Board – CBSE | Class – VII | Topic – Exponents and Power

1. Find the value of each of the following

a) 13^2 b) 5^3 c) 2^4

2. Simplify**:**

a) 3×10^2 b) $2^5 \times 5^3$ C) 0×10^4

3. Express each of the following in exponential form
   a) $-5 \times -5 \times -5$
   [$(-5)^3$]
   b) $x \times x \times x \times x \times a \times a \times b \times b \times b$ [$(x^3 \times a^2 \times b^3)$]
   c) $(-2) \times (-2) \times (-2)$ [
   -2^3]

4. Express each of the following numbers as a product of powers of their prime factors.

a) 36 b) 675 c) 392

d) 864 e) 450 f) 1800

5. Using laws of exponents, simplify

a) $3^6 \times 3^5$ b) $(7^2)^3 \div 7^3$ c) $2^{20} \div 2^5$

6. Find the product of the square of $\frac{-1}{4}$ and the square of -3

7. Joy plants a carnation on his 15^{th} birthday. If the plant has one carnation to start with and the number of carnations triples every week then how many carnations will be there after x weeks?

8. Evaluate**:**

a) $(-6)^0 + 2^0$
b) $5^0 + (-5)^0$
c) 1^0

9. $(-2)^2 \times (-2)^x = -8$, find the value of x
10. What is the remainder, when 2^{62} is divided by 10? **[4]**
11. If x = 1 and y = 2, find the value of $\left(\frac{x}{y}\right)^x$

    [1/2]
12. Solve the following and write in the simplest form of fraction.

    $\left(\frac{4}{4}\right)^{-3} + \left(\frac{5}{5}\right)^{-3}$
13. Simplify following and write answer in exponential form

    $4^4 \times 4^8 \times 8^7 \times 4^9 \div 2^9 = ?$
14. Write the number for the following expanded forms:

    $4\times10^6 + 4\times10^8 + 2\times10^2 + 3\times10^4 + 0\times10^3 + 1\times10^1 + 0\times10^0 + 0\times10^1 =$
15. If x = 3 and y = 4, (xy)x ?