# QB365 <br> Important Questions - Real Number <br> 10th Standard CBSE 

## Maths

Reg.No.:

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Time : 01:00:00 Hrs

Total Marks : 50

## 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 $3^{2} \times 5^{2}$.
5) If $\operatorname{HCF}(a, b)=12$ and $a x b=1,800$, then find $\operatorname{LCM}(a, b)$.
6) What is the condition for the decimal expansion of a rational number to terminate? Explain with the help of an example.
7) Find the smallest positive rational number by which $1 / 7$ should be multiplied so that its decimal expansion terminates after 2 places of decimal.
8) What type of decimal expansion does a rational number has? How can you distinguish it from decimal expansion of irrational numbers?
9) Calculate $\frac{3}{8}$ in the decimal form.
10) The decimal representation of $\frac{6}{1250}$ will terminate 1250 after how many places of decimal?

Section - B
11) A rational number in its decimal expansion is 327.7081 . What can you say about the prime factors of $q$. when this number is expressed in the form $\frac{p}{q}$ ? 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: $k, u, 3 k, 4 k$ and $5 k$, where $k$ is any positive integer.
14) Complete the following factor tree and find the composite number $x$.
15) Explain whether $3 \times 12 \times 101+4$ is a prime number or a composite number
16) Show that any positive even integer can be written in the from $6 q, 6 q+2$ or $6 q+4$, where $q$ is an integer
17) Show that $7^{n}$ cannot end with the digit zero, for any natural number II.
18) The length, breadth and height of a room are $8 \mathrm{~m} 50 \mathrm{~cm}, 6 \mathrm{~m} 25 \mathrm{~cm}$ and 4 m 75 cm respectively. Find the length of the longest rod that can measure the dimensions of the room exactly.
19) Prove that $\sqrt{2}$ is an irrational number.
20) Prove that $3+\sqrt{5}$ is an irrational number

## Section - C

21) Write whether every positive integer can be of the form $4 q+2$, where $q$ is an integer. Justify your answer.
22) Use Euclid's division lemma to show that the cube of any positive integer is either of the form 9 m or $9 \mathrm{~m}+1$ or $9 m+8$.
23) Can the number $6^{n}$, $n$ being number, end with the digit 5 ? Give reasons.
24) For any positive integer $n$, prove that $n^{3}-n$ is divisible by 6 .
