



INDIAN SCHOOL AL WADI AL KABIR

Class X, Mathematics


Worksheet-Real Numbers

16-04-2023

Q. No.	Questions of 2 Mark each.
1.	Explain whether $3 \times 12 \times 101 + 4$ is a prime number or a composite number.
2.	Check whether 12^n can end with the digit 0 for any natural number n.
3.	Find HCF of 612 and 1314 using prime factorisation.
4.	Given $\sqrt{3}$ is irrational, prove that $5 - 2\sqrt{3}$ is irrational.
5.	Find the values of x and y. <div style="text-align: center; margin-top: 20px;"> <pre> graph TD 1001 --> x 1001 --> 143 143 --> 11 143 --> y </pre> </div>
Questions of 3 marks each	
6.	Find HCF and LCM of 404 and 96 and verify that $\text{HCF} \times \text{LCM} = \text{Product of the two given numbers}$.
7.	Find the largest number which on dividing 1251, 9377 and 15628 leaves remainders 1, 2 and 3 respectively.
8.	On a morning walk, three persons step off together and their step measure 40 cm, 42 cm and 45 cm respectively. What is the minimum distance each should walk, so that each can cover the same distance in complete steps?
9.	The HCF of 65 and 117 is expressible in the form $65m - 117$. Find the value of m. Also find the LCM of 65 and 117 using prime factorization method.
10.	An army contingent of 612 members is to march behind an army band of 48 members in a parade. The two groups are to march in the same number of columns. What is the maximum number of columns in which they can march?
Questions of 5 marks each	
11.	Prove that $(\sqrt{2} + \sqrt{5})$ is irrational.

12.	Find HCF and LCM of 378, 180 and 420 by prime factorization method. Is $HCF \times LCM$ of these numbers equal to the product of the given three numbers?
13.	Prove that $\sqrt{5}$ is an irrational number. Hence, show that $7 + 2\sqrt{5}$ is also an irrational number.
14.	In a seminar the number of participants in Mathematics, Physics and Biology are 336, 240 and 96. Find the minimum number of rooms required if in each room same number of participants is to be seated and all of them being in the same subject.

Question of 4 marks

15.	<p>Case Study Based</p> <p>Taniya have 54 football cards, 72 volleyball cards, and 63 basketball cards and she want to put them in a binder. Each page of the binder should have cards from a single sport, and there should be the same number of cards on each page.</p> <p>Based on the above information, answer the following questions:</p>										
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%; text-align: center;">I</td> <td style="width: 85%;">What is the greatest number of cards, Taniya can put on a page?</td> <td style="width: 10%; text-align: center;">1m</td> </tr> <tr> <td style="text-align: center;">II</td> <td>How many pages will Taniya need for volleyball?</td> <td style="text-align: center;">1m</td> </tr> <tr> <td style="text-align: center;">III</td> <td>Taniya decide to add 42 cricket cards also. In this case what is the maximum number of cards Taniya can put on a page? OR If Taniya decides remove all the basketball cards from total cards(which includes cricket cards), what is the maximum number of cards Taniya can have on each page?</td> <td style="text-align: center;">2m</td> </tr> </table>			I	What is the greatest number of cards, Taniya can put on a page?	1m	II	How many pages will Taniya need for volleyball?	1m	III	Taniya decide to add 42 cricket cards also. In this case what is the maximum number of cards Taniya can put on a page? OR If Taniya decides remove all the basketball cards from total cards(which includes cricket cards), what is the maximum number of cards Taniya can have on each page?	2m
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Answers

Answers	1	Composite number	2	No	3	18	4	Proof
	5	7, 13	6	4, 9696	7	625	8	2520 cm
	9	2, 585	10	12	11	Proof	12	6, 3780, No
	13	Proof	14	48, 14	15	(I)9,(II)8 (III)3 OR 6		