Maths

Class – VI

EXERCISE 3.6

1. Find the HCF of the following numbers :
   (a) 18, 48 (b) 30, 42 (c) 18, 60 (d) 27, 63
   (e) 36, 84 (f) 34, 102 (g) 70, 105, 175
   (h) 91, 112, 49 (i) 18, 54, 81 (j) 12, 45, 75
2. What is the HCF of two consecutive
   (a) numbers? (b) even numbers? (c) odd numbers?

3. HCF of co-prime numbers 4 and 15 was found as follows by factorisation :
   $4 = 2 \times 2$ and $15 = 3 \times 5$ since there is no common prime factor, so HCF of 4 and 15 is 0. Is the answer correct? If not, what is the correct HCF?

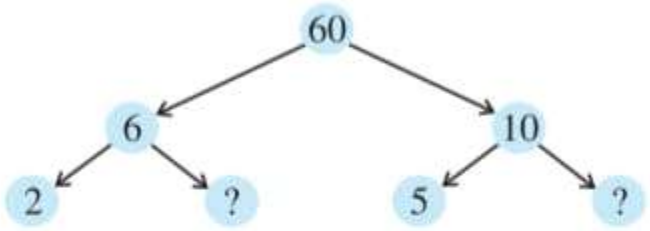
(g) All numbers which are divisible by 8 must also be divisible by 4.

(h) If a number exactly divides two numbers separately, it must exactly divide their sum.

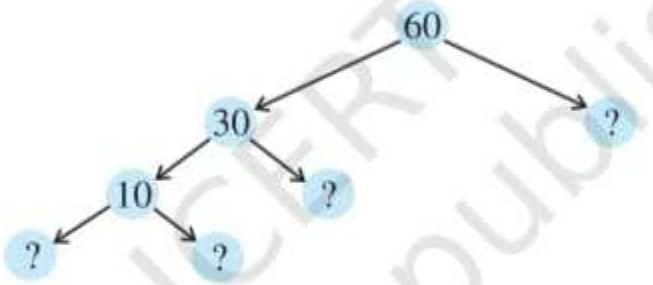
(i) If a number exactly divides the sum of two numbers, it must exactly divide the two numbers separately.

2. Here are two different factor trees for 60. Write the missing numbers.

(a)



(b)



3. Which factors are not included in the prime factorisation of a composite number?
4. Write the greatest 4-digit number and express it in terms of its prime factors.
5. Write the smallest 5-digit number and express it in the form of its prime factors.
6. Find all the prime factors of 1729 and arrange them in ascending order. Now state the relation, if any; between two consecutive prime factors.
7. The product of three consecutive numbers is always divisible by 6. Verify this statement with the help of some examples.
8. The sum of two consecutive odd numbers is divisible by 4. Verify this statement with the help of some examples.
9. In which of the following expressions, prime factorisation has been done?

   (a) $24 = 2 \times 3 \times 4$ (b) $56 = 7 \times 2 \times 2 \times 2$

   (c) $70 = 2 \times 5 \times 7$ (d) $54 = 2 \times 3 \times 9$

10. Determine if 25110 is divisible by 45.
    [**Hint :** 5 and 9 are co-prime numbers. Test the divisibility of the number by 5 and 9].
11. 18 is divisible by both 2 and 3. It is also divisible by $2 \times 3 = 6$. Similarly, a number is divisible by both 4 and 6. Can we say that the number must also be divisible by $4 \times 6 = 24$? If not, give an example to justify your answer.
12. I am the smallest number, having four different prime factors. Can you find me?

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