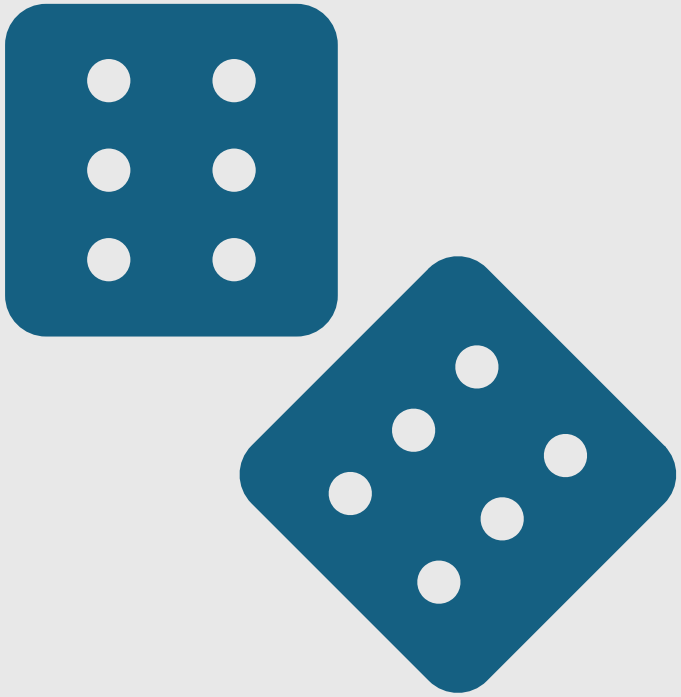


Probability-02

Md. Labu Miah

Instructor, P2A

Type-03

Cards Related

52

Spades

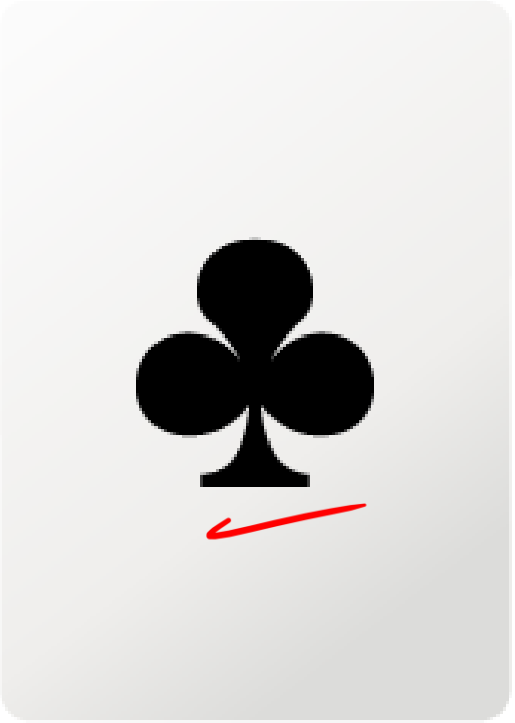
13

Hearts

13

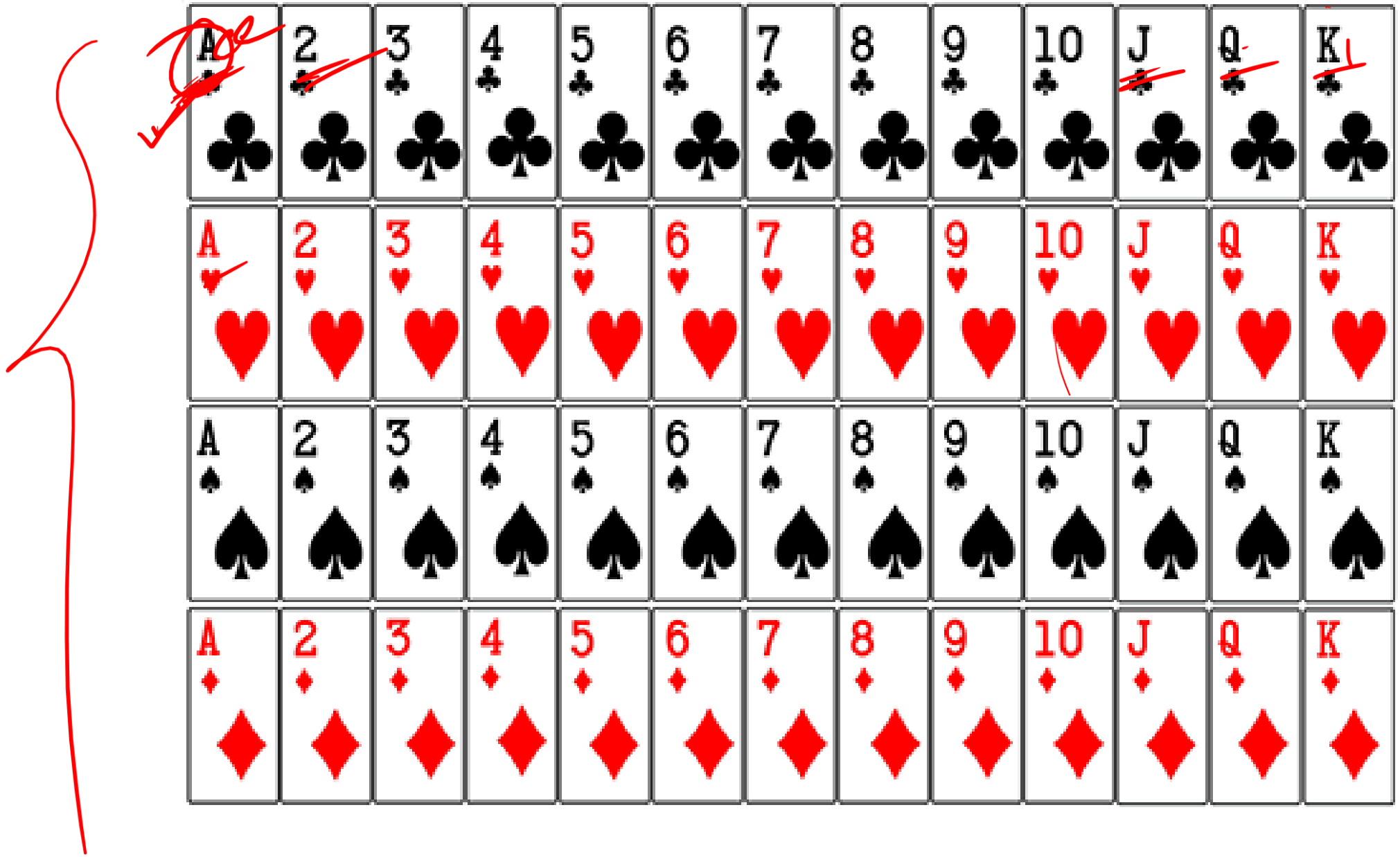
Diamonds

13



Clubs

13



Deck Of Cards (52)			
Red (26)		Black (26)	
Heart (13)	Diamond (13)	Club (13)	Spade (13)
King	King	King	King
Queen	Queen	Queen	Queen
Jack	Jack	Jack	Jack
Ace	Ace	Ace	Ace
10	10	10	10
9	9	9	9
8	8	8	8
7	7	7	7
6	6	6	6
5	5	5	5
4	4	4	4
3	3	3	3
2	2	2	2

Face card (12)

Honor

Numeric card (36)

52

King → 4

Queen → 4

Jack → 4

Ace → 4

Heart - King - 1

Honor (20)

Face card (12)

Ace card (4)

10 (9)

Q9: A card is randomly drawn from a desk of 52 cards. What is the probability of getting a King or Queen? *[BDBL (SO)-17, BD House Building FC (SO)-17]*

$4 + 4 = 8$

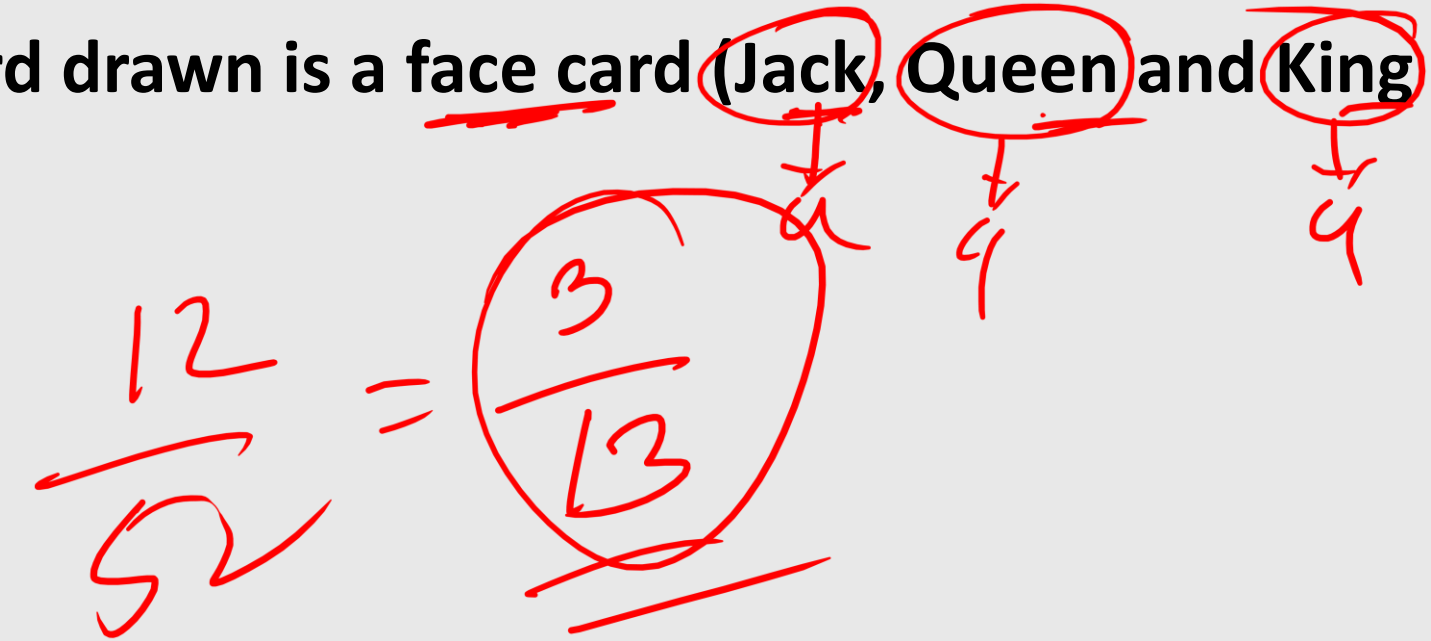
$$\frac{8}{52} = \frac{2}{13}$$

Q10: A card is randomly drawn from a desk of 52 cards. What is the probability of getting an Ace or King or Queen? *[BD House Building FC (SO)-17]*

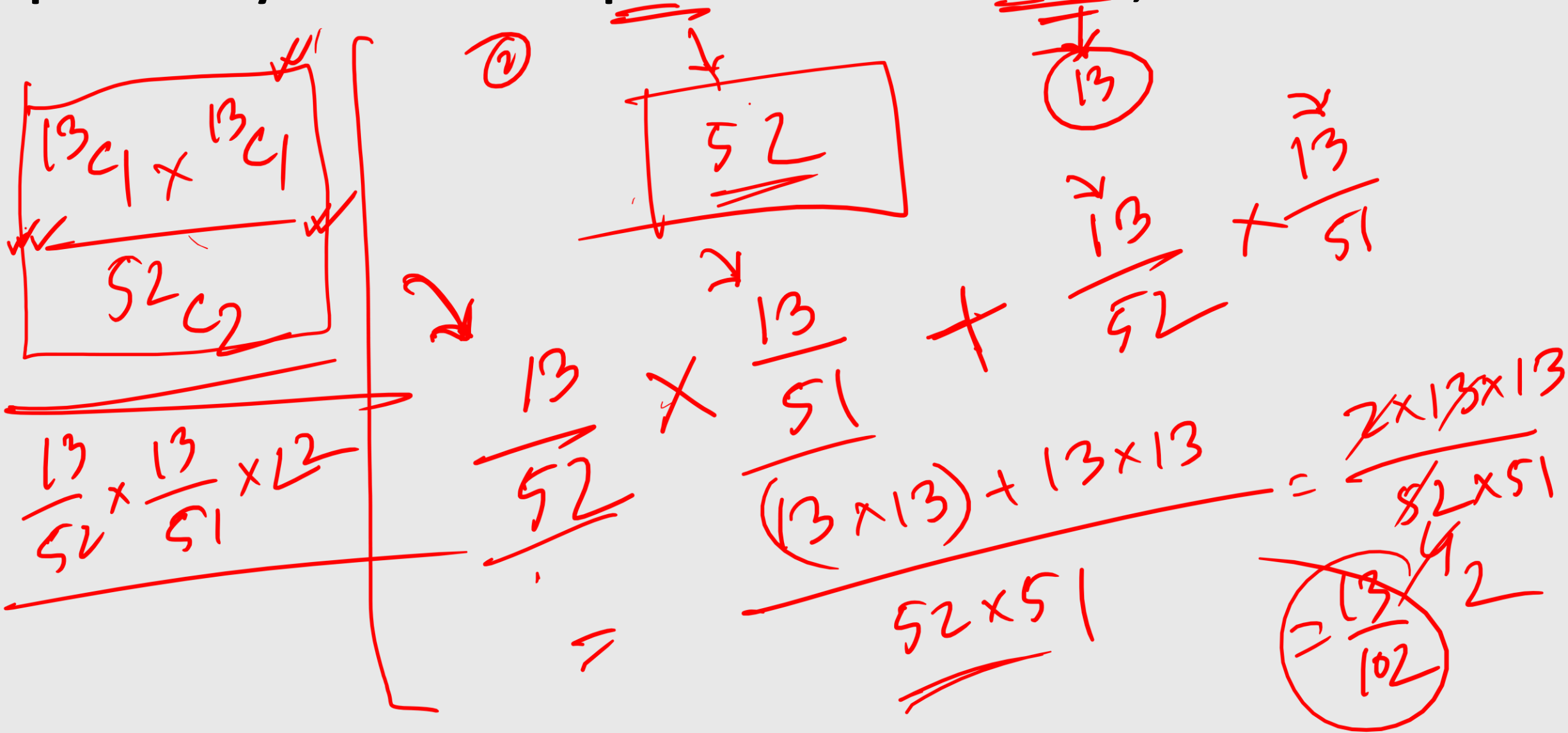
$$\frac{4}{52} + \frac{4}{52} + \frac{4}{52} = \frac{12}{52} = \frac{3}{13}$$

Q11: One card is drawn at random from a pack of 52 cards. What is the probability that the card drawn is a face card (Jack, Queen and King only)

[Rupali bank (SO)-19]



Q12: Two cards are drawn together from a pack of 52 cards. The probability that one is a spade and one is a heart, is: *[Janata bank (AEO)-19]*



Type-04

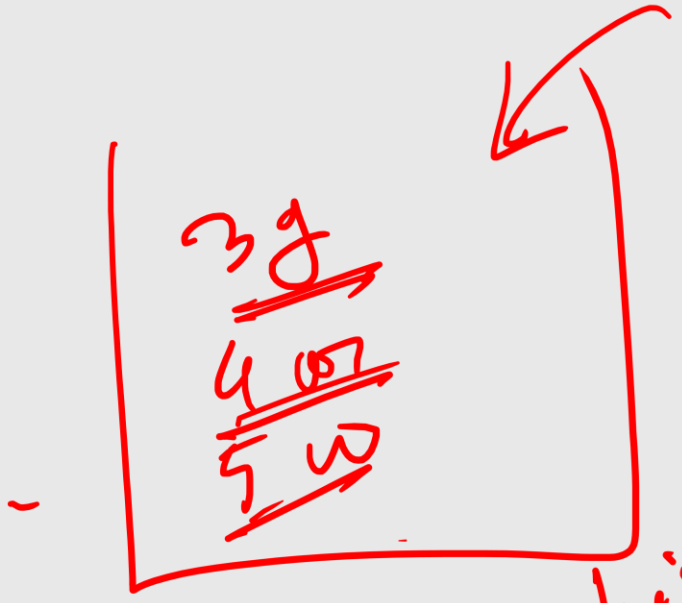
Ball/Marble Related

Q13: There are 5 red and 3 black balls in a bag. Probability of drawing a black ball is- *[Rupali Bank (Off)-18, Sonali Bank (SO)-18]*

Black = $\frac{3}{8}$

Red = $\frac{5}{8}$

Q14: There are 3 green, 4 orange and 5 white color bulbs in a bag. If a bulb is picked at random, what is the probability of having either a green or a white bulb? *[Comb Bank (SO)-18, Janata Bank (AEO)-19]*



$3+5=8$

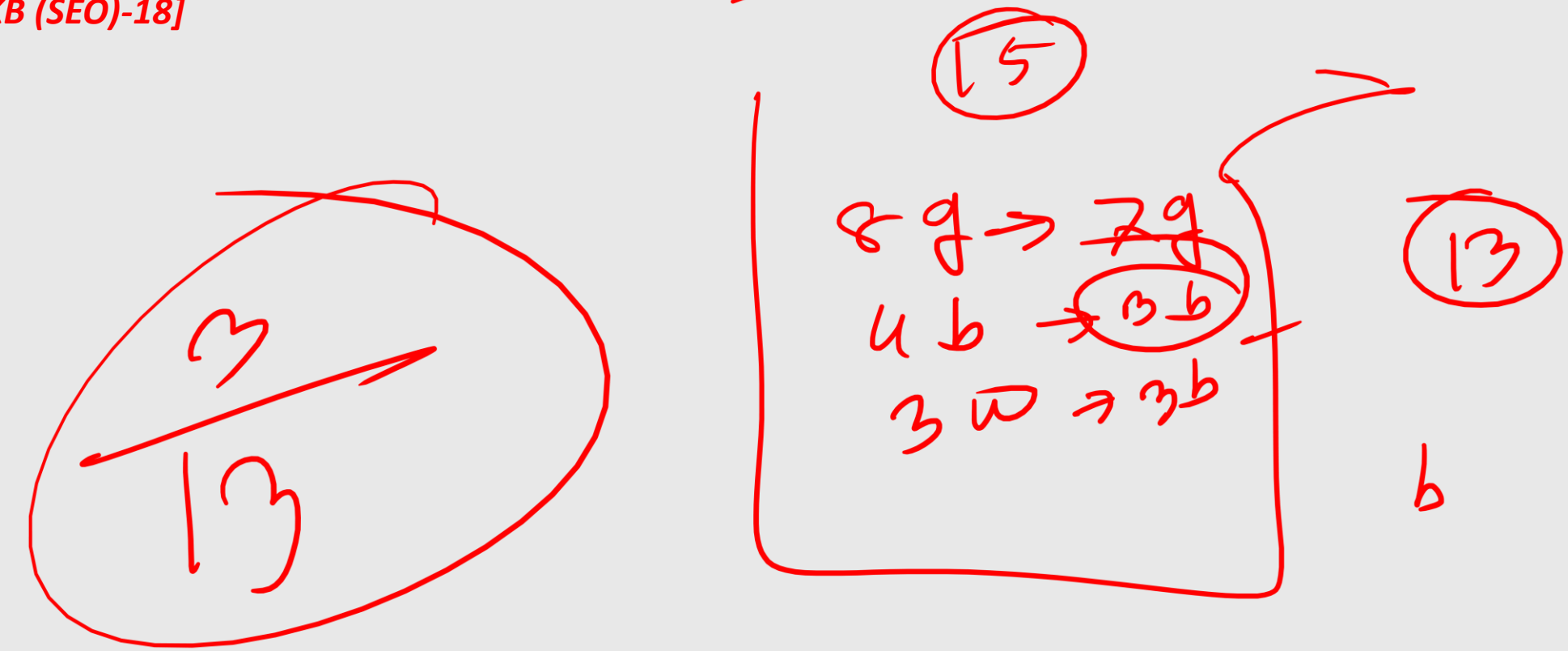
green and white

$= 0$

$$\frac{8}{12} = \frac{2}{3}$$

Q15: There are 15 balls in a box: 8 balls are green, 4 are blue and 3 are white. Then 1 green and 1 blue balls are taken from the box and put away. What is the probability that a blue ball is selected at random from the box?

[PKB (SEO)-18]



Q16: A bag contains 7 red, 9 yellow, and 3 black balls. If a ball is picked at random, what is the probability that the ball drawn will be either a red or a black ball? *[Comb Bank (Off)-22 (18 Based)]*

$$\frac{7+3}{19} = \frac{10}{19}$$

Q17: In a box, there are 8 red, 7 blue, and 6 green balls. One ball is picked up randomly, what is the probability that it is neither red nor green? *[BB (Cash)-11]*

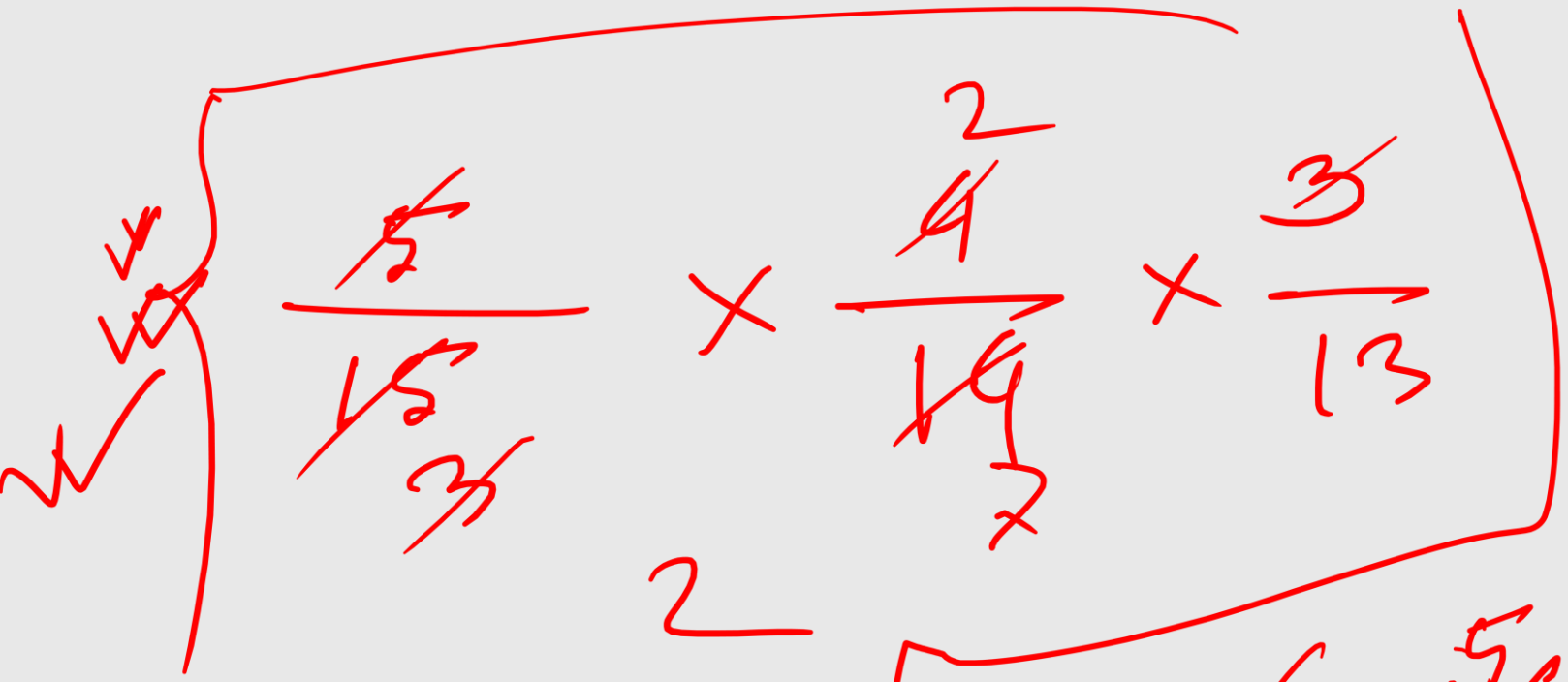
$\frac{8+6}{21} = \frac{14}{21}$

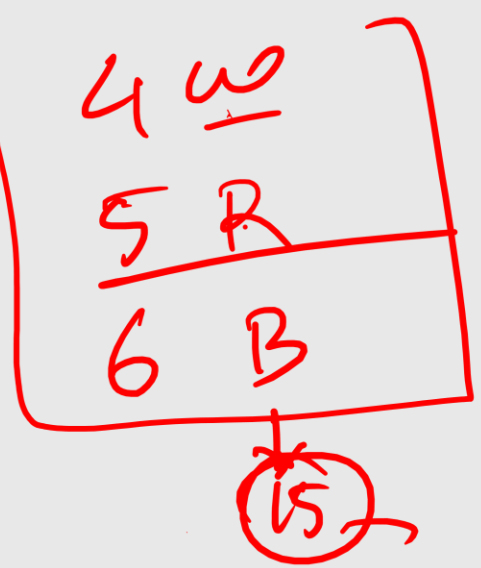
$\frac{7}{21} = \frac{1}{3}$

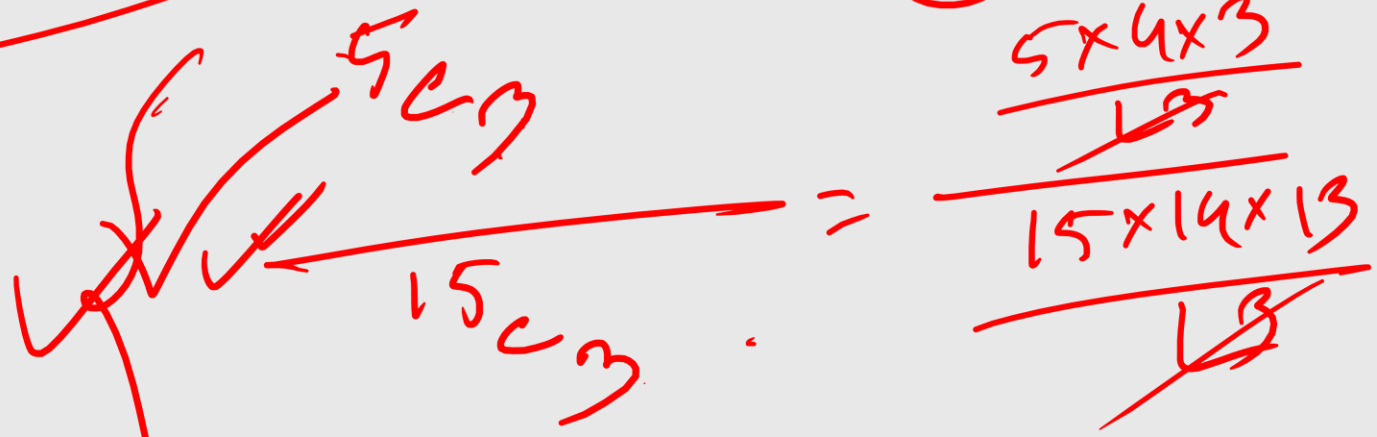
$1 - \frac{14}{21}$

$= \frac{7}{21}$

Q18: A bag contains 4 white, 5 red and 6 blue balls. Three balls are drawn at random from the bag. The probability that all of them are red, is: *[Comb Bank (Cash)-19]*







Q19: A bag contains 2 red, 3 green and 2 blue balls. Two balls are drawn at random. What is the probability that none of the balls drawn is blue? *[Comb Bank (SO)-19]*

$$\frac{{}^5C_2}{{}^7C_2} = \frac{10}{21}$$

2R, 3G, 2B

B prob. $= \frac{5}{7}$

B $= \frac{4}{6}$

$$\frac{5}{7} \times \frac{4}{6} = \frac{10}{21}$$

Q20: There are 8 marbles in a box 6 red and 2 black. If you randomly pick 2 marbles simultaneously what is the probability that you will get one red and 1 black marble? *[Bapex (AM)-23]*

$$\frac{{}^{6}C_1 \times {}^{2}C_1}{{}^{8}C_2} = \frac{3}{7}$$

Red

$$\frac{6}{8} \times \frac{2}{7} \times 2 = \frac{3}{7}$$

$$= \frac{3}{14} + \frac{3}{14}$$

$$= \frac{3+3}{14} = \frac{6}{14} = \frac{3}{7}$$

Q21: A box contains 4 tennis ball, 6 season balls and 8 dues balls, 3 balls are randomly drowned from the box, what is the probability that the balls are different? *[Sonali Bank (Off)-19]*

$$\frac{4}{18} \times \frac{6}{17} \times \frac{8}{16} \times 3 \times 2 \times 1$$

$$\frac{{}^{4}C_1 \times {}^{6}C_1 \times {}^{8}C_1}{{}^{18}C_3}$$

Type-05

Number Related

Q22: Find the probability of selecting a prime number from a set numbers 1 to 15 (both inclusive) *[Agrani Bank (Off)-13, Midland bank (MTO)-15]*

2, 3, 5, 7, 11, 13

$$\frac{6}{15} = \frac{2}{5}$$

Q23: Tickets numbered 1 to 20 are mixed up and then a ticket is drawn at random. What is the probability that the ticket drawn has a number which is a multiple of 3 or 5? *[Pubali Bank (Off)-13, PKB (EO)-19]*

3 and 5 = $\frac{1}{20}$

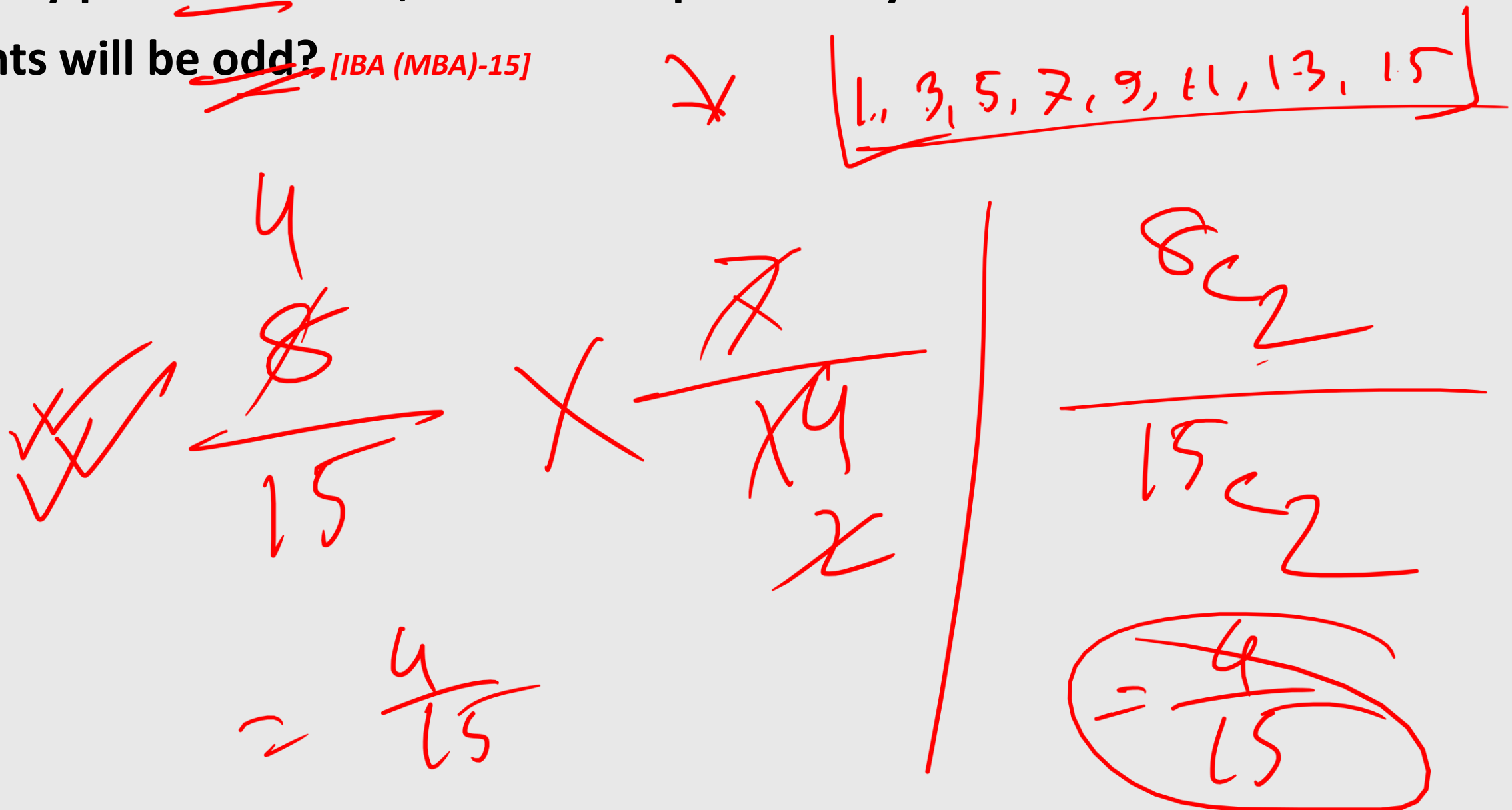
3, 6, 9, 12, 15, 18.

5, 10, 20

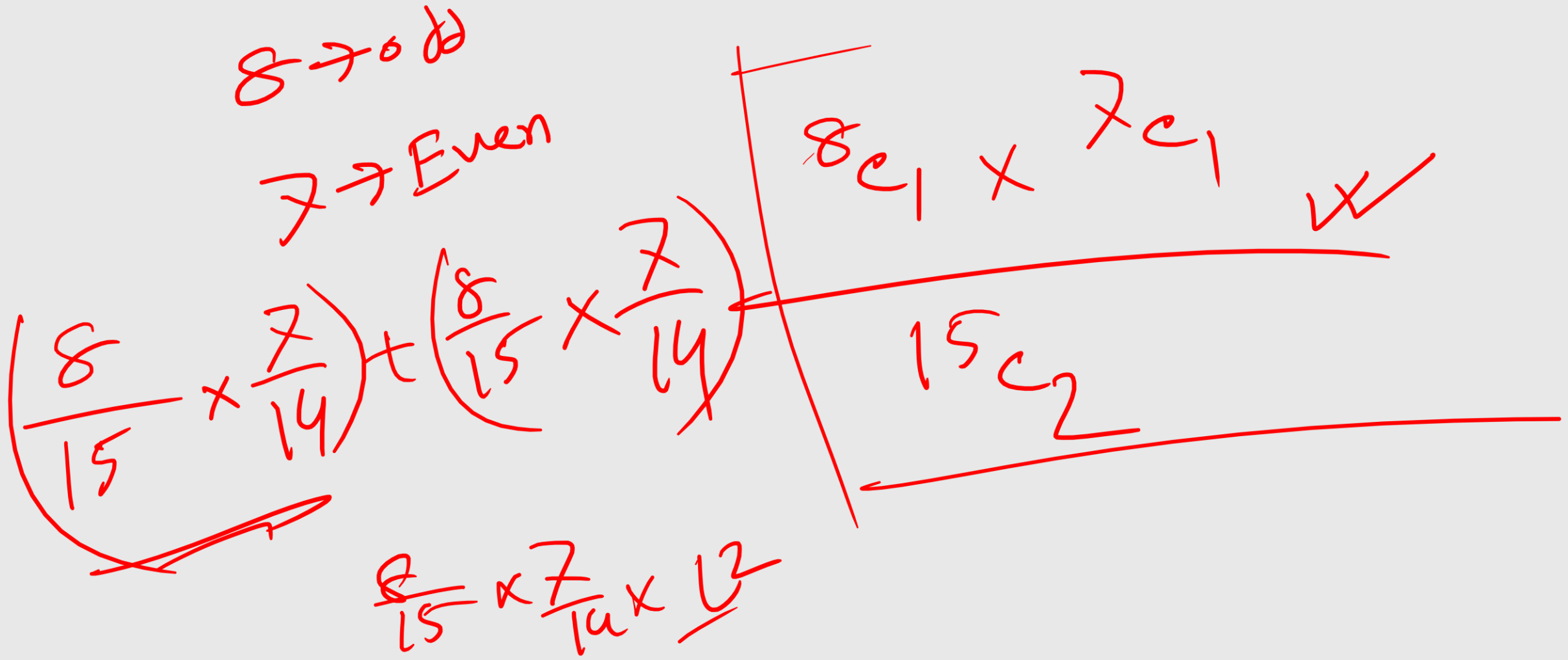
15

= $\frac{9}{20}$

Q24: In a class there are 15 students starting form roll number 1 to 15. If you randomly pick 2 students, what is the probability that roll number of both students will be odd? *[IBA (MBA)-15]*



Q24: In a class there are 15 students starting form roll number 1 to 15. If you randomly pick 2 students, what is the probability that roll number one student will be odd and other will be even?



Thank You