EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Exponents and Powers

Grade : CBSE Grade VIII

1. Represent the given large number in scientific form
1808914000000

(i) 1.808914×10^{11} (ii) 1.808914×10^{12} (iii) 1.808914×10^{13} (iv) 1.808914×10^{10} (v) 1.808914×10^{14}

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

(i) $\left(\frac{-9}{5}\right)^{15}$ (ii) $\left(\frac{-7}{5}\right)^{16}$ (iii) $\left(\frac{-7}{5}\right)^{14}$ (iv) $\left(\frac{-7}{5}\right)^{15}$ (v) $(-1)^{15}$

3. $\left[\left(\frac{8}{3}\right)^{-5}\times\left(\frac{7}{9}\right)^{-5}\right]\div\left[\left(\frac{3}{8}\right)^{5}\times\left(\frac{9}{7}\right)^{5}\right]=$

(i) $\frac{8}{3}$ (ii) 0 (iii) $\frac{7}{9}$ (iv) (-1) (v) 1

4. The value of $2^{3}\times(-5)^{2}$

(i) 199 (ii) 200 (iii) 203 (iv) 197 (v) 200^{2}

5. $6^{8}=$

(i) $\left(\frac{1}{6}\right)^{-7}$ (ii) $\left(\frac{1}{6}\right)^{-9}$ (iii) $\left(\frac{1}{2}\right)^{-8}$ (iv) $\left(\frac{1}{6}\right)^{-8}$ (v) $\left(\frac{-1}{6}\right)^{-8}$

6. $\frac{\left(2^{(-6)}\right)^{-4}\times\left(5^{4}\right)^{-3}\times\left(6^{(-5)}\right)^{6}}{\left(2^{(-2)}\right)^{6}\times\left(5^{(-6)}\right)^{5}\times\left(6^{3}\right)^{-5}}=$

(i) $2^{36}\times5^{18}\times6^{(-14)}$ (ii) $2^{36}\times5^{19}\times6^{(-15)}$ (iii) $2^{36}\times5^{18}\times6^{(-15)}$ (iv) $2^{37}\times5^{18}\times6^{(-15)}$

7. $[(-9)^{-5}]^{-4}=$

(i) $(-9)^{21}$ (ii) $(-9)^{20}$ (iii) $(-7)^{20}$ (iv) $(-12)^{20}$ (v) $(-9)^{19}$

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

(i) $\frac{-1 \times 0}{2 \times 3^3}$ (ii) $\frac{-1 \times 1}{-1 \times 3^3}$ (iii) $\frac{-1 \times 1}{5 \times 3^3}$ (iv) $\frac{(-1)^2 \times 1}{2 \times 3^3}$ (v) $\frac{-1 \times 1}{2 \times 3^3}$

9. $(-3 \times -5)^{-3} =$

(i) $(-3)^{-3} \times (-8)^{-3}$ (ii) $(-3)^{-3} \times (-3)^{-3}$ (iii) $(-3)^{-3} \times (-5)^{-3}$ (iv) $(-3)^{-3} \times (-5)^{-4}$ (v) $(-3)^{-3} \times (-5)^{-2}$

10. The value of $(-5)^3 - (-5)^2$

(i) -147 (ii) $(-150)^2$ (iii) -153 (iv) -151 (v) -150

11. Simplify the expression $(-5)^9 \times (-2)^9$

(i) 10^{10} (ii) 10^8 (iii) 10^9 (iv) 13^9 (v) 8^9

12. Simplify the expression $7^{-2} \times 5^{-2}$

(i) 35^{-1} (ii) 33^{-2} (iii) 37^{-2} (iv) 35^{-3} (v) 35^{-2}

13. The value of $(-4)^{-3} + (-5)^{-2}$

(i) $\frac{39}{1598}$ (ii) $\frac{37}{1600}$ (iii) $\frac{39}{1600}$ (iv) $\frac{41}{1600}$ (v) $\left(\frac{39}{1600}\right)^2$

14. $-1^9 =$

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

15. Simplify the expression $7^9 \times 7^9 \times 6^9$

(i) 294^9 (ii) 294^8 (iii) 292^9 (iv) 297^9 (v) 294^{10}

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

16. $\frac{\quad}{-7} =$

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

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

17. The value of $\left(\frac{1}{3}\right)^2 + \left(\frac{-2}{3}\right)^3$

(i) $\left(\frac{-7}{27}\right)$ (ii) $\left(\frac{-1}{5}\right)$ (iii) $\left(\frac{-5}{27}\right)$ (iv) $\left(\frac{-1}{9}\right)$ (v) $\left(\frac{-5}{27}\right)^2$

18. Simplify the expression $\left(\frac{-2}{9}\right)^8 \times (-6)^8 \times \left(\frac{-3}{5}\right)^8$

(i) $\left(\frac{-4}{5}\right)^7$ (ii) $\left(\frac{-4}{5}\right)^9$ (iii) $\left(\frac{-6}{5}\right)^8$ (iv) $\left(\frac{-2}{5}\right)^8$ (v) $\left(\frac{-4}{5}\right)^8$

19. Expand the following base power 3^{-5}

(i) $\frac{1}{81}$ (ii) $\frac{1}{2187}$ (iii) $\frac{1}{243}$ (iv) $\frac{1}{729}$ (v) $\frac{1}{3125}$

20. $\left[\left(\frac{-5}{3}\right)^2\right]^4 =$

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

21. $\left[\left(8^3\right)^6 \times \left(8^6\right)^2\right] \div 8^{30}$

(i) 3 (ii) 1 (iii) 2 (iv) 0 (v) 8

22. $-9^0 =$

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

23. Simplify the expression $\left(\frac{5}{4}\right)^{(9/4)} \times \left(\frac{9}{2}\right)^{(9/4)} \times \left(\frac{8}{3}\right)^{(9/4)}$

(i) $\left(\frac{9}{4}\right)_{15}$ (ii) $\left(\frac{3}{2}\right)_{15}$ (iii) $\left(\frac{9}{2}\right)_{15}$ (iv) $\left(\frac{9}{4}\right)_{18}$ (v) $\left(\frac{9}{4}\right)_{13}$

24. $0^0 =$

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

25. Represent the given small number in scientific form
-0.0003655598

(i) -3.655598×10^{-3} (ii) -3.655598×10^{-2} (iii) -3.655598×10^{-6} (iv) -3.655598×10^{-4}

(v) -3.655598×10^{-5}

Assignment Key

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