QB365 Important Questions - Real Number 10th Standard CBSE

Maths

Reg.No. :			

Total Marks : 50

Time : 01:00:00 Hrs

Section - A				
1) Explain why 13233343563715 is a composite number?				
2) a and b are two positive integers such that the least prime factor of a is 3 and the least prime factor of b is 5.				
Then calculate the least prime factor of (a + b).				
3) What is the HCF of the smallest composite number and the smallest prime number?				
4) Calculate the HCF of $3^3 \times 5$ and $3^2 \times 5^2$.	1			
5) If HCF (a, b) = 12 and a x b = 1,800, then find LCM (a, b).				
6) What is the condition for the decimal expansion of a rational number to terminate? Explain with the help of an example.	1			
7) Find the smallest positive rational number by which 1/7 should be multiplied so that its decimal expansion	1			
terminates after 2 places of decimal.				
8) What type of decimal expansion does a rational number has? How can you distinguish it from decimal	1			
expansion of irrational numbers?				
9) Calculate $\frac{3}{8}$ in the decimal form.	1			
10) The decimal representation of $\frac{6}{1250}$ will terminate 1250 after how many places of decimal?	1			
Section - B				
11) A rational number in its decimal expansion is 327.7081. What can you say about the prime factors of q. when	2			
this number is expressed in the form $rac{p}{q}$? Give reason.				
12) Check whether 15 ⁿ can end with digit zero for any natural number n.				
13) Find HCF of the numbers given below: k, u, 3k, 4k and 5k, where k is any positive integer.				
14) Complete the following factor tree and find the composite number x.	2			
15) Explain whether $3 imes12 imes101+4$ is a prime number or a composite number	2			
16) Show that any positive even integer can be written in the from 6q, 6q + 2 or 6q + 4, where q is an integer	2			
17) Show that 7 ⁿ cannot end with the digit zero, for any natural number II.	2			
18) The length, breadth and height of a room are 8m 50 cm, 6 m 25 cm and 4 m 75 cm respectively. Find the	2			
length of the longest rod that can measure the dimensions of the room exactly.				
19) Prove that $\sqrt{2}$ is an irrational number.	2			
20) Prove that $3+\sqrt{5}$ is an irrational number	2			
Section - C				
21) Write whether every positive integer can be of the form 4q + 2, where q is an integer. Justify your answer.	5			

22) Use Euclid's division lemma to show that the cube of any positive integer is either of the form 9m or 9m + 1 or 9m + 8.
23) Can the number 6ⁿ, n being number, end with the digit 5 ? Give reasons.

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24) For any positive integer n, prove that n^3 - n is divisible by 6.
