

Hence, $a - b - c - d$

Case Study-based Questions

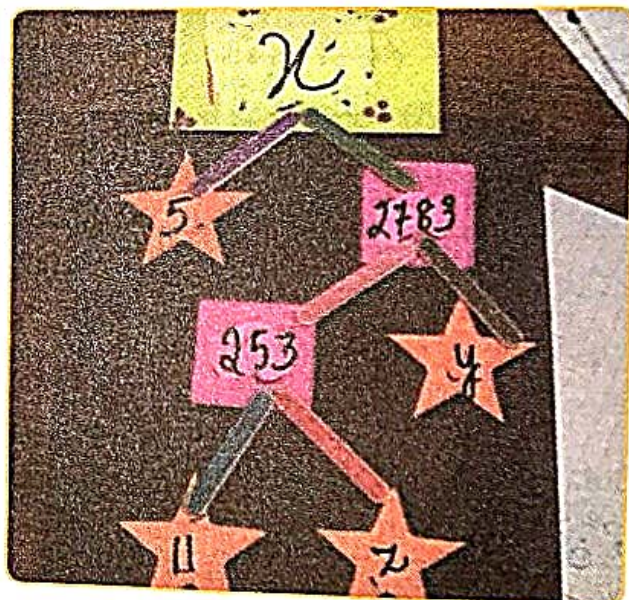
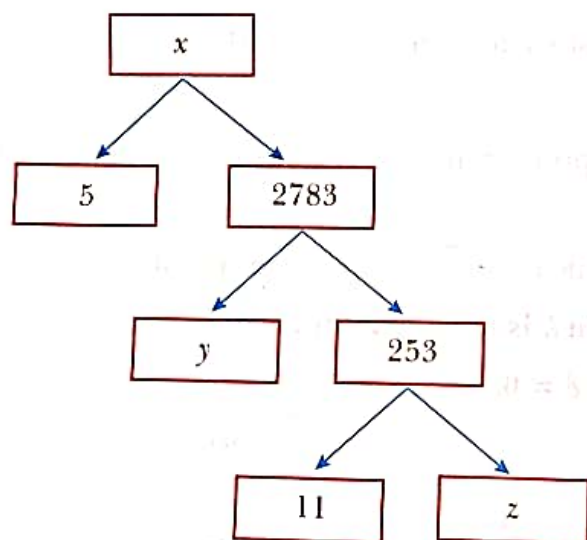
Each of the following questions are of 4 marks.

1. Read the following and answer any four questions from (i) to (v).

A Mathematics Exhibition is being conducted in your School and one of your friends is making a model of a factor tree. He has some difficulty and asks for your help in completing a quiz for the audience.

[CBSE Question Bank]

Observe the following factor tree and answer the following:



- (i) What will be the value of x ?
- (a) 15005 (b) 13915 (c) 56920 (d) 17429
- (ii) What will be the value of y ?
- (a) 23 (b) 22 (c) 11 (d) 19

(iii) What will be the value of z ?

(a) 22

(b) 23

(c) 17

(d) 19

(iv) According to Fundamental Theorem of Arithmetic 13915 is a

(a) Composite number

(b) Prime number

(c) Neither prime nor composite

(d) Even number

(v) The prime factorisation of 13915 is

(a) $5 \times 11^3 \times 13^2$

(b) $5 \times 11^3 \times 23^2$

(c) $5 \times 11^2 \times 23$

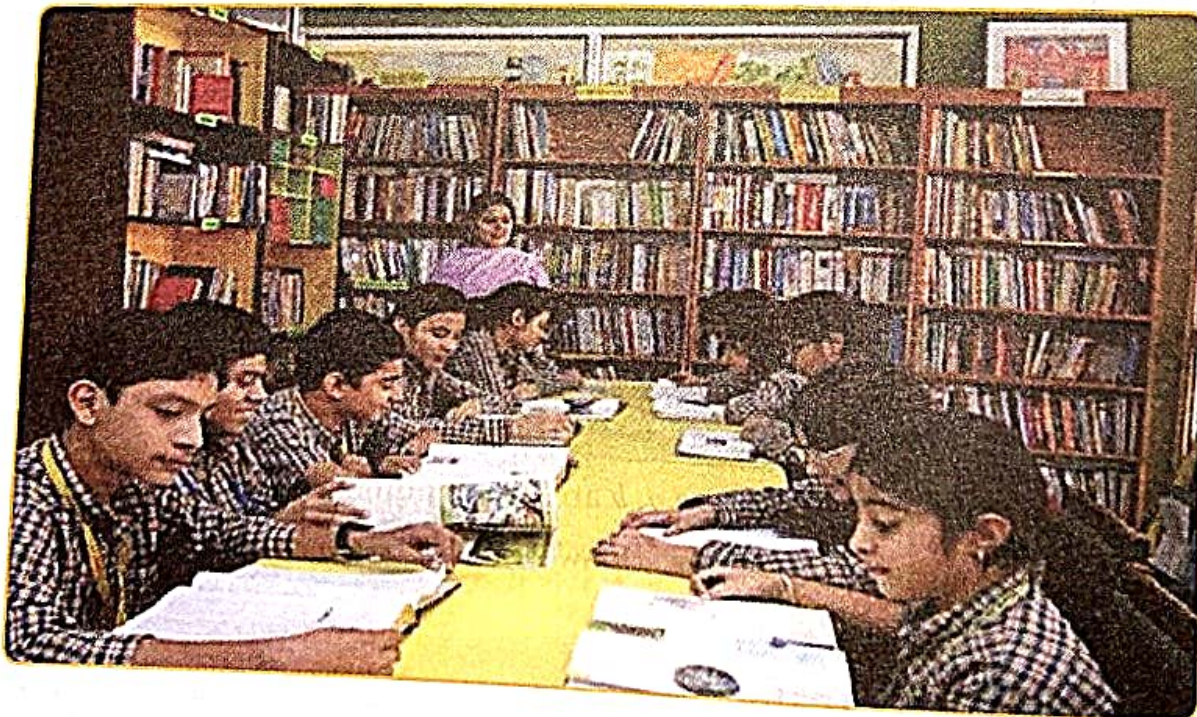
(d) $5 \times 11^2 \times 13^2$

Sol. (i) From the factor tree it is clear that

None option (v) is correct.

2. Read the following and answer any four questions from (i) to (v).

To enhance the reading skills of grade X students, the school nominates you and two of your friends to set up a class library. There are two sections- section A and section B of grade X. There are 32 students in section A and 36 students in section B. [CBSE Question Bank]



- (i) What is the minimum number of books you will require for the class library, so that they can be distributed equally among students of Section A or Section B?
- (a) 144 (b) 128 (c) 288 (d) 272
- (ii) If the product of two positive integers is equal to the product of their HCF and LCM is true then, the HCF (32, 36) is
- (a) 2 (b) 4 (c) 6 (d) 8
- (iii) 36 can be expressed as a product of its primes as
- (a) $2^2 \times 3^2$ (b) $2^1 \times 3^3$ (c) $2^3 \times 3^1$ (d) $2^0 \times 3^0$
- (iv) $7 \times 11 \times 13 \times 15 + 15$ is a
- (a) Prime number (b) Composite number
- (c) Neither prime nor composite (d) None of the above
- (v) If p and q are positive integers such that $p = ab^2$ and $q = a^2b$, where a, b are prime numbers, then the LCM (p, q) is
- (a) ab (b) a^2b^2 (c) a^3b^2 (d) a^3b^3