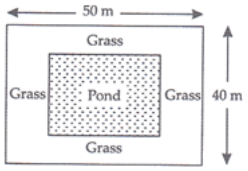
REVISION SHEET (2) CH 4 X

CLASS 10 - MATHEMATICS

Time Allowed: 1 hour **Maximum Marks :**

	Section A	
1	Solve the quadratic equation $(x - 1)^2 - 5(x - 1) - 6 = 0$.	**[2]**
2	The sum of ages (in years) of a son and his father is 35 years and product of their ages is 150 years, find their ages.	**[2]**
3	Find the nature of the roots of the quadratic equation $2x^2 - 3x + 5 = 0$. If the real roots exist,find it.	**[2]**
4	Two taps running together can fill a tank in $3\frac{1}{13}$ hours. If one tap takes 3 hours more than the other to fill the tank, then how much time will each tap take to fill the tank?	**[2]**
5	Solve thequadratic equationby factorization: $$\sqrt{2}x^2 - 3x - 2\sqrt{2} = 0$$	**[2]**
6	One - fourth of a herd of camels was seen in the forest. Twice the square root of the herd had gone to mountains and the remaining 15 camels were seen on the bank of a river. Findthe total number of camels.	**[3]**
7	The sum of two natural numbers is 28 and their product is 192. Find the numbers.	**[3]**
8	A dealer sells an article for₹ 75 and gains as much per cent as the cost price of the article. Find the cost price of the article.	**[3]**
9	A speed of a boat in still water is 11 km/hour. It can go 12 km upstream and return downstream to the original point in 2 hours 45 minutes. Find the speed of the stream.	**[3]**
10	Solve:$\frac{1}{(a+b+x)} = \frac{1}{a} + \frac{1}{b} + \frac{1}{x}[x \neq 0, x \neq -(a+b)]$	**[3]**
11	Solve:$x^2 + 5x - (a^2 + a - 6) = 0$	**[3]**
12	Had Aarush scored 8 more marks in a Mathematics test, out of 35 marks, 7 times these marks would have been 4 less than square of his actual marks. How many marks did he get in the test?	**[3]**
13	The age of a man is twice the square of the age of his son. Eight years hence, the age of the man will be 4 years more than three times the age of his son. Find their present ages.	**[3]**
14	If the list price of a toy is reduced by₹ 2, a person can buy 2 toys more for ₹ 360. Find the original price of the toy.	**[3]**
15	A takes 10 days less than the time taken by B to finish a piece of work. If both A and B together can finish the work in 12 days, find the time taken by B to finish the work.	**[3]**

16	If the equation$(1 + m^2)x^2 + 2mcx + (c^2 - a^2) = 0$ has equal roots, prove that $c^2 = a^2(1 + m^2)$	**[5]**
17	A cottage industry produces a certain number of pottery articles in a day. It was observed on a particular day that cost of production of each article (in rupees) was 3 more than twice the number of articles produced on that day. If, the total cost of production on that day was₹ 90, find the number of articles produced and the cost of each article.	**[5]**
18	Solve:$\frac{x-1}{2x+1} + \frac{2x+1}{x-1} = 2, x \neq -\frac{1}{2}, 1$	**[5]**
19	If the price of a book is reduced by₹ 5, a person can buy 5 more books for ₹ 300. Find the original list price of the book.	**[5]**
20	In the centre of a rectangular lawn of dimensions 50 m × 40 m, a rectangular pond has to be constructed so that the area of the grass surrounding the pond would be 1184 m^2 . Find the length and breadth of the pond  	**[5]**