



# SNS COLLEGE OF TECHNOLOGY

(An Autonomous Institution)

Coimbatore – 641 035



## DEPARTMENT OF MATHEMATICS

### 23MAT203-PROBABILITY AND RANDOM PROCESSES

## Probability Puzzles

### Finding the Probability of an Event

Q1.

I roll a fair 6-sided dice. What is the probability that I get:

- (a) a 5                      (b) an even number                      (c) a number less than 3



Q2.

I spin the spinner. What is the probability that I get:

- (a) red                      (b) red or green                      (c) not yellow



Q3.

I write out the word **MATHEMATICS** and pick a letter at random.

What is the probability that I select:

- (a) the letter M                      (b) a vowel                      (c) not the letter T



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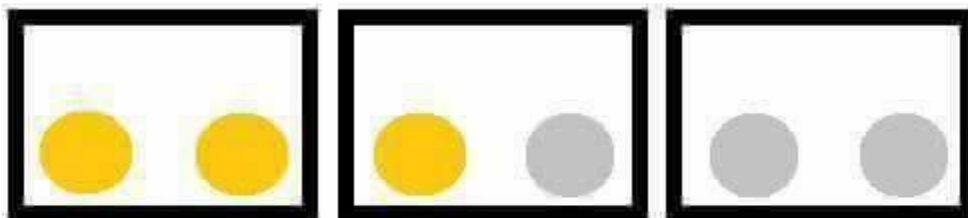
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**There are 3 boxes. Each box contains 2 balls. One box contains 2 gold balls, another box contains 2 silver balls, and the final box contains one gold ball and one silver ball.**



**You pick box at random. You put your hand in and take a ball from that box at random. It's a gold ball. What is the probability that the next ball you take from the same box will also be gold?**

**Note: You can't see into any of the boxes**



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#### Sum of Two Dice Probabilities (A) Answers

Find the probability of each sum when two dice are rolled.



+	1	2	3	4	5	6
1	2	3	4	5	6	7
2	3	4	5	6	7	8
3	4	5	6	7	8	9
4	5	6	7	8	9	10
5	6	7	8	9	10	11
6	7	8	9	10	11	12

$$P(>2) = 35/36$$

$$P(<11) = 33/36$$

$$P(\geq 2) = 36/36$$

$$P(\geq 12) = 1/36$$

$$P(\leq 7) = 21/36$$

$$P(<5) = 6/36$$

$$P(\leq 5) = 10/36$$

$$P(10) = 3/36$$

$$P(\geq 8) = 15/36$$

$$P(<6) = 10/36$$

$$P(\geq 12) = 1/36$$

$$P(\leq 10) = 33/36$$

$$P(\geq 6) = 26/36$$

$$P(\leq 12) = 36/36$$

$$P(\geq 11) = 3/36$$

$$P(>5) = 26/36$$

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