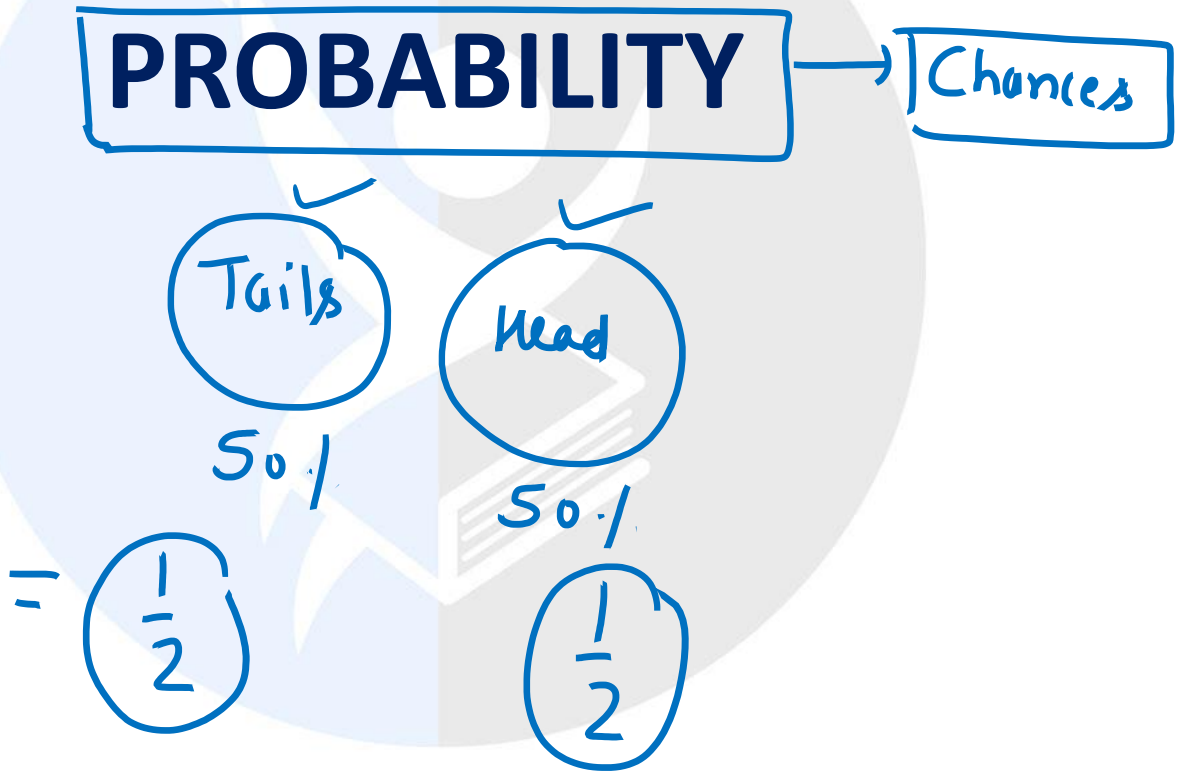
GENERAL APTITUDE



Probability is the measure of the likelihood that an event will occur.

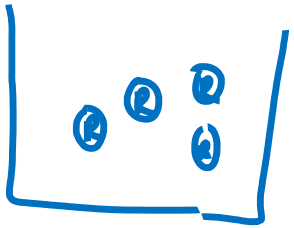
$$P(\text{Event}) = \frac{\text{No. of fav outcome / Required outcome}}{\text{No. of Total outcome}}$$

$0 \leq P(E) \leq 1$

$P(E) = 0$

↓

(Impossible Event)



$P(E) = 1$

↓

(Certain Event)

$P(\text{Red}) = 1$

$P(\text{orange}) = 0$

Tossing coins: 2^n

Tossing 1-time → $2^1 = 2$

Sample Space = { H, T }

Tossing 2-time → $2^2 = 4$

S.S = { HH, HT, TT, TH }

Tossing 3-times $= 2^3 = 8$

S.S = { HHH, HTH, HTT, HHT, TTT, THT, THH, TTH }

Rolling die/dice:

6^n

Rolling 2 times $6^2 = 36$

		White Die					
		1	2	3	4	5	6
Red Die	1	(1,1)	(2,1)	(3,1)	(4,1)	(5,1)	(6,1)
	2	(1,2)	(2,2)	(3,2)	(4,2)	(5,2)	(6,2)
	3	(1,3)	(2,3)	(3,3)	(4,3)	(5,3)	(6,3)
	4	(1,4)	(2,4)	(3,4)	(4,4)	(5,4)	(6,4)
	5	(1,5)	(2,5)	(3,5)	(4,5)	(5,5)	(6,5)
	6	(1,6)	(2,6)	(3,6)	(4,6)	(5,6)	(6,6)

Duplets

Rolling Die 1 time $6^1 = 6$

$S.S = \{1, 2, 3, 4, 5, 6\}$

Standard 52-card deck of playing cards:

52 cards

SUITS:

Black (26) ← 52 → Red (26)

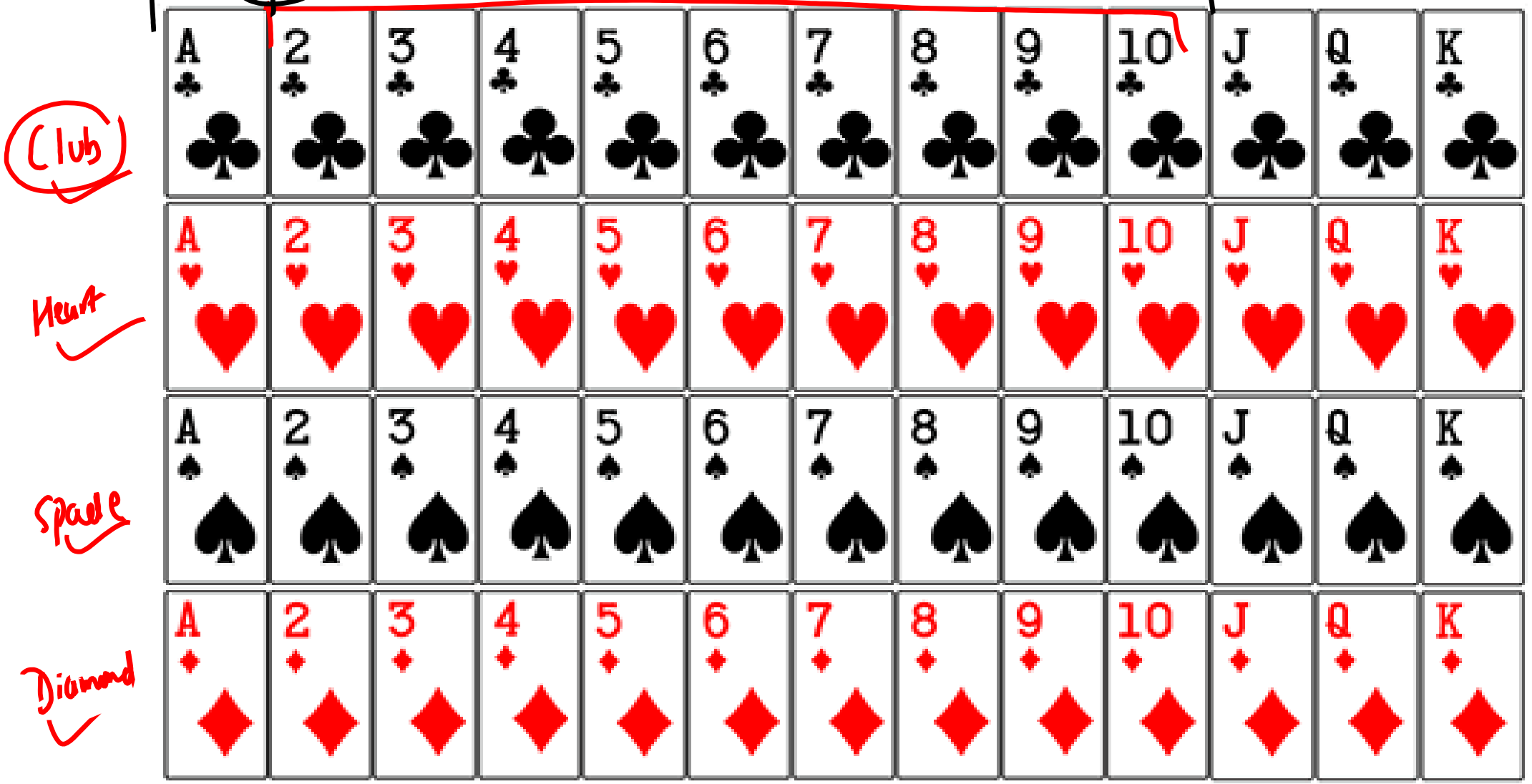
- Clubs (♣) (13)
- Spades (♠) (13)
- (13) Diamonds (♦),
- (13) Hearts (♥)

IfAS

Ace

Number Card

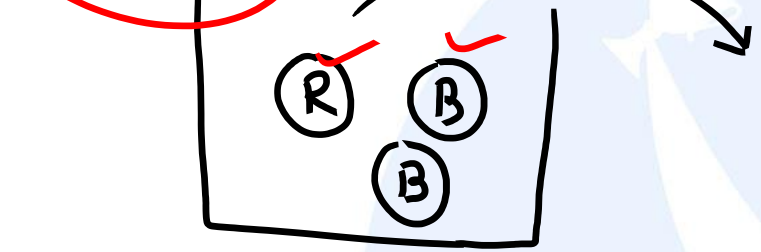
Face Card



Dependent & Independent Event

Multiply

Pick 2-balls

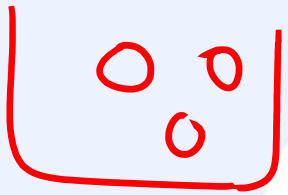


1st 2nd

Blue + Red

$\frac{2}{3} \times \frac{1}{2} = \frac{1}{3}$

Addition



A bag contains 3 red, 5 blue and 4 green ball. 1 ball is drawn at random. What is the probability of ball being either red or blue colour.

(a) 3/7
(b) 2/3
(c) 5/12
(d) 1/3

$$P(\text{Event}) = \frac{8}{12} = \frac{2}{3}$$ Ans

CC

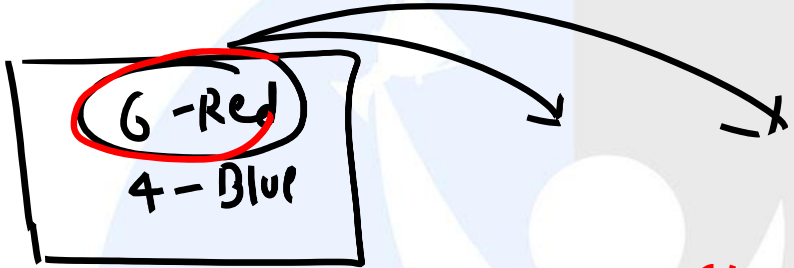
A drawer contains 6 red socks and 4 blue socks. What is the probability that if 2 socks are picked (without looking) from the drawer, both of the socks will be red?

(1) 2/15

(2) 4/15

(3) 1/3

(4) 2/5



$$P(\text{Both are Red}) = \frac{6}{10} \times \frac{5}{9} = \frac{1}{3}$$

Find the probability of getting a sum of 7 or 11 in a simultaneous throw of two dice.

(1) 2/9 (2) 4/9 (3) 6/9 (4) 8/9

$$P(\text{Sum of 7 or 11}) = \frac{8}{36} = \frac{2}{9}$$

Normal year

What is the chance that a leap year, selected at random, will contain 53 Saturdays?

(A) 2/7
(B) 3/7
(C) 1/7
(D) 5/7

366 → 52 weeks + 2 extra

$\frac{1}{7}$

$7 \overline{)366} \; 52$

2

$P(53 \text{ Sat}) = \frac{2}{7}$ Ans

Mon - Tue
Tue - Wed
Wed - Thurs
Thurs - Fri
Fri - Sat ✓
Sat - Sun ✓
Sun - Mon

A box contains 12 red, 6 green and 'x' yellow balls. Probability of choosing one green ball out of the box is 2/9, then find the probability of choosing one ball which can be either red or yellow?

(a) 4/9
(b) 5/9
(c) 2/3
(d) 7/9

$$\frac{6}{(18+x)} = \frac{2}{9}$$

$$27 = 18 + x$$

$$x = 9$$

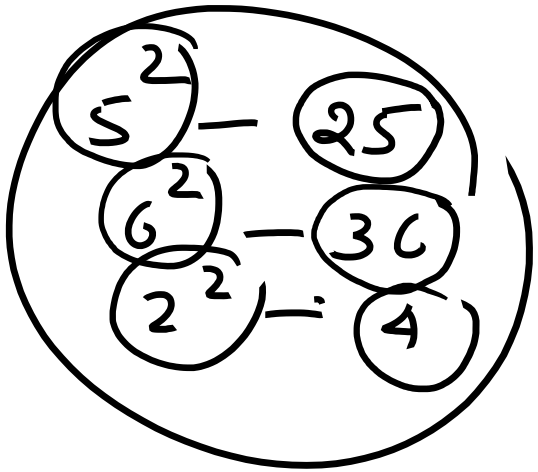
P(either Red or yellow) $= \frac{12+9}{27}$

$= \frac{21}{27}$ $\quad \frac{7}{9}$ Ans

Two dices are thrown simultaneously. The probability that the product of the numbers appearing on the top faces of the dice is a perfect square is

(A)1/9 (B) 2/9 (C) 1/3 (D) 4/9

$$P(E) = \frac{8}{36} = \frac{2}{9}$$ Ans



A box contains 15 blue balls + and 45 black balls = 60. If 2 balls are selected randomly, without replacement, the probability of an outcome in which the first selected is a blue ball and the second selected is a black ball, is _____.

(A) 3/16 (B) 45/236 (C) 3/4 (D) 1/4

$$P(1^{st}\ \text{Blue}, 2^{nd}\ \text{Black}) = \frac{15}{60} \times \frac{45}{59}$$

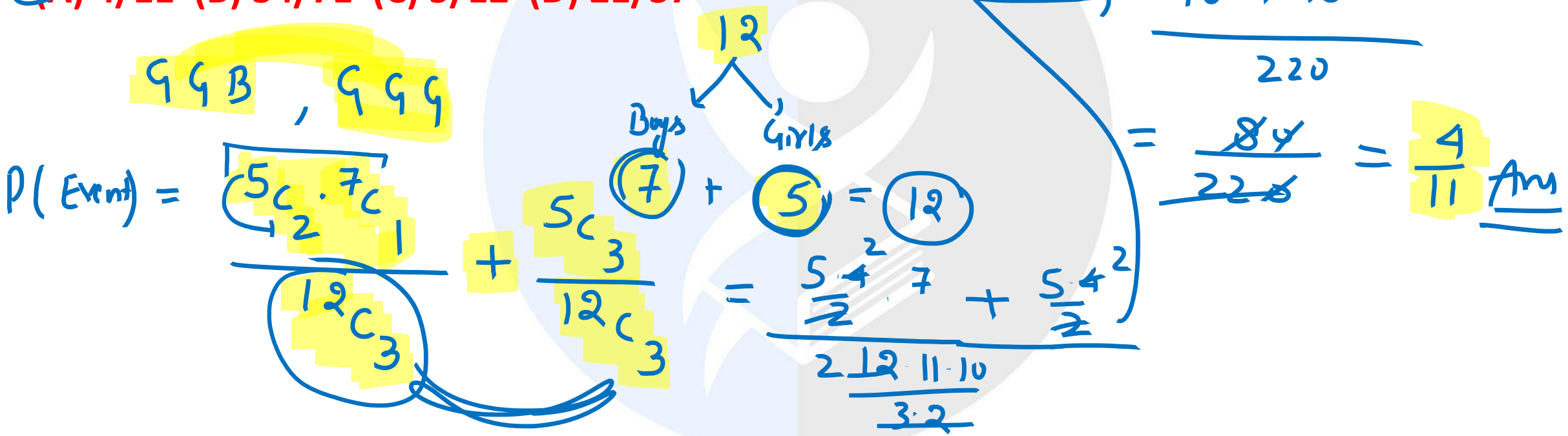
$$= \frac{45}{236}$$ Ans

Blue Black Black Blue

$$\left(\frac{15}{60} \times \frac{45}{59}\right) + \left(\frac{45}{60} \times \frac{15}{59}\right)$$

- A class of twelve children has two more boys than girls. A group of three children are randomly picked from this class to accompany the teacher on a field trip. What is the probability that the group accompanying the teacher contains more girls that boys?

(A) 4/11 (B) 34/71 (C) 5/12 (D) 21/37



Find the probability of eight letters word that can be formed from the letters of the word ‘BLASTING’ so that vowels always come together.

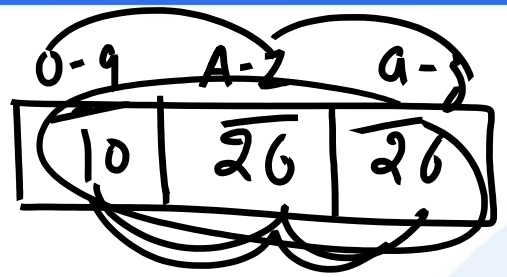
12

30

(a) 1/4
(b) 2/5
(c) 1/3
(d) 10/21

In a bag, there are 16 balls of three different colors i.e. red, blue and green. Number of red and blue balls is 9 and difference between red and green ball is 4 then find the probability of getting a ball of each color if three balls are picked at random?

(a) 5/28
(b) 4/27
(c) 7/36
(d) 9/40



$10 \times 26 \times 26 \times 31$

$= 10 \times 26 \times 26 \times 6$

$= 10 \times 676 \times 6$

40,560

0-9 ⇒ 10

A-Z → 26

a-z → 26

FAR

31 = 6

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$n = 11$

$$= \frac{n(n-1)}{2}$$

$$= \frac{11 \times 10^{5}}{2} = 55$$