

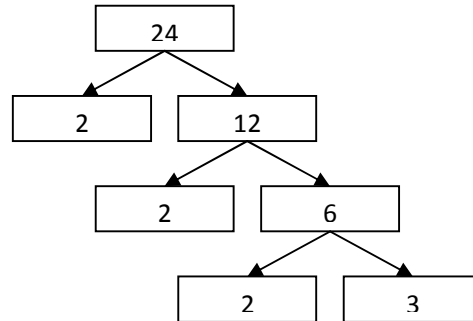
Do the problems given below in the Math copy. (Answers are provided at the end)

PRIME FACTORIZATION (Factor tree method)

Example 1: Find the prime factorization of 24.

Step 1: Start by dividing the number by the first prime number 2 and continue dividing by 2 until you get a remainder. Then divide by 3, 5, 7, etc. and so forth until the only numbers left are prime numbers.

Factor tree of 24



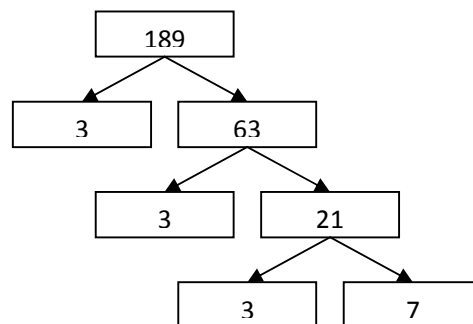
Step 2: Write the number as a product of prime numbers

$$24=2\times 2\times 2\times 3$$

Example 2: Find the prime factorization of 189.

Step 1: Since we get a remainder if we divide 189 by 2, start by dividing the number by the second prime number 3 and continue dividing by 3 until you get a remainder. Then divide by 5, 7, 11, etc. and so forth until the only numbers left are prime numbers.

Factor tree of 189



Step 2: Write the number as a product of prime numbers

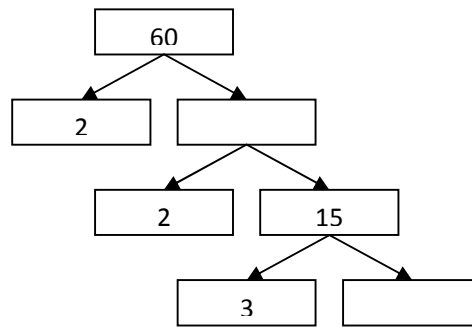
$$189=3\times 3\times 3\times 7$$

Questions

- Write all the factors of each of the following numbers and then tell whether it's a prime number or a composite number.
i) 11 ii) 32 iii) 40 iv) 19 v) 41
- Find the prime factorization of each of the following numbers using factor trees.
i) 216 ii) 150 iii) 84
- List the common factors of each of the following sets of numbers. Hence find their HCF.
i) 15,35 ii) 16,27 iii) 30,42 iv) 18,32,48
- Copy and complete the following factor trees.

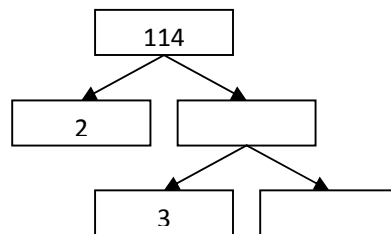
i)

Factor tree of 60



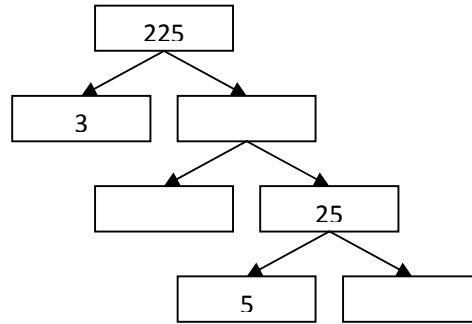
ii)

Factor tree of 114



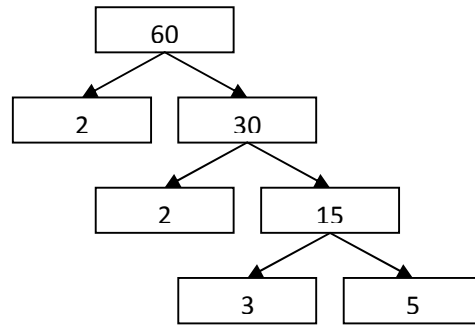
iii)

Factor tree of 225

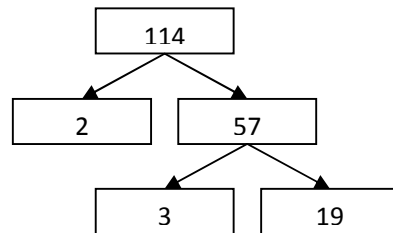


Answer key	
1.	
i. 1,11 Prime	ii. 1,2,4,8,16,32 Composite
iii. 1,2,4,5,8,10,20,40 Composite	iv. 1,19 Prime
v. 1,41 Prime	
2.	
i. $216=2 \times 2 \times 2 \times 3 \times 3 \times 3$	ii. $150=2 \times 3 \times 5 \times 5$
iii. $84=2 \times 2 \times 3 \times 7$	
3.	
i. 5	ii. 1
iii. 6	iv. 2

Factor tree of 60



Factor tree of 114



Factor tree of 225

