

VIVEK TUTORIALS

Mathematics
Practice Test
Max Marks: 60

Date : 07/Apr/2019

Grade: 8th (ICSE)
Exponents

Time: 1Hrs

Questions

1. Simplify:

(i) $\frac{a^5 b^2}{a^2 b^{-3}}$ (ii) $15y^8 \div 3y^3$

2. Simplify and write an exponential form with positive exponent:

(i) $\left(\frac{4}{5}\right)^2 \times 5^4 \times \left(\frac{2}{5}\right)^{-2} \div \left(\frac{5}{2}\right)^{-3}$ (ii) $\frac{8^{-1} \times 5^3}{2^{-4}}$

3. Evaluate:

$\left\{\left(\frac{-3}{2}\right)^{-3}\right\}^2$

4. Compute:

(i) $\left(\frac{56}{28}\right)^0 \div \left(\frac{2}{5}\right)^3 \times \frac{16}{25}$ (ii) $(12)^{-1} \times 3^3$

5. Simplify and express as positive indices:

(i) $(a^{-2}b)^{-2} \cdot (ab)^{-3}$ (ii) $(x^m y^{-m})^4 \times (x^3 y^{-2})^{-m}$

6. Evaluate and express as a rational number of the form m/n:

(i) $\left(\frac{3}{5}\right)^{-2} \times \left(\frac{4}{5}\right)^{-3}$ (ii) $\left(-\frac{2}{3}\right)^{-4} \times \left(-\frac{3}{5}\right)^2$

7. Compute:

(i) $9^0 \times 4^{-1} \div 2^{-4}$ (ii) $(625)^{-\frac{3}{4}}$

8. Simplify:

$\frac{x^{m+n} \times x^{n+1} \times x^{1+m}}{(x^m \times x^n \times x^1)^2}$

9. Simplify:

(i) $[(2)^{-1} + (4)^{-1} + (3)^{-1}]^{-1}$

(ii) $[(4)^{-1} - (5)^{-1}]^2 \times \left(\frac{5}{8}\right)^{-1}$

10. Simplify and write in exponential form with negative exponent:

(i) $5^3 \times \left(\frac{4}{5}\right)^3$ (ii) $\left[\left(\frac{3}{7}\right)^{-2}\right]^{-3}$

11. If $3^{3x-1} \div 9 = 27$, find the value of x

12. Simplify:

(i) $(36x^2)^{\frac{1}{2}}$ (ii) $(125x^3)^{\frac{1}{3}}$

Questions

13. Evaluate:

(i) $4^{\frac{3}{2}} \times 125^{\frac{-2}{3}}$ (ii) $\left(\frac{8}{27}\right)^{\frac{2}{3}} \div (32)^{\frac{-2}{5}}$

14. Evaluate:

(i) $\left[\left(\frac{1}{4}\right)^{-3} - \left(\frac{1}{3}\right)^{-3}\right] \div \left(\frac{1}{6}\right)^{-3}$ (ii) $\left[\left(-\frac{3}{4}\right)^{-2}\right]^2$

15. Simplify and write in exponential form with negative exponent:

(i) $\left(\frac{5}{9}\right)^{-2} \times \left(\frac{5}{3}\right)^2 + \left(\frac{1}{5}\right)^{-2}$ (ii) $2^{-1} \left[\left(\frac{5}{3}\right)^4 + \left(\frac{3}{5}\right)^{-2}\right] \div \frac{17}{9}$

16. Evaluate:

(i) $(2^2 + 3^2) \times \left(\frac{1}{2}\right)^2$ (ii) $(5^2 - 3^2) \times \left(\frac{2}{3}\right)^{-3}$

17. Simplify:

(i) $8^{\frac{4}{3}} + 25^{\frac{3}{2}} - \left(\frac{1}{27}\right)^{-\frac{2}{3}}$ (ii) $[(64)^{-2}]^{-3} \div \{(-8)^2\}^2$

18. Find the value of n, when:

(i) $12^{-5} \times 12^{2n+1} = 12^{13} \div 12^7$

(ii) $\frac{a^{2n-3} \times (a^2)^{n+1}}{(a^4)^{-3}} \div (a^3)^3 \div (a^6)^{-3}$

----- All the Best -----