

REAL NUMBERS

SECTION A: (1 MARK)

1.	If $\frac{241}{4000} = \frac{241}{2^m 5^n}$, find the values of m and n where m and n are non-negative integers. Hence write its decimal expansion without actual division. (CBSE 2012)	m=5, n=3 0.06025
2.	Express the number $0.3\overline{178}$ in the form of a rational number a/b. (CBSE 2013)	635/1998
3.	Can two numbers have 14 as their HCF and 325 as their LCM? Give reason. (NCERT Exemplar)	No

SECTION B: (2 MARKS)

4.	"The product of three consecutive positive integers is divisible by 6". Is this statement true? Justify your answer. (NCERT Exemplar)	Yes
5.	Find the least number that is divisible by all the numbers from 1 to 10.	2520
6.	If the HCF of 65 and 117 is expressible in the form $65m - 117$. Find the value of m.	2
7.	What is the greatest possible speed at which a man can walk 52 km and 91 km in an exact number of minutes?	13m/min
8.	Find the smallest natural number by which 1200 should be multiplied so that the square root of the product is a rational number. (CBSE 2015)	3

SECTION C: (3 MARKS)

8.	On Darsait signal, three consecutive traffic lights change after 36, 42 and 72 seconds. If the lights are first switched on at 9.00 am, at what time will they change simultaneously? (NCERT Exemplar)	9:08:24
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9.	Using Euclid's division algorithm, find whether the pair of numbers are co primes or not. (CBSE 2014)	Coprimes
10.	Prove that $\sqrt{p} + \sqrt{q}$ is irrational, where p and q are primes.	
11.	If n is any prime number and a^2 is divisible by n, then n will also divide a. Justify.	

SECTION D: (4 MARKS)

12.	For any positive integer n, prove that $n^3 - n$ is divisible by 6. (NCERT Exemplar)	
13.	Is the square of every non-square number always irrational? Find the smallest natural number which divides 2205 to make its square root a rational number. (CBSE 2015)	Yes, 5
14.	The floor of Manu's drawing room is 306 inches long and 136 inches wide. He wishes to tile the floor with identical square tiles. Find the minimum number of tiles that he can use.	36
15.	What is the sum of the digits of the smallest number, which leaves remainder 2 upon being divided by 10, 15 and 25?	8
