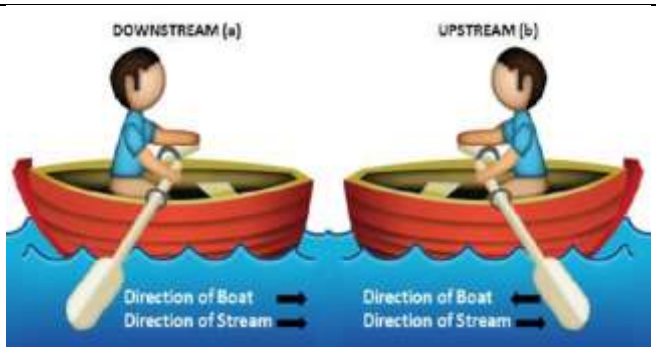
INDIAN SCHOOL AL WADI AL KABIR
Dept. of Mathematics 2021 – 2022
Class X – Revision Work Sheet – Pre-Mid Term
Case Study Questions

	Case Study 1: Mathematics teacher of a school took the standard 10 students to see the painting exhibition which was held at ART COLLEGE OF EDUCATION, Bangalore. It is the part of art integration of Mathematics. The teacher and students had interest in painting as well. Students were eager to see the above paintings. The teacher explained that the above paintings are based on concept of a pair of linear equations of two variables.	
1	If the speed of boat is 5 km/hr and speed of stream is 2 km/hr. What is the speed of the boat in Downstream? a) 5km/hr b) 2km/hr c) 7km/hr d) 3km/hr	
2	If the speed of boat is 5 km/hr and speed of stream is 2 km/hr. What is the speed of the boat in Upstream? a) 5km/hr b) 2km/hr c) 7km/hr d) 3km/hr	
3	A boat goes 21 km downstream. What is the time required to cover it? a) 5km/hr b) 2km/hr c) 7km/hr d) 3km/hr	
4	A boat goes 12 km Up stream. What is the time required to cover it? a) 4km/hr b) 2km/hr c) 6 km/hr d) 3km/hr	
5	If speed of boat and stream be and y km/hr *x km/hr* respectively. What is the distance covered by down steam boat in 't'hours? a) $t(x-y)km$ b) $t(x+y)km$ c) $2t(x-y)km$ d) $2t(x+y)km$	
	Case Study 2: Teachers and students of class X of a school had gone to Nandan Kannan for study tour. After visiting different places of Nandan Kannan, lastly, they visited bird's sanctuary and deer park. Rohan is a clever boy and keen observer. He put the question to his friends "How many birds are there and how many deer are there (at particular time) in Nandan Kannan?" Rahul's friend, Nishith gave the correct answer as follows: 'Nishith answered that total animals have 1000 eyes and 1400 legs.'	

6	If x and y be the number of birds and deer respectively, what is the equation of total number of eyes? a) $x + y = 1000$ b) $x + y = 500$ c) $x - y = 1000$ d) $x - y = 500$
7	What is the equation of total number of legs? a) $2x + y = 70$ b) $x + 2y = 500$ c) $x + 2y = 700$ d) $2x - y = 500$
8	How many birds are there in the Zoo? a) 1000 b) 5000 c) 300 d) 200
9	How many deer are there in the Zoo? a) 500 b)200 c)300 d)700
10	Total number of animals (birds and deer) is a) 1000 b)700 c)500 d)300
	Case Study 3: **It** is common that Governments revise travel fares from time to time based on various factors such as inflation (a general increase in prices and fall in the purchasing value of money) on different types of vehicles like auto, Rickshaws, taxis, Radio cab etc. The auto charges in a city comprise of a fixed charge together with the charge for the distance covered. Study the following situations **Situation 1:** In city A, for a journey of 10 km, the charge paid is Rs 75 and for a journey of 15 km, the charge paid is Rs 110. **Situation 2**: In a city B, for a journey of 8km, the charge paid is Rs91 and for a journey of 14km, the charge paid is Rs 145.
11	**(Refer situation 1)** If the fixed charges of auto rickshaw be Rs x and the running charges be Rs y km/hr, the pair of linear equations representing the situation is a) x + 10y =110, x + 15y = 75 b) x + 10y =75, x + 15y = 110 c) 10x + y =110, 15x + y = 75 d) 10x + y = 75, 15 x + y =110
12	**(Refer situation 1)** A person travels a distance of 50km. The amount he has to pay is a) Rs.155 b) Rs.255 c) Rs.355 d) Rs.455
13	**(Refer situation 2)** What will a person have to pay for travelling a distance of 30km? a) Rs.185 b) Rs.289 c) Rs.275 d) Rs.305

Name of the city	Distance travelled (Km)	Amount paid (Rs.)
City A	10	75
	15	110
City B	8	91
	14	145