DOON PUBLIC SCHOOL

(C.B.S.E. Affiliation No. 1030502)

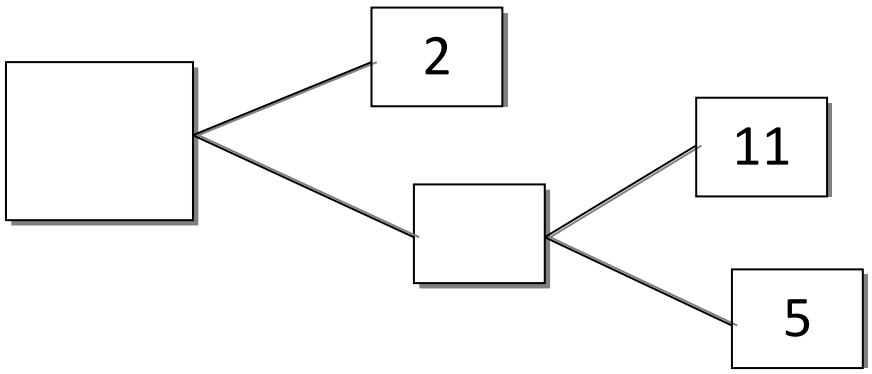
Mathematics

Holiday Assignment – 2

Session 2021-22

Class - X ***Chapter:- Real Numbers***

Q1:} **Complete the missing entries in the following factor tree.**



Q2:} **Prove that $\sqrt{p}+\sqrt{q}$ is irrational if *p* and *q* are prime numbers.**

Q3:} **Find the largest number which divides 245 and 1205 leaving the remainder5 in each case.**

Q4:} **Find the largest number which divides 303, 455 and 757 leaving the remainder 3, 5 and 7 respectively.**

Q5:} **Prove that $\sqrt{5}$ is irrational.**

Q6:} **Prove that $6-2\sqrt{5}$ is irrational.**

Q7:} **Find the HCF and the LCM of the following by prime factorization.**

a) **360 , 756**

b) **$2x^4y^3z$, $32x^3y^4p^2$**

Q8:} **Find the HCF by Euclid's Division Algorithm.**

a) **256 , 352**
b) **450 , 500 , 625**

Q9:} **Explain why 7x11x13+13 is a composite number.**

Q10:} **Show that any positive odd number is of the form 6*q* + 1, 6*q* + 3 or 6*q* + 5, where *q* is an integer.**

Q11:} **Show that the square of any positive integer is of the form 3*m* or 3*m* + 1, where *m* is an integer.**

Q12:} **Use Euclid's division lemma to show that the cube of any positive integer is of the form 9*m*, 9*m* + 1, 9*m* + 8, where *m* is an integer.**

Q13:} **There are 3 consecutive traffic lights which turn "green" after every 36, 42 and 72 seconds. They all were at "green" at 9:00 AM. At what time will they all turn "green" simultaneously?**