

## Real Numbers – Previous Year Question Paper Questions & Answers

### CBSE Class 10 Mathematics/Model Questions/Worksheet

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1. Calculate HCF of  $3^3 \times 5$  and  $3^2 \times 5^2$

Answer: HCF =  $3^2 \times 5 = 9 \times 5 = 45$

2. Express 225 in prime factorisation

Answer:

$$225 = 3 \times 3 \times 5 \times 5 = 3^2 \times 5^2$$

3. Find the HCF and LCM of 90 and 144 by the method of prime factorisation.

Answer:

$$90 = 2 \times 3 \times 3 \times 5$$

$$144 = 2 \times 2 \times 2 \times 2 \times 3 \times 3$$

$$\text{HCF} = 2 \times 3 \times 3 = 18$$

$$\text{LCM} = 2^4 \times 3^2 \times 5 = 720$$

4. If  $a = 2^3 \times 3$ ,  $b = 2 \times 3 \times 5$ ,  $c = 3^n \times 5$  and

LCM (a, b, c) =  $2^3 \times 3^2 \times 5$ , then n is -----

Answer: 2

5. The LCM of x and 18 is 36. The HCF of x and 18 is 2. What is the number x?

Answer:

$$\text{LCM} \times \text{HCF} = x \times 18$$

$$36 \times 2 = 18x$$

$$x = \frac{36 \times 2}{18} = 4$$

6. The number  $3^{13} - 3^{10}$  is divisible by -----

Answer:

$3^{13} - 3^{10} = 3^{10}(3^3 - 1) = 3^{10}(27 - 1) = 3^{10} \times 26 = 3^{10} \times 2 \times 13$ ,  
which is divisible by 2, 3 and 13.

7. If  $p_1$  and  $p_2$  are two odd prime numbers such that  $p_1 > p_2$ ,  
then  $p_1^2 - p_2^2$  is -----

Answer: An even number

8. For some integer m, every even integer is of the form -----

Answer: 2m

9. For some integer q, every odd integer is of the form -----

Answer: 2q + 1

10. If two positive integers a and b are written as  $a = x^3 y^2$  and  
 $b = x y^3$ , where x, y are prime numbers, then HCF (a, b) is -----

Answer:

$$a = x \times x \times x \times y \times y$$

$$b = x \times y \times y \times y$$

$$\text{HCF (a, b)} = x \times y \times y = xy^2$$

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