



NCERT SOLUTIONS FOR CLASS 6 MATHS PLAYING WITH  
NUMBERS EXERCISE 3.5

**Q1.** Which of the following statements are true:

(a) If a number is divisible by 3, it must be divisible by 9.

(b) If a number is divisible by 9, it must be divisible by 3.

(c) If a number is divisible by 18, it must be divisible by both 3 and 6.

(d) If a number is divisible by 9 and 10 both, then it must be divisible by 90.

(e) If two numbers are co-primes, at least one of them must be prime.

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

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

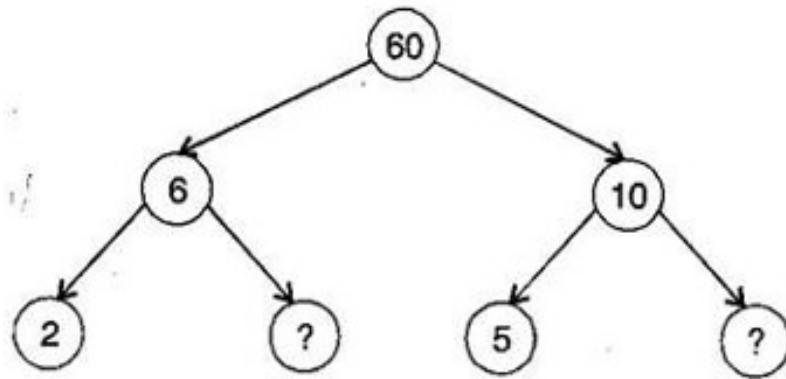
(h) If a number exactly divides two numbers separately, it must exactly divide their sum.

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

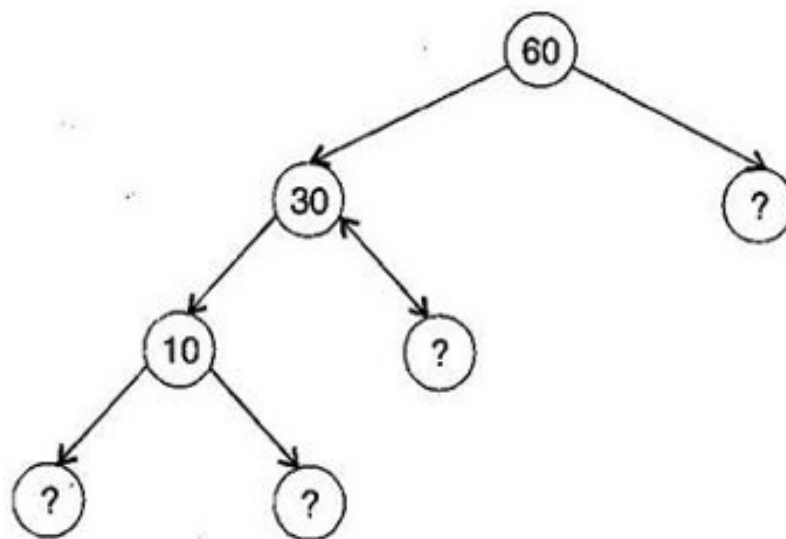
**Ans:** Statements (b), (c), (d), (g) and (h) are true.

**Q2.** Here are two different factor trees for 60. Write the missing number

(a)

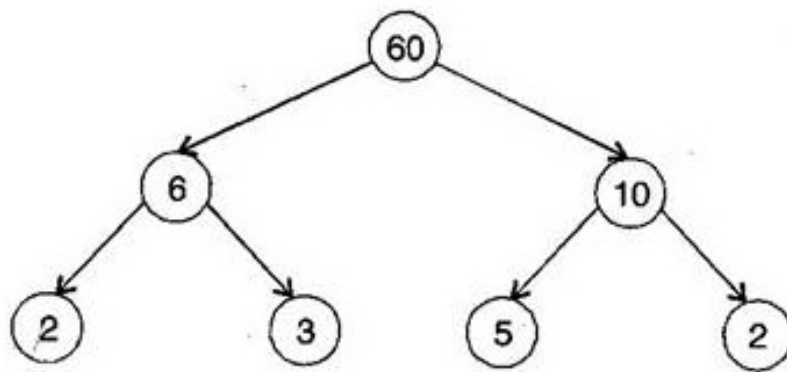


(b)

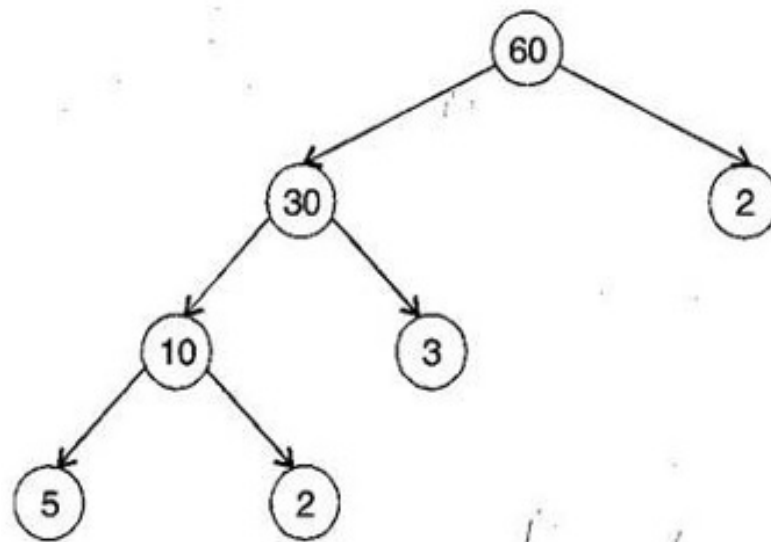


**Ans:Sol.**

(a)



(b)

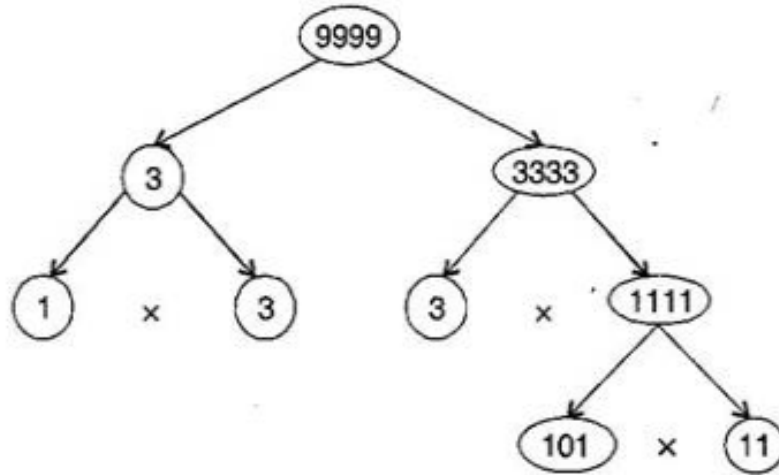


**Q3.** Which factors are not included in the prime factorization of a composite number?

**Ans:** 1

**Q4.** Write the greatest 4-digit number and express it in terms of its prime factors

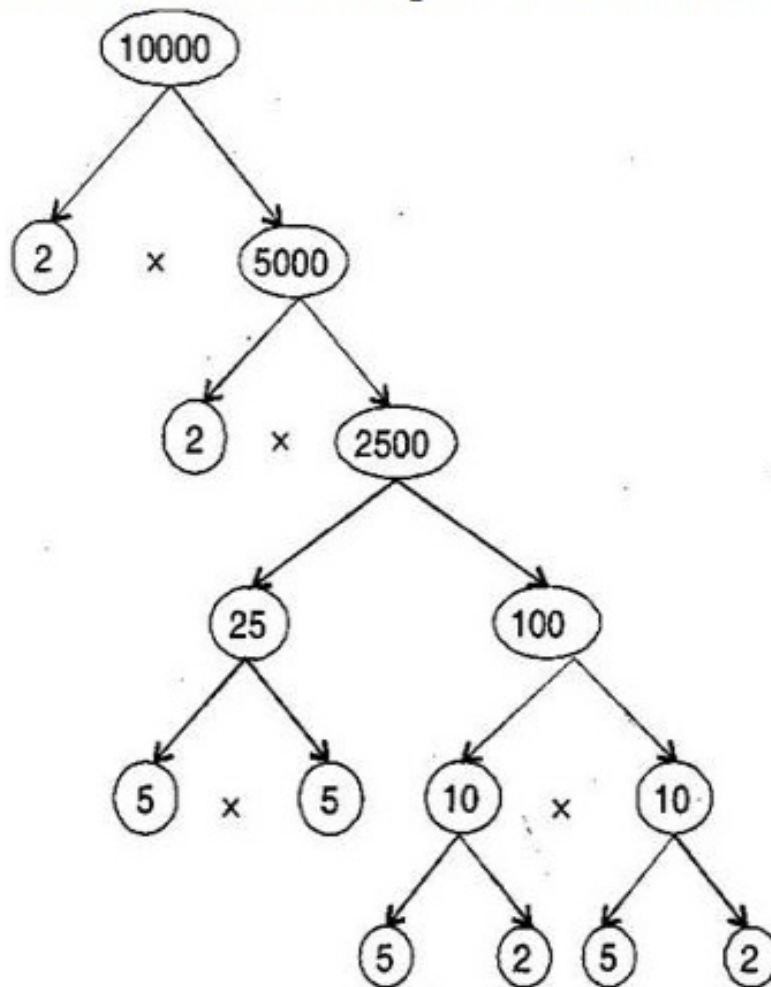
**Ans:** The greatest four digit number is 9999.



The prime factors of 9999 are  $3 \times 3 \times 11 \times 101$ .

**Q5.** Write the smallest 5-digit number and express it in terms of its prime factors

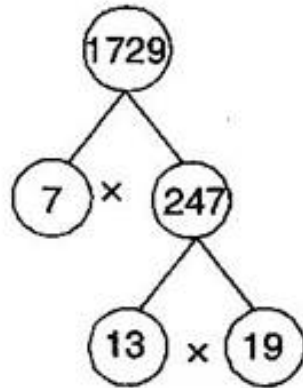
**Ans:** The smallest five digit number is 10000.



The prime factors of 10000 are  $2 \times 2 \times 2 \times 2 \times 5 \times 5 \times 5 \times 5$ .

**Q6.** Find all the prime factors of 1729 and arrange them in ascending order. Now state the relation, if any, between, two consecutive prime number

**Ans:**Sol.



Prime factors of 1729 are  $7 \times 13 \times 19$ .

The difference of two consecutive prime factors is 6.

**Q7.** The product of three consecutive numbers is always divisible by 6. Verify this statement with the help of some examples.

**Ans:**Among the three consecutive numbers, there must be one even number and one multiple of 3. Thus, the product must be multiple of 6.

Example:(i)  $2 \times 3 \times 4 = 24$

(ii)  $4 \times 5 \times 6 = 120$

**Q8.** The sum of three consecutive numbers is always divisible by 4. Verify this statement with the help of some examples.

**Ans:**  $3 + 5 = 8$  and 8 is divisible by 4.  
 $5 + 7 = 12$  and 12 is divisible by 4.

$7 + 9 = 16$  and 16 is divisible by 4.

$9 + 11 = 20$  and 20 is divisible by 4.

**Q9.** In which of the following expressions, prime factorization 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)  $54 = 2 \times 3 \times 9$

**Ans:** In expressions (b) and (c), prime factorization has been done.

**Q10.** Determine if 25110 is divisible by 45.  
[Hint: 5 and 9 are co-prime number. Test the divisibility of the number by 5 and 9.]

**Ans:** The prime factorization of  $45 = 5 \times 9$   
25110 is divisible by 5 as '0' is at its unit place.

25110 is divisible by 9 as sum of digits is divisible by 9.

Therefore, the number must be divisible by  $5 \times 9 = 45$

**Q11.** 18 is divisible by both 2 and 3. It is also divisible by  $2 \times 3 = 6$ . Similarly, a number is divisible by 4 and 6. Can we say that the number must be divisible by  $4 \times 6 = 24$ ? If not, give an example to justify your answer.

**Ans:**No. Number 12 is divisible by both 6 and 4 but 12 is not divisible by 24.

**Q12.** I am the smallest number, having four different prime factors. Can you find me?

**Ans:** $2 \times 3 \times 5 \times 7 = 210$

\*\*\*\*\* END \*\*\*\*\*