

1. A bag contains 50 cards, each with a unique number from 1 to 50. A card is drawn at random. What is the probability that the number on the card is both a perfect square and divisible by 4? If you know that the card shows a number that is both a perfect square and divisible by 4, what are the possible square roots of that number?
2. A bag contains 20 cards, each labeled with the name of a quadrilateral. The quadrilaterals are as follows: 5 squares, 6 rectangles, 4 rhombuses, 3 parallelograms, 2 trapeziums.
 - a) What is the probability of drawing a card that represents a quadrilateral with all sides of equal length?
 - b) What is the probability of drawing a card that represents a quadrilateral with at least one pair of parallel sides?
3. A bag contains 30 small cubes, each labeled with a different number. The numbers on the cubes are the first 30 positive integers: [1, 2, 3, 30]
 - a) What is the probability of drawing a cube labeled with a number that is a perfect cube?
 - b) What is the probability of drawing a cube labeled with a number whose cube root is an integer?
 - c) List all the numbers in the set that are perfect cubes.
 - d) If you draw a cube labeled with a perfect cube, what is the cube root of that number?