EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Exponents and Powers

Grade : CBSE Grade VIII

1. The value of $5^{-2} \times (-4)^{-2}$

   (i) 398^{-1} (ii) 400^{-2} (iii) 400^{-1} (iv) 403^{-1} (v) 401^{-1}

2. Simplify $\frac{(-4)^2 \times 2^3 \times 4^3}{(-4)^3 \times 3^3 \times 2^3 \times 2^3}$

   (i) $\frac{-1 \times 2^{13}}{2^{12} \times 3}$ (ii) $\frac{-1 \times 2^{13}}{2^{12} \times 5^3}$ (iii) $\frac{-1 \times 2^{13}}{2^{12} \times 3^3}$ (iv) $\frac{-1 \times 2^{12}}{2^{12} \times 3^3}$ (v) $\frac{(-1)^2 \times 2^{13}}{2^{12} \times 3^3}$

3. Simplify the expression $(-7)^{-3} \times (-7)^{-3}$

   (i) $(-7)^{-5}$ (ii) $(-10)^{-6}$ (iii) $(-7)^{-6}$ (iv) $(-5)^{-6}$ (v) $(-7)^{-7}$

4. Expand the following base power 4^2

   (i) 36 (ii) 1 (iii) 64 (iv) 16 (v) 4

5. Simplify $\frac{(-3)^{-3} \times 4^{-2} \times (-2)^{-2} \times (-4)^{-3}}{4^{-3} \times 5^{-2} \times 4^{-2}}$

   (i) $\frac{5}{2^2 \times 3^3}$ (ii) $\frac{5^2}{2^2 \times 3^3}$ (iii) $\frac{5^2}{5^2 \times 3^3}$ (iv) $\frac{5^3}{2^2 \times 3^3}$ (v) $\frac{5^2}{2^2 \times 1}$

6. $\left(\left(\frac{-9}{8}\right) \times \left(\frac{-3}{2}\right)\right)^5 =$

   (i) $\left(\frac{-9}{8}\right)^5 \times \left(\frac{-3}{2}\right)^5$ (ii) $\left(\frac{-9}{8}\right)^5 \times \left(\frac{-5}{2}\right)^5$ (iii) $\left(\frac{-9}{8}\right)^5 \times \left(\frac{-3}{2}\right)^4$ (iv) $\left(\frac{-9}{8}\right)^5 \times \left(\frac{-1}{2}\right)^5$ (v) $\left(\frac{-9}{8}\right)^5 \times \left(\frac{-3}{2}\right)^6$

7. Write the given number in usual form -9.46647×10^{12}

   (i) -94664700000000 (ii) -946647000000000 (iii) -9466470000000 (iv) -94664700000

   (v) -946647000000

8. Find the reciprocal of 5^8

   (i) $\left(\frac{3}{5}\right)^8$ (ii) $\left(\frac{1}{5}\right)^9$ (iii) $\left(\frac{1}{5}\right)^8$ (iv) $\left(\frac{1}{5}\right)^7$ (v) $\left(\frac{-1}{5}\right)^8$

9. Represent the given large number in scientific form
65374040000

(i) 6.537404×10^{9} (ii) 6.537404×10^{11} (iii) 6.537404×10^{10} (iv) 6.537404×10^{12} (v) 6.537404×10^{8}

10. Simplify the expression $2^{6}\times2^{6}\times2^{2}$

(i) 2^{14} (ii) $(-1)^{14}$ (iii) 2^{13} (iv) 5^{14} (v) 2^{15}

11. $\left[\left(\frac{3}{8}\right)^{-9}\times\left(\frac{7}{4}\right)^{-9}\right]\div\left[\left(\frac{8}{3}\right)^{9}\times\left(\frac{4}{7}\right)^{9}\right]=$

(i) 0 (ii) $\frac{3}{8}$ (iii) (-1) (iv) 1 (v) $\frac{7}{4}$

12. Represent the given small number in standard form
$-0.00001002848\times10^{-6}$

(i) -1.002848×10^{-11} (ii) -1.002848×10^{-10} (iii) -1.002848×10^{-13} (iv) -1.002848×10^{-9}

(v) -1.002848×10^{-12}

13. Write the given number in usual form 5.971084×10^{11}

(i) 597108400000 (ii) 5971084000 (iii) 59710840000000 (iv) 59710840000 (v) 5971084000000

14. Represent the given large number in standard form
$9406771000000\times10^{4}$

(i) 9.406771×10^{16} (ii) 9.406771×10^{15} (iii) 9.406771×10^{17} (iv) 9.406771×10^{14} (v) 9.406771×10^{18}

15. $\left(\frac{3}{2}\times\frac{7}{6}\times\frac{-3}{1}\right)^{-6}=$

(i) $\left(\frac{3}{2}\right)^{-6}\times\left(\frac{7}{6}\right)^{-6}\times(-3)^{-6}$ (ii) $\left(\frac{3}{2}\right)^{-6}\times\left(\frac{7}{6}\right)^{-5}\times(-3)^{-5}$ (iii) $\left(\frac{3}{2}\right)^{-6}\times\left(\frac{7}{6}\right)^{-7}\times(-3)^{-7}$ (iv) $\left(\frac{3}{2}\right)^{-6}\times\left(\frac{3}{2}\right)^{-6}\times(-3)^{-4}$

(v) $\left(\frac{3}{2}\right)^{-6}\times\left(\frac{5}{6}\right)^{-6}\times(-6)^{-6}$

16. $[6^{5}]^{4}=$

(i) 6^{21} (ii) 6^{20} (iii) 6^{19} (iv) 9^{20} (v) 4^{20}

17. Simplify the expression $\left(\frac{-6}{5}\right)^{3} \times (-6)^{3}$

(i) $\left(\frac{34}{5}\right)^{3}$ (ii) $\left(\frac{38}{5}\right)^{3}$ (iii) $\left(\frac{36}{5}\right)^{2}$ (iv) $\left(\frac{36}{5}\right)^{3}$ (v) $\left(\frac{36}{5}\right)^{4}$

18. $\left(\frac{1}{4}\right)^{-4} + \left(\frac{1}{2}\right)^{-2} + \left(\frac{1}{3}\right)^{-3} =$

(i) 288 (ii) 290 (iii) 285 (iv) 287 (v) 286

19. Simplify the expression $\left(\frac{9}{5}\right)^{-8} \times \left(\frac{7}{5}\right)^{-8}$

(i) $\left(\frac{63}{25}\right)^{-8}$ (ii) $\left(\frac{61}{25}\right)^{-8}$ (iii) $\left(\frac{63}{25}\right)^{-7}$ (iv) $\left(\frac{13}{5}\right)^{-8}$ (v) $\left(\frac{63}{25}\right)^{-9}$

20. Simplify $\frac{2^{3} \times (-5)^{2} \times 4^{-2}}{(-5)^{-3} \times (-2)^{3} \times (-3)^{-3}}$

(i) $\frac{-1 \times 3^{3} \times 5^{5}}{5^{4}}$ (ii) $\frac{-1 \times 3^{3} \times 5^{5}}{(-1)^{4}}$ (iii) $\frac{-1 \times 3^{3} \times 5^{5}}{2^{4}}$ (iv) $\frac{-2 \times 3^{3} \times 5^{5}}{2^{4}}$ (v) $\frac{(-1)^{2} \times 3^{3} \times 5^{5}}{2^{4}}$

21. $-3^{0} =$

(i) ∞ (ii) 0 (iii) undefined (iv) -1 (v) 1

22. The value of $\left(\frac{5}{3}\right)^{2} \times \left(\frac{1}{3}\right)^{3}$

(i) $\frac{25}{241}$ (ii) $\frac{1}{9}$ (iii) $\frac{25}{243}$ (iv) $\frac{23}{243}$ (v) $\left(\frac{25}{243}\right)^{2}$

23. Simplify the expression $(-6)^{\left(\frac{-7}{8}\right)} \times (-3)^{\left(\frac{-7}{8}\right)} \times (-7)^{\left(\frac{-7}{8}\right)}$

(i) $(-126)^{\left(\frac{-7}{6}\right)}$ (ii) $(-126)^{\left(\frac{-7}{8}\right)}$ (iii) $(-128)^{\left(\frac{-7}{8}\right)}$ (iv) $(-126)^{\left(\frac{-7}{10}\right)}$ (v) $(-124)^{\left(\frac{-7}{8}\right)}$

24. Simplify the expression $7^{-6} \times 7^{-5} \times 7^{-9}$

(i) 7^{-19} (ii) 5^{-20} (iii) 7^{-20} (iv) 7^{-21} (v) 10^{-20}

25. Represent the given small number in scientific form
-0.7911139

(i) -7.911139 (ii) -7.911139×10^{-3} (iii) -7.911139×10 (iv) -7.911139×10^{-1} (v) -7.911139×10^{-2}

Assignment Key

1) (iii)	2) (iii)	3) (iii)	4) (iv)	5) (ii)	6) (i)
7) (iii)	8) (iii)	9) (iii)	10) (i)	11) (iv)	12) (i)
13) (i)	14) (i)	15) (i)	16) (ii)	17) (iv)	18) (iv)
19) (i)	20) (iii)	21) (v)	22) (iii)	23) (ii)	24) (iii)
25) (iv)					