as rolling a sum of 8?
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- 2a) If three coins are flipped, what is the probability that all are heads?
  - b) If three coins are flipped, what is the probability that exactly two are tails?
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- 3) If we pull one marble out of a bag, the probability that it is red is .41. The probability that it is blue is .28.
    - a) Find the probability that it is not blue.
    - b) Find the probability that it is neither red nor blue.
  - 4) A bag contains four colors of chips; red, black, white, and gold. If we reach in and randomly pick one chip out, find the probability that it is black and gold.
  - 5) A bag contains four colors of chips; red, black, white, and gold. If we reach in and randomly pick one chip, find the probability that it is not green.
  - 6) A bag contains four colors of chips; red, black, white, and gold. If we reach in and randomly pick one chip out, find the probability that it is black or gold.
  - 7) A bag contains an equal amount of red, black, white, and gold chips. If we reach in and randomly pick one chip out, find the probability that it is black or gold.
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- 8) 50 people were surveyed. 21 owned American cars. 18 owned Japanese cars. 19 didn't own either. Find the probability that one of these people, selected at random;
    - a) owned an American or Japanese car.
    - b) owned both.
    - c) owned a Japanese car or didn't own an American car.
    - d) owned a Japanese car and didn't own an American car.
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- 9) If the probability of winning a game is  $\frac{11}{37}$ , then find the odds of winning. (Assume no ties)
  - 10) If the probability of losing a game is  $\frac{11}{37}$ , then find the odds of winning. (Assume no ties)
  - 11) If the odds of winning a game are 4 to 9, then find the probability of winning. (Assume no ties)
  - 12) If the odds of winning a game are 4 to 9, then find the probability of losing. (Assume no ties)
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- 13) If 22% of people have no pets, 31% have 1 pet, 15% have 2, and the rest have three or more, then if one person is randomly selected, what is the probability that that person has:
    - a) At least 2 pets?
    - b) 1 or 2 pets?
    - c) at t most 2 pets?
    - d) Less than 4 pets?

**Solutions to Practice 3 (revision 0)**

- 1a) no      b) yes      c) no      2a)  $\frac{1}{8}$       b)  $\frac{3}{8}$       3a) .72      b) .31
- 4) 0      5) 1      6) Not Enough Information      7)  $\frac{1}{2}$       8a)  $\frac{31}{50}$       b)  $\frac{4}{25}$       c)  $\frac{37}{50}$
- d)  $\frac{1}{5}$
- 9) 11 : 26      10) 26 : 11      11)  $\frac{4}{13}$
- 12)  $\frac{9}{13}$       13a) 47%      b) 46%      c) 68%      d) Not Enough Information