EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Exponents

Grade : ICSE Grade VII

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1. $\frac{i^{7}}{i^{19}} =$

(i) $\frac{1}{i^{133}}$ (ii) i^{12} (iii) $\frac{1}{i^{12}}$ (iv) $\frac{1}{i^{(-12)}}$ (v) $\frac{1}{i^{26}}$

2. $-1^{7} =$

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

3. $0^{0} =$

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

4. Find the exponential notation of
$-19 \times -19 \times -19 \times -19 \times -19$

(i) $(-19)^{5}$ (ii) $(-19)^{6}$ (iii) $(-22)^{5}$ (iv) $(-17)^{5}$ (v) $(-19)^{4}$

5. $k^{2} l^{3} =$

(i) $-k \times k \times l \times l \times l$ (ii) $4 \times k \times k \times l \times l \times l$ (iii) $k \times k \times l \times l \times l$ (iv) $k \times k \times k \times l \times l \times l$ (v) $k \times l \times l \times l$

6. $\left(\frac{1}{2} klm\right) \times \left(9 l^{5} m^{8}\right) \times \left(-\frac{8}{5} m^{4}\right) =$

(i) $\frac{32}{25} m^{13} k l^{5}$ (ii) $\frac{9}{2} k l^{6} m^{9}$ (iii) $-\frac{36}{5} k l^{10} m^{17}$ (iv) $\frac{576}{25} l^{9} m^{20}$ (v) $-\frac{36}{5} k l^{6} m^{13}$

7. If $2^{n} = 4$, find 3^{n}

(i) 9 (ii) 8 (iii) 6 (iv) 11 (v) 10

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

(i) $\frac{2^{6}}{5^{4}}$ (ii) $\frac{2^{7}}{5^{4}}$ (iii) $\frac{2^{8}}{5^{4}}$ (iv) $\frac{2^{7}}{8^{4}}$ (v) $\frac{2^{7}}{3^{4}}$

9. The value of $5^{3} \times 3^{2}$

(i) 1125 (ii) 1128 (iii) 1124 (iv) 1123 (v) 1125^{2}

10. $(-4 \times 3)^{-6} =$

(i) $(-4)^{-6} \times 3^{-8}$ (ii) $(-4)^{-6} \times 3^{-5}$ (iii) $(-4)^{-6} \times 6^{-6}$ (iv) $(-4)^{-6} \times 3^{-6}$ (v) $(-4)^{-6} \times 3^{-7}$

11. $(-6)^{-3} =$

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

12. $2^{5} =$

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

13. Find the exponential notation of $\frac{25}{48}$

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

14. $(c-d)^{(-5)}.(c-d)^{(-7)} =$

(i) $(c-d)^{35}$ (ii) $(c-d)^{2}$ (iii) $(c-d)^{(-7)}$ (iv) $(c-d)^{(-12)}$ (v) $(c-d)^{(-5)}$

15. $(2\times -3\times -7)^{-2} =$

(i) $2^{-2}\times(-3)^{-1}\times(-7)^{-1}$ (ii) $2^{-2}\times(-5)^{-2}\times(-9)^{-2}$ (iii) $2^{-2}\times(-3)^{-2}\times(-7)^{-2}$ (iv) $2^{-2}\times(-3)^{-3}\times(-7)^{-3}$

(v) $2^{-2}\times(-1)^{-2}\times(-5)^{-2}$

Find the exponential notation of

16. $\frac{4}{3}\times\frac{4}{3}\times\frac{4}{3}\times\frac{4}{3}\times\frac{4}{3}\times\frac{4}{3}\times\frac{4}{3}$

(i) $\left(\frac{4}{3}\right)^{7}$ (ii) $\left(\frac{2}{3}\right)^{7}$ (iii) 2^{7} (iv) $\left(\frac{4}{3}\right)^{8}$ (v) $\left(\frac{4}{3}\right)^{6}$

17. Find the exponential notation of
$5\times 5\times 5\times 5$

(i) 5^{3} (ii) 5^{4} (iii) 8^{4} (iv) 5^{5} (v) 2^{4}

18. $-4i^{5}.-3i^{7} =$

(i) $12i^{35}$ (ii) $-7i^{12}$ (iii) $-7i^{35}$ (iv) $12i^{12}$

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

(i) $\frac{-1 \times 2^{13}}{5^2}$ (ii) $\frac{-1 \times 2^{13}}{7^2}$ (iii) $\frac{-1 \times 2^{13}}{3^2}$ (iv) $\frac{-1 \times 2^{14}}{5^2}$ (v) $\frac{-1 \times 2^{12}}{5^2}$

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

(i) $\left(\frac{-11}{2}\right)^{-14}$ (ii) $\left(\frac{-9}{2}\right)^{-14}$ (iii) $\left(\frac{-9}{2}\right)^{-13}$ (iv) $\left(\frac{-9}{2}\right)^{-15}$ (v) $\left(\frac{-7}{2}\right)^{-14}$

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

(i) $\left(\frac{11}{8}\right)^{-6}$ (ii) $\left(\frac{9}{8}\right)^{-7}$ (iii) $\left(\frac{9}{8}\right)^{-5}$ (iv) $\left(\frac{9}{8}\right)^{-6}$ (v) $\left(\frac{7}{8}\right)^{-6}$

22. $(-2e^3f^2)^4 =$

(i) $-2\,e^{12}\,f^8$ (ii) $16\,e^{12}\,f^8$ (iii) $16\,e^7\,f^6$ (iv) $-8\,e^7\,f^6$ (v) $-8\,e^{12}\,f^8$

23. $j^4 k^2 l^2 =$

(i) $j \times j \times j \times j \times k \times k \times l \times l$ (ii) $j \times j \times j \times j \times j \times k \times k \times l \times l$ (iii) $-2 \times j \times j \times j \times j \times k \times k \times l \times l$ (iv) $j \times j \times j \times k \times k \times l \times l$

(v) $3 \times j \times j \times j \times j \times k \times k \times l \times l$

24. The base in the term 5^8 is

(i) 5 (ii) -8 (iii) -5 (iv) 3 (v) 8

25. $0^5 =$

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

Assignment Key

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

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