Probability and Odds worksheet

Example problem: Jessica has a normal deck of cards, which contains 52 cards. She asks her friend Sarah to draw a card.

What is the probability that Sarah will select the queen of hearts?

Answer: Since there is only one queen of hearts in a normal deck of cards, the probability that Sarah will select it is 1/52.

What is the probability that Sarah will not select the queen of hearts?

Answer: Since there are 51 cards in the deck that are not the queen of hearts, the probability that Sarah will not select it is 51/52.

What are the odds in favor of Sarah selecting the queen of hearts?

Answer: Since there is one queen of hearts, and 51 cards that are not the queen of hearts, the odds in favor of Sarah selecting it are 1:51.

What are the odds against Sara selecting the queen of hearts?

Answer: Since there are 51 cards that are not the queen of hearts, and only one card that is the queen of hearts, the odds against Sarah selecting it is 51:1.

Susie has a spinner that has four sectors. One is yellow, one is orange, one is blue and one is red. Calculate the following:

1. What is the probability of spinning a yellow? 1. _________
2. What is the probability of not spinning a yellow? 2. _________
3. What are the odds in favor of spinning a yellow? 3. _________
4. What are the odds against spinning a yellow? 4. _________

Sammy has a number cube (dice). Calculate the following:

5. What is the probability of rolling a 6? 5. _________
6. What is the probability of not rolling a 6? 6. _________
7. What are the odds in favor of rolling a 6? 7. _________
8. What are the odds against rolling a 6? 8. _________
9. What is the probability of rolling an even number?  7. ________
8. What is the probability of not rolling an even number?  8. ________
9. What are the odds in favor of rolling an even number?  9. ________
10. What are the odds against rolling an even number? 10. ________

A sweepstakes has 500 entries. You have purchased one ticket.
Calculate the following:

11. What is the probability that you will win the sweepstakes? 11. ________
12. What is the probability that you will not win the sweepstakes? 12. ________
13. What are the odds in favor of you winning the sweepstakes? 13. ________
14. What are the odds against you winning the sweepstakes? 14. ________

Challenge questions:

15. If you purchase two tickets in the sweepstakes, does that double the probability that you will win? 13. ________
16. If you purchase two tickets instead of one, use one of the following words to describe the likelihood of you winning the sweepstakes:

   certain, impossible, unlikely 14. ________