Nepedia · Grade-7

Unit 8: Probability and Sampling

ADVANCED · SET 2

Name: _____ Date: _____

Show your work and give each answer as an exact number, fraction in lowest terms, ratio, or short value.

1. A bag holds 8 red, 12 blue, and 5 green marbles. One marble is drawn at random. What is the probability, as a fraction in lowest terms, that it is NOT blue?

Answer: _____

2. A spinner is split into 20 equal sectors numbered 1 to 20. What is the probability, as a fraction in lowest terms, that a spin lands on a number that is a multiple of 3 OR a multiple of 5?

Answer: _____

3. Two fair six-sided dice are rolled. What is the probability, as a fraction in lowest terms, that the sum of the two dice equals 9?

Answer: _____

4. A fair coin is flipped 4 times. What is the probability, as a fraction in lowest terms, of getting exactly 3 heads?

Answer: _____

5. A jar has 6 mint and 9 fruit candies. Two candies are drawn without replacement. What is the probability, as a fraction in lowest terms, that both are mint?

Answer: _____

6. In a sample of 150 town residents, 42 said they recycle weekly. Based on this sample, estimate how many of the town's 5000 residents recycle weekly.

Answer: _____

7. A biased spinner lands on 'Win' with probability 3/8. If it is spun 240 times, how many 'Win' results are expected?

Answer: _____

8. A standard deck has 52 cards. One card is drawn. What is the probability, as a fraction in lowest terms, that it is a face card (J, Q, K) OR a heart?

Answer: _____

9. A box has 5 white and 3 black socks. Two socks are drawn without replacement. What is the probability, as a fraction in lowest terms, that they are different colors?

Answer: _____

10. A quality inspector samples 80 phones and finds 6 defective. At this rate, how many defective phones are expected in a shipment of 2000?

Answer: _____

11. A password is formed by picking one digit (0-9) then one letter (A-Z), each at random. What is the probability, as a fraction in lowest terms, that the digit is even AND the letter is a vowel (A, E, I, O, U)?

Answer: _____

12. A weather model says the probability of rain each day is 1/3, independent day to day. What is the probability, as a fraction in lowest terms, that it rains on exactly one of the next two days?

Answer: _____