

CHAPTER 1 – REAL NUMBERS
MATHEMATICS
REVISION WS 1

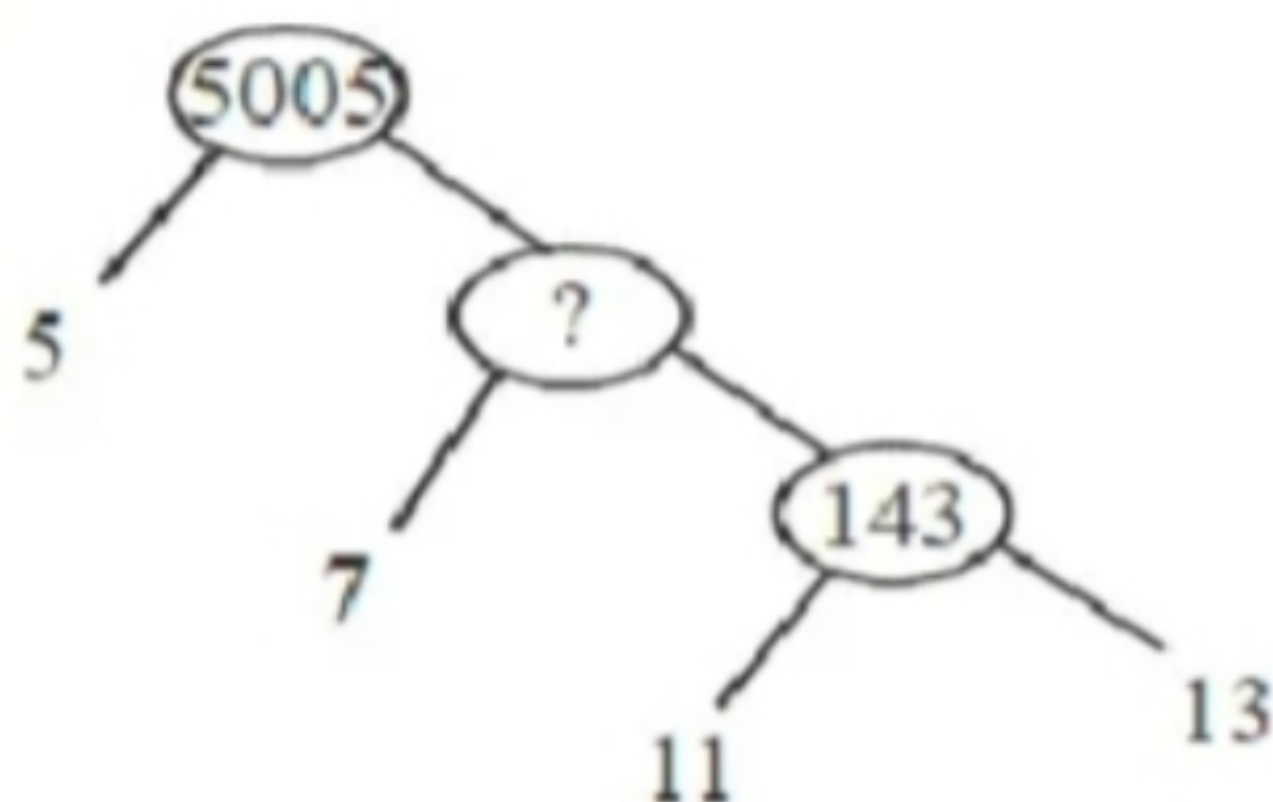
1. The prime factorization of 468 is:
(a) $2^1 \times 3^3 \times 13^1$ (b) $2^2 \times 3^1 \times 13^1$
(c) $2^2 \times 3^2 \times 13^1$ (d) none of these.
2. If $H.C.F(135, 225) = 45$, Then L.C.M
(a) 675 (b) 625 (c) 225 (d) 525
3. If the HCF of 210 and 55 is expressible in the form $210 \times 5 + 55y$ then $y =$
(a) 19 (b) 18 (c) 15 (d) -19
4. HCF of 56, 96 and 324
(a) 4 (b) 5 (c) -4 (d) 6
5. If a and b are two prime numbers, their HCF is
(a) a (b) b (c) ab (d) 1
6. The largest number which divides 303, 455 and 757 leaving the remainder 3, 5 and 7 respectively.
(a) 150 (b) 50 (c) 250 (d) 225
7. 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?
(a) 9:08:24 AM (b) 9:05:24 AM
(c) 9:06:25 AM (d) 9:05:06 AM
8. Assertion: The HCF of two numbers is 18 and their product is 3072. Then their LCM = 169.
Reason: For any two positive integers a and b $HCF(a, b) \times LCM(a, b) = a \times b$.
(a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).
(b) Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).
(c) Assertion (A) is true but reason (R) is false.
(d) Assertion (A) is false but reason (R) is true.

Short Answer Questions I:

9. Explain whether the number $3 \times 5 \times 13 \times 46 \times 23$ is a prime number or composite number.
10. Two positive integers p and q can be expressed as $p = ab^2$ and $q = a^2b$, a & b are prime numbers. What is the LCM of p and q .
11. HCF of 144 & 180 is expressed in the form of $13m - 3$. Find the value of m ?
12. Show that 9^n cannot end with digit 0, for any natural number n .
13. Find the smallest number which gives remainders 8 and 12 when divided by 28 and 32 respectively.

Short Answer Questions II:

14. Find the missing number in the following factor tree:



15. If $\text{HCF}(16, y) = 8$ and $\text{LCM}(16, y) = 48$, then the value of y is?
16. Is $119^2 - 111^2$ a prime number or composite? Explain.

Long Answer Questions:

17. The LCM of two numbers is 14 times their HCF. The sum of LCM and HCF is 600. If one number is 280, then find the other number.
18. prove that $15 - 17\sqrt{3}$ is an irrational number, provided $\sqrt{3}$ is irrational.