

Practice Questions

(12.2) 1. What is the theoretical probability of each event?

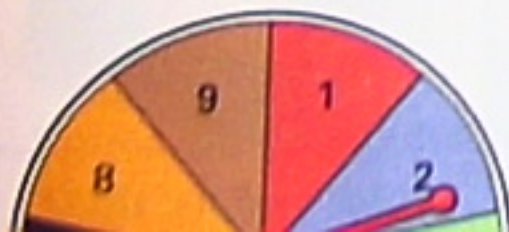
- a) drawing a queen from a standard deck of 52 cards
- b) rolling a 1 using a standard die
- c) spinning a 9 with this spinner
- d) drawing a black card from a standard deck of 52 cards



(12.2) 2. a) Perform an experiment to determine the experimental probability of rolling a 1 using a standard die. Complete 10 trials.

- b) Repeat part (a), but complete 30 trials.
- c) How do your experimental probabilities compare with the theoretical probability you calculated in question 1(b)?

(12.2) 3. Both Rick and Dominique spun this spinner 18 times, for a total of 36 spins. Choose the fraction that matches each probability.



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|-----------------|---------------|
| $\frac{14}{18}$ | $\frac{5}{9}$ |
|-----------------|---------------|

4. Jeff rolled a die 600 times. Mary rolled a die 6 times. In which case is it more likely that the experimental probability of rolling a 1 was closest to $\frac{1}{6}$? Why? (12.2)

5. a) Suppose that you are going to roll a four-sided die (with numbers 1 to 4) and a standard six-sided die. Create a tree diagram or an organized list to show all the possible outcomes.

- b) Calculate each theoretical probability.
 - i) $P(\text{sum of } 2)$
 - ii) $P(\text{sum of } 3 \text{ or } 4)$
 - iii) $P(\text{sum of neither } 3 \text{ nor } 4)$ (12.3)

6. Suppose that you roll a 12-sided die (with numbers 1 to 12) and spin this spinner. Which is more likely—rolling an even number and spinning A, or rolling a number that is not a multiple of 3 and not spinning C? (12.3)

