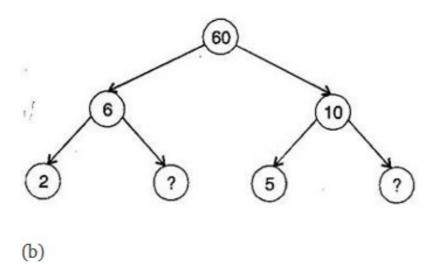


## NCERT SOLUTIONS FOR CLASS 6 MATHS PLAYING WITH NUMBERS EXERCISE 3.5

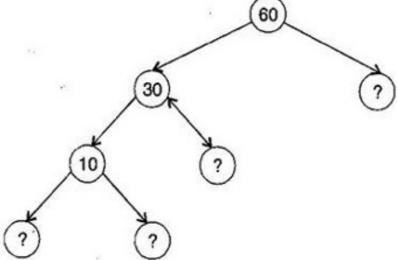
- Q1.Which of the following statements are true:
- (a)If a number is divisible by 3, it must be divisible by 9.
- (b) If a number is divisible by 9, it must be divisible by 3.
- (c)If a number is divisible by 18, it must be divisible by both 3 and 6.
- (d)If a number is divisible by 9 and 10 both, then 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 by divisible by 8.
- (g)All numbers which are divisible by 8 must also by divisible by 4.
- (h)If a number is exactly divides two numbers separately, it must exactly divide their sum.
- (i) If a number is exactly divides the sum of two numbers, it must exactly divide the two numbers separately.

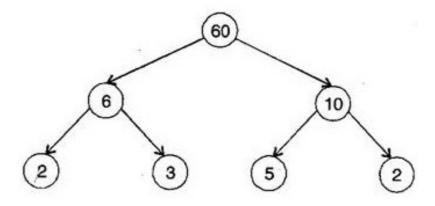
Ans:Statements (b), (c), (d), (g) and (h) are true.

Q2.Here are two different factor trees for 60. Write the missing numbe (a)

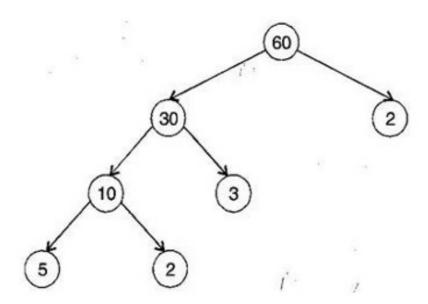


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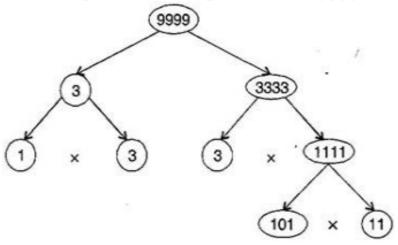
(b)



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

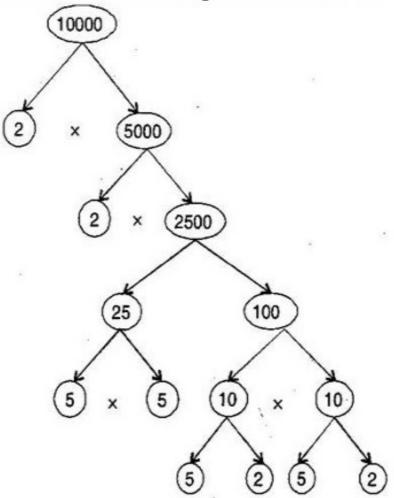
Ans:1

**Q4.** Write the greatest 4-digit number and express it in terms of its prime facto **Ans:**The greatest four digit number is 9999.



The prime factors of 9999 are 3 x 3 x 11 x 101.

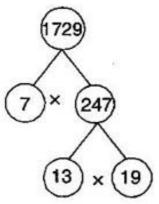
Q5. Write the smallest 5-digit number and express it in terms of its prime facto
Ans: The smallest five digit number is 10000.



The prime factors of 10000 are 2 x 2 x 2 x 2 x 5 x 5 x 5 x 5 x 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 numbe

Ans:Sol.



Prime factors of 1729 are 7 x 13 x 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 numbe 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 x 3 = 6. Similarly, a number is divisible by 4 and 6. Can we say that the number must be divisible by 4 x 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 facto Can you find me?

Ans: 2 x 3 x 5 x 7 = 210

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