EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Exponents

Grade : SSC Grade VII

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1. Simplify the expression $\left(\frac{-7}{3}\right)^{-5} \times \left(\frac{-7}{3}\right)^{-3}$

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

2. $(-2)^5 =$

   (i) $\frac{(-2)^6}{1}$ (ii) $\frac{(-2)^4}{1}$ (iii) $\frac{(-2)^5}{(-1)^5}$ (iv) $\frac{(-2)^5}{4^5}$ (v) $\frac{(-2)^5}{1}$

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

   (i) 5^{-11} (ii) 5^{-10} (iii) 5^{-12} (iv) 8^{-11} (v) 2^{-11}

4. $0^0 =$

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

5. The exponent in the term $7^{\left(\frac{7}{4}\right)}$ is

   (i) -7 (ii) $\frac{5}{4}$ (iii) 7 (iv) $\left(\frac{-7}{4}\right)$ (v) $\frac{7}{4}$

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

   (i) 8^{-2} (ii) 10^{-2} (iii) 10^{-1} (iv) 10^{-3} (v) 13^{-2}

7. The value of $2^2 \div 3^3$

   (i) $\frac{2}{27}$ (ii) $\frac{4}{25}$ (iii) $\frac{2}{9}$ (iv) $\frac{4}{27}$ (v) $\left(\frac{4}{27}\right)^2$

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

(i) 5^{-6} (ii) 5^{-4} (iii) 7^{-5} (iv) 5^{-5} (v) 2^{-5}

9. Simplify the expression $\left(\frac{5}{4}\right)_{(-2)} \times \left(\frac{8}{5}\right)_{(-2)} \times \left(\frac{9}{2}\right)_{(-2)}$

(i) $\left(\frac{147}{20}\right)_{(-2)}$ (ii) $\left(\frac{133}{18}\right)_{(-2)}$ (iii) $\left(\frac{149}{20}\right)_{(-2)}$ (iv) $\left(\frac{161}{22}\right)_{(-2)}$ (v) $\left(\frac{147}{20}\right)_{(-5)}$

10. $\left(\frac{9}{8}\right)^{(-7/2)} =$

(i) $\frac{9^{-7}}{\left(\frac{-7}{2}\right)_8}$ (ii) $\frac{9^{\left(\frac{-7}{4}\right)}}{\left(\frac{-7}{2}\right)_8}$ (iii) $\frac{9^{\left(\frac{-7}{2}\right)}}{\left(\frac{-7}{2}\right)_{11}}$ (iv) $\frac{9^{\left(\frac{-7}{2}\right)}}{\left(\frac{-7}{2}\right)_8}$ (v) $\frac{9^{\left(\frac{-7}{2}\right)}}{\left(\frac{-7}{2}\right)_5}$

11. $\frac{\left(\frac{-4}{7}\right)^{(-5/3)}}{\left(\frac{-4}{7}\right)^{(4/3)}} =$

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

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

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

13. Find the exponential notation of
$6 \times 6 \times 6 \times 6 \times 6 \times 6 \times 6$

(i) 6^7 (ii) 3^7 (iii) 6^6 (iv) 6^8 (v) 9^7

14. Write the given number in usual form 3.30147×10^{12}

(i) 330147000000 (ii) 33014700000 (iii) 3301470000000 (iv) 33014700000000 (v) 330147000000000

15. $\left(a^{(-6)} + b^{(-6)}\right)^0 =$

(i) 0 (ii) (-2) (iii) 1 (iv) 4 (v) $a^{(-6)} + b^{(-6)}$

16. $10 \times j \times j \times j \times k \times k =$

(i) $12j^3k^2$ (ii) $7j^3k^2$ (iii) $10j^2k^2$ (iv) $10j^3k^2$ (v) $10j^4k^2$

17. Write the given number in usual form -9.447518×10^{-4}

(i) -0.09447518 (ii) -0.009447518 (iii) -0.0009447518 (iv) -0.00009447518 (v) -0.000009447518

18. $11 \times e \times e =$

(i) $13e^2$ (ii) $11e^2$ (iii) $11e^3$ (iv) $11e$ (v) $8e^2$

19. Find the value of $\left(\frac{16}{81}\right)^{(-3/4)}$

(i) $\frac{27}{10}$ (ii) $\frac{9}{2}$ (iii) $\frac{29}{8}$ (iv) $\frac{25}{8}$ (v) $\frac{27}{8}$

20. $\frac{\left(\frac{8}{7}\right)^{-3}}{\left(\frac{8}{7}\right)^{9}} =$

(i) $\left(\frac{10}{7}\right)^{-12}$ (ii) $\left(\frac{8}{7}\right)^{-13}$ (iii) $\left(\frac{8}{7}\right)^{-12}$ (iv) $\left(\frac{6}{7}\right)^{-12}$ (v) $\left(\frac{8}{7}\right)^{-11}$

21. $2^{-3} =$

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

22. Write the given number in usual form 4.49447×10^{-1}

(i) 0.00449447 (ii) 0.449447 (iii) 44.9447 (iv) 4.49447 (v) 0.0449447

23. $[5^2]^5 =$

(i) 7^{10} (ii) 5^{10} (iii) 5^{11} (iv) 3^{10} (v) 5^9

24. If $27^{(2v+1)} = 243^{(v+1)}$, find v

(i) 3 (ii) 2 (iii) 0 (iv) 4 (v) 1

25. Expand the following base power 2^4

(i) 8 (ii) 1 (iii) 32 (iv) 256 (v) 16

Assignment Key

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

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