

PROBABILITY

The study of chance and uncertainty



$$P(E) = \frac{n(E)}{n(S)}$$



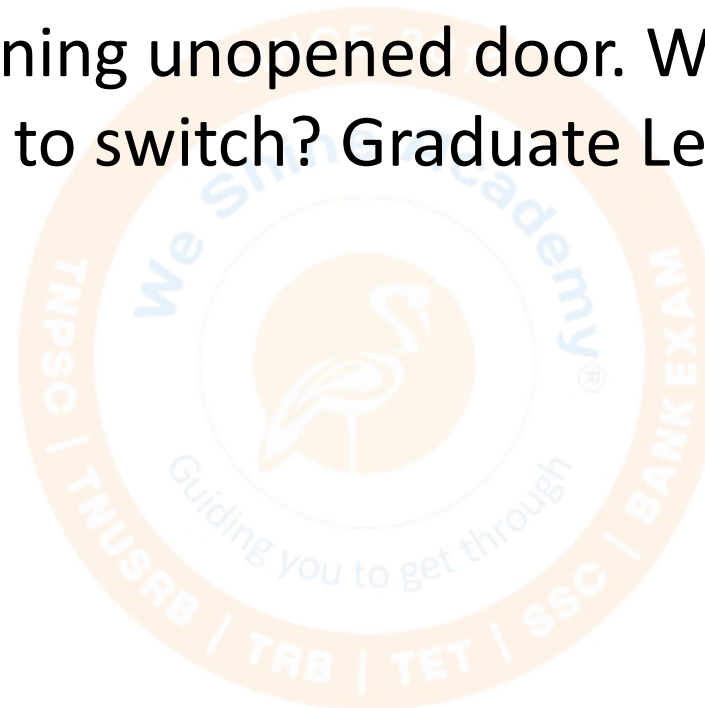
Probability

An urn initially contains 2 yellow balls and 2 black balls. You draw two balls without replacement. If both balls are the same color, you stop. If they are different colors, you put both balls back into the urn, add one additional yellow ball to the urn, and then draw two more balls. What is the probability that you do not stop on the first draw, but you stop on the second draw? Graduate Level 24/07/2025 (Shift - 3)

- (a) $\frac{1}{3}$
(b) $\frac{2}{5}$
(c) $\frac{4}{15}$
(d) $\frac{7}{15}$

You are faced with 6 doors. Behind one door is a car, and behind the other four are goats. You pick one door. The host, who knows where the car is, then opens 4 of the remaining doors, all revealing goats. You are then offered the chance to switch your choice to the one remaining unopened door. What is the probability of winning the car if you decide to switch? Graduate Level 25/07/2025 (Shift - 3)

- (a) $\frac{3}{5}$
(b) $\frac{3}{7}$
(c) $\frac{5}{6}$
(d) $\frac{3}{4}$



There are 5 doors. Behind one is a car, and behind the other four are goats. You pick one door. The host, knowing the car's location, then opens 3 of the remaining doors, all revealing goats. You are then offered the opportunity to switch your choice to the one remaining unopened door. What is the probability of winning the car if you decide to switch? Graduate Level 26/07/2025 (Shift - 3)

- (a) $\frac{1}{2}$
(b) $\frac{2}{3}$
(c) $\frac{5}{4}$
(d) $\frac{4}{5}$

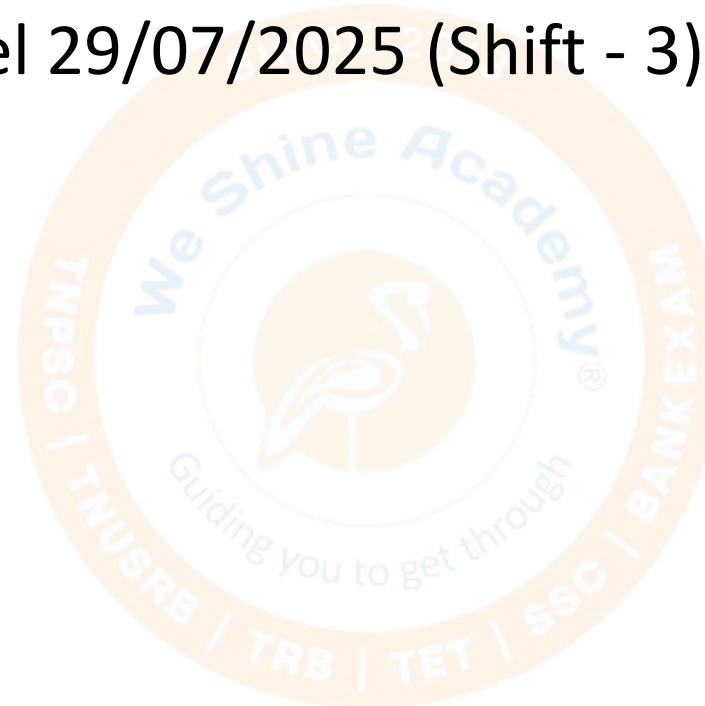
A bag contains balls numbered 1, 2, 3,29. One ball is drawn from the bag at random. What is the probability that the number on the ball drawn is divisible by 3 or 5 ? Graduate Level 28/07/2025 (Shift - 3)

- (a) $\frac{2}{5}$
(b) $\frac{1}{2}$
(c) $\frac{13}{29}$
(d) $\frac{1}{10}$



An item is produced by one of three machines, P, Q, or R. Machine P produces 40% of the items, Q produces 50%, and R produces 10%. The defect rates are 2% for P, 3% for Q, and 4% for R. If an item is chosen at random, what is the probability that it is defective? Graduate Level 29/07/2025 (Shift - 3)

- (a) 1.5%
- (b) 2.7%
- (c) 3.7%
- (d) 2.5%



A bag contains balls numbered 1, 2, 3, 30. One ball is drawn from the bag at random. What is the probability that the number on the ball drawn is divisible by 4 or 6? Graduate Level 31/07/2025 (Shift - 3)

- (a) $\frac{1}{15}$
(b) $\frac{1}{3}$
(c) $\frac{3}{10}$
(d) $\frac{2}{5}$



A company has two machines, M1 and M2, producing widgets. M1 produces 65% of the widgets and M2 produces 35%. 4% of M1's widgets are defective, and 6% of M2's widgets are defective. If a randomly selected widget is found to be defective, what is the probability it came from M1? Graduate Level 02/08/2025 (Shift - 3)

- (a) 0.46
- (b) 0.55
- (c) 0.53
- (d) 0.60



A large, faint watermark of the Weshine Academy logo is centered in the background. The logo is circular with an orange border. Inside the border, the text "SINCE 2013" is at the top, "Weshine Academy" is in the middle, and "Guiding you to get through" is at the bottom. The outer ring of the logo contains the text "TNUSRB | TRB | TET | SSC | BANK EXAM".

Thank You