EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Exponents

Grade : ICSE Grade VIII

1. $\left[\left(6^{4} \right)^{2} \times \left(6^{3} \right)^{5} \right] \div 6^{23}$

(i) 2 (ii) 3 (iii) 1 (iv) 0 (v) 6

2. $(-9 \times -2 \times -6)^{5/4} =$

(i) $\left(\frac{5}{4}\right)_{(-9)} \times \left(\frac{5}{4}\right)_{(-2)} \times \left(\frac{5}{4}\right)_{(-6)}$ (ii) $\left(\frac{5}{4}\right)_{(-9)} \times \left(\frac{5}{6}\right)_{(-2)} \times \left(\frac{5}{6}\right)_{(-6)}$ (iii) $\left(\frac{5}{4}\right)_{(-9)} \times \left(\frac{5}{2}\right)_{(-2)} \times \left(\frac{5}{2}\right)_{(-6)}$

(iv) $\left(\frac{5}{4}\right)_{(-9)} \times \left(\frac{7}{4}\right)_{(-2)} \times \left(\frac{5}{4}\right)_{(-3)}$ (v) $\left(\frac{5}{4}\right)_{(-9)} \times \left(\frac{5}{4}\right)_{(-5)} \times \left(\frac{5}{4}\right)_{(-8)}$

3. $(k^{3}/_{5})^{6} =$

(i) $6\,k^{9}/_{11}$ (ii) $6\,k^{18}/_{30}$ (iii) $6\,k^{3}/_{5}$ (iv) $k^{9}/_{11}$ (v) $k^{18}/_{30}$

4. Simplify the expression $\left(\frac{8}{5}\right)^{(6/5)} \times \left(\frac{8}{5}\right)^{(7/5)}$

(i) $\left(\frac{8}{5}\right)^{(13/5)}$ (ii) $2^{\left(\frac{13}{5}\right)}$ (iii) $\left(\frac{8}{5}\right)^{(17/7)}$ (iv) $\left(\frac{6}{5}\right)^{(13/5)}$ (v) $\left(\frac{8}{5}\right)^{3}$

5. $\left[\left(\frac{-7}{2}\right)^{(-3/4)}\right]^{3} =$

(i) $\left(\frac{-7}{2}\right)^{(-5/2)}$ (ii) $\left(\frac{-9}{2}\right)^{(-9/4)}$ (iii) $\left(\frac{-7}{2}\right)^{(-9/4)}$ (iv) $\left(\frac{-7}{2}\right)^{(-13/6)}$ (v) $\left(\frac{-5}{2}\right)^{(-9/4)}$

6. $-1^{9} =$

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

7. The exponent in the term $8^{(\frac{8}{5})}$ is

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

8. The base in the term 7^{14} is

(i) 7 (ii) -14 (iii) 14 (iv) 5 (v) -7

9. The power in the term $(\frac{3}{2})^{(6/5)}$ is

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

10. Find the square root of $\frac{9q^4}{100r^8}$

(i) $\frac{3q^4}{10r^4}$ (ii) $\frac{3q^2}{10r^8}$ (iii) $\frac{3q^4}{10r^8}$ (iv) $\frac{3q^2}{10r^4}$ (v) $\frac{3q^8}{10r^{16}}$

11. $(\frac{5}{2})^{(-9/5)} =$

(i) $(\frac{2}{5})^{(7/5)}$ (ii) $(\frac{2}{5})^{(7/3)}$ (iii) $(\frac{4}{5})^{(9/5)}$ (iv) $(\frac{2}{5})^{(11/7)}$ (v) $(\frac{2}{5})^{(9/5)}$

12. The value of $(\frac{-5}{2})^{-2} \div (\frac{-1}{2})^{-2}$

(i) 25^{-2} (ii) 25^{-1} (iii) 23^{-1} (iv) 26^{-1} (v) 27^{-1}

13. Simplify the expression $(\frac{8}{5})^4 \times (\frac{8}{5})^4 \times (\frac{8}{5})^4$

(i) $(\frac{8}{5})^{11}$ (ii) $(\frac{8}{5})^{13}$ (iii) $(\frac{6}{5})^{12}$ (iv) 2^{12} (v) $(\frac{8}{5})^{12}$

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

(i) $\left(\frac{-7}{3}\right)^{-8}$ (ii) $\left(\frac{-7}{3}\right)^{-9}$ (iii) $\left(\frac{-7}{3}\right)^{-10}$ (iv) $(-3)^{-9}$ (v) $\left(\frac{-5}{3}\right)^{-9}$

15. Simplify the expression $3^3 \times 3^5$

(i) 3^7 (ii) 3^9 (iii) 3^8 (iv) 1 (v) 6^8

$\left(\frac{7}{3}\right)^{-3}$

16. $\frac{\qquad}{3} =$

$\left(\frac{7}{3}\right)$

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

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

(i) $\left(\frac{35}{9}\right)^{-7}$ (ii) $\left(\frac{37}{9}\right)^{(-7/3)}$ (iii) $\left(\frac{35}{9}\right)^{(-7/3)}$ (iv) $\left(\frac{11}{3}\right)^{(-7/3)}$ (v) $\left(\frac{35}{9}\right)^{(-7/5)}$

18. The exponent in the term $\left(\frac{9}{7}\right)^{6}$ is

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

19. $\sqrt{0.2500} =$

(i) 0.05 (ii) 0.7 (iii) 0.4 (iv) 0.6 (v) 0.5

20. Simplify the expression $\left(\frac{-7}{9}\right)^{-2} \times \left(\frac{-7}{9}\right)^{-3}$

(i) $\left(\frac{-5}{9}\right)^{-5}$ (ii) $\left(\frac{-7}{9}\right)^{-6}$ (iii) $\left(\frac{-7}{9}\right)^{-4}$ (iv) $(-1)^{-5}$ (v) $\left(\frac{-7}{9}\right)^{-5}$

21. $\left(4^2 \times 2^7\right)^5 =$

(i) $4^2 \times 2^7$ (ii) $4^{10} \times 2^7$ (iii) $4^2 \times 2^{35}$ (iv) $4^{10} \times 2^{35}$ (v) $4^{35} \times 2^{10}$

22. Expand the following base power $\left(\frac{-4}{3}\right)^{-5}$

(i) $\frac{81}{256}$ (ii) $\left(\frac{-243}{1024}\right)$ (iii) $\left(\frac{-243}{32}\right)$ (iv) $\frac{729}{4096}$ (v) $\left(\frac{-1}{32}\right)$

23. $\left(\frac{9}{5}\right)^{-5} =$

(i) $\left(\frac{5}{9}\right)^{4}$ (ii) $\left(\frac{5}{9}\right)^{5}$ (iii) $\left(\frac{1}{3}\right)^{5}$ (iv) $\left(\frac{5}{9}\right)^{6}$ (v) $\left(\frac{7}{9}\right)^{5}$

24. Expand the following base power $(-4)^5$

(i) -1024 (ii) -16807 (iii) 256 (iv) 4096 (v) -32

25. $0^1 =$

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

Assignment Key

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