

**Class: X      Mathematics Assignment: 6 August 2010      Chapter: REAL NUMBERS**

1. Show that only one out of  $n$ ,  $n + 4$ ,  $n + 8$ ,  $n + 12$ ,  $n + 16$  is divisible by 5, when  $n$  is a positive integer.
2. Use Euclid's division algorithm to find the HCF of: (a) 135 & 225      (b) 196 & 38220  
(c) 867 & 255.
3. Find the HCF of the following pairs of integers by the prime factorization method.  
(a) 963 & 657 (b) 506 & 1155 (c) 1288 & 575
4. Find the greatest number which divides 285 and 1245 leaving remainders 9 & 7 respectively.
5. The length, breadth and height of a room are 8m 25cm, 6m 75cm and 4m 50cm, resp. Find the longest rod which can measure the three dimensions of the room exactly.
6. Find the largest number that will divide 398, 436 and 542 leaving remainders 7, 11 and 15 respectively.
7. A rectangular courtyard is 18m 72cm long and 13m 20cm broad. It is to be paved with square tiles of the same size. Find the least possible number of such square tiles required.
8. HCF of two numbers is 145 and their LCM is 2175. If one number is 725, find the other.
9. Prove that  $3 + 2\sqrt{5}$  is irrational.
10. Prove that  $\sqrt{5} + \sqrt{3}$  is irrational.
11. What can you say about prime factors of denominators of following real numbers?  
(i):34.12345 (ii):  $25.\overline{567}$  (iii): 2.5055055505555....