



INDIAN SCHOOL NIZWA - WORKSHEET

MATHEMATICS

CH: 12 Exponents And Powers

Name: _____

Date: _____

Class: VIII Sec: ____

1. $a^{-n} = \underline{\hspace{2cm}} = \left[\frac{\hspace{1cm}}{\hspace{1cm}} \right]^n$

2. $\left[\frac{2}{5} \right]^{-3} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

3. $\frac{1}{\left[\frac{2}{3} \right]^{-4}} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

4. $(-99)^0 = \underline{\hspace{2cm}}$

5. $1^{(\quad)} = 1^{(\quad)} = 1^{(\quad)} = 1$

6. $\frac{x}{y} \times \left[\frac{x}{y} \right]^{-1} = \underline{\hspace{2cm}}$

7. $\left[\left(-\frac{2}{5} \right)^{-1} \right]^{-2}$

8. Express as a rational number:

a) $\left(\frac{3}{5} \right)^3$

b) $\left(\frac{-3}{4} \right)^5$

9. Express in exponential form $\frac{-27}{512}$



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10. Find the value of 'a' so that $\left(\frac{2}{5}\right)^3 \times \left(\frac{2}{5}\right)^{-6} = \left(\frac{2}{5}\right)^{2a-1}$
11. If $4^x \times 4^{x-1} = 64$, then find the value of $(2x)^x$.
12. If $x = \left(\frac{3}{2}\right)^2 \times \left(\frac{2}{3}\right)^{-4}$, find the value of x^{-2} .
13. Solve $7^{2x+1} \div 49 = 7^3$
14. Simplify $\frac{4^3 \times 16^{\frac{-1}{4}} \times 1}{2^6} \times \frac{1}{2^{-7}}$
15. Simplify $\left[\left(\frac{2}{3}\right)^2\right]^3 \times \left(\frac{1}{3}\right)^{-4} \times 3^{-1} \times \frac{1}{6}$
16. Express the following in the standard form
- a) 0.0000000004
 - b) 0.000037
17. Expand the following in the usual [normal] form:
- a) 8.0031×10^{-3}
 - b) 3.4567×10^7
18. Convert the following into standard form.
- a) The mass of a proton is 0.000 000 000 00000 000 000 000 000 001673kg.
 - b) Mercury is 58,000,000 km from the sun.
 - c) The diameter of Jupiter is 142984000 m.
19. Find the reciprocal of $\frac{-1296}{625}$ and express it in exponential form.