

CBSE 8th Class Mathematics

Chapter Exponent Power and Radicals and Scientific Notation

CBSE TEST PAPER – 03

1. Which is greater in each of the following: $\sqrt[3]{6}$ and $\sqrt[5]{8}$
2. If $2^{2x-y} = 32$ and $2^{x+y} = 16$ then $x^2 + y^2$
3. If $2^x = 4^y = 8^z$ and $1/2x + 1/4y + 1/4z = 4$, then find the value of x
4. Find m so that $(-3)^{m+1} \times (-3)^5 = (-3)^7$
5. The repeated factor in an exponential expression is called ____ [Base]
6. the length and breadth of a rectangular toy are 100 cm and 0.565 m respectively. find the area and perimeter in standard form.
7. Find the value of X if $X^3 = (6/5)^{-3} \times (6/5)^6$

8. Simplify:

$$\frac{16 \times 2^{n+1} - 4 \times 2^n}{16 \times 2^{n+2} - 2 \times 2^{n+2}}$$

9. Simplify and show that $m - n = 1$

$$\frac{9^n \times 3^2(3^{-n/2})^{-2} - (27)^n}{3^{3m} \times 2^3} = \frac{1}{27}$$

10. Assuming that x is a positive real number and a, b, c are rational numbers, show that :

$$\left(\frac{x^a}{x^b}\right)^{a+b-c} \left(\frac{x^b}{x^c}\right)^{b+c-a} \left(\frac{x^c}{x^a}\right)^{c+a-b} = 1$$

11. If $a^x = b$, $b^y = c$ and $c^z = a$. prove that $xyz = 1$.

12. If $a^x = b^y = c^z$ and $b^2 = ac$. prove that $y = (2xy)/(x+z)$

13. If $25^{x-1} = 5^{2x-1} - 100$. find the value of x . [Ans:2]

14. Simplify: $\frac{16 \times 2^{x+1} - 4 \times 2^x}{16 \times 2^{x+2} - 2 \times 2^{x+2}}$

15. If $2^{x-7} \times 5^{x-4} = 1250$, find the value of x