EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Powers and Roots

Grade : ICSE Grade VI

1. Simplify the expression $2^6 \times 6^6$

   (i) 12^5 (ii) 12^7 (iii) 10^6 (iv) 12^6 (v) 14^6

2. $0^2 =$

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

3. Expand the following base power $(-2)^3$

   (i) -8 (ii) 16 (iii) 1 (iv) -64 (v) 4

4. Find the square root of 9

   (i) 1 (ii) 2 (iii) 3 (iv) 4 (v) 6

5. $-9^0 =$

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

6. Find the exponential notation of
   $(\frac{-17}{16}) \times (\frac{-17}{16}) \times (\frac{-17}{16}) \times (\frac{-17}{16}) \times (\frac{-17}{16})$

   (i) $(\frac{-15}{16})^5$ (ii) $(\frac{-17}{16})^4$ (iii) $(\frac{-17}{16})^5$ (iv) $(\frac{-17}{16})^6$ (v) $(\frac{-19}{16})^5$

7. Simplify the expression $(\frac{7}{4})^5 \times (\frac{7}{4})^3$

   (i) $(\frac{5}{4})^8$ (ii) $(\frac{9}{4})^8$ (iii) $(\frac{7}{4})^8$ (iv) $(\frac{7}{4})^9$ (v) $(\frac{7}{4})^7$

8. $\sqrt[3]{\frac{64}{125}} =$

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

Find the exponential notation of

9. $\frac{8}{5} \times \frac{8}{5} \times \frac{8}{5} \times \frac{8}{5}$

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

10. Simplify $\frac{\sqrt[3]{512} + \sqrt[3]{1331}}{\sqrt[3]{27} - \sqrt[3]{125}} =$

(i) $(\frac{-21}{2})$ (ii) $(\frac{-19}{4})$ (iii) $(\frac{-17}{2})$ (iv) -19 (v) $(\frac{-19}{2})$

11. Find the square root of $\frac{9}{16}$

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

12. Find the exponential notation of
$2 \times 2 \times 2 \times 2$

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

13. Find the cube root of $\frac{1}{8}$

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

14. Simplify the expression $6^7 \times 6^3$

(i) 8^{10} (ii) 6^{11} (iii) 6^{10} (iv) 6^9 (v) 3^{10}

15. Simplify the expression $(-4)^7 \times (-4)^7$

(i) $(-4)^{14}$ (ii) $(-7)^{14}$ (iii) $(-4)^{13}$ (iv) $(-4)^{15}$ (v) $(-2)^{14}$

16. Simplify the expression $(-2)^5 \times (-2)^6$

(i) $(-2)^{12}$ (ii) $(-2)^{11}$ (iii) $(-2)^{13}$ (iv) $(-5)^{11}$ (v) $(-2)^{10}$

17. The exponent in the term $\left(\frac{6}{5}\right)^{9}$ is

(i) $(\frac{-6}{5})$ (ii) $\frac{6}{5}$ (iii) -9 (iv) 9 (v) 7

18. Simplify the expression $\left(\frac{9}{4}\right)_{(-9)} \times \left(\frac{9}{4}\right)_{(-5)} \times \left(\frac{9}{4}\right)_{(-6)}$

(i) $\left(\frac{9}{4}\right)_{(-272)}$ (ii) $\left(\frac{3}{2}\right)_{(-270)}$ (iii) $\left(\frac{9}{4}\right)_{(-267)}$ (iv) $\left(\frac{9}{2}\right)_{(-270)}$ (v) $\left(\frac{9}{4}\right)_{(-270)}$

19. Expand the following base power 3^4

(i) 243 (ii) 81 (iii) 27 (iv) 625 (v) 9

20. Find the exponential notation of
$-13 \times -13 \times -13 \times -13 \times -13 \times -13$

(i) $(-13)^7$ (ii) $(-10)^6$ (iii) $(-13)^6$ (iv) $(-13)^5$ (v) $(-16)^6$

21. Simplify the expression $5^4 \times 5^4$

(i) 5^9 (ii) 5^8 (iii) 8^8 (iv) 3^8 (v) 5^7

22. The power in the term $\left(\frac{9}{8}\right)^8$ is

(i) $\frac{9}{8}$ (ii) 8 (iii) $(\frac{-9}{8})$ (iv) 5 (v) -8

23. $-1^3 =$

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

24. Find the prime factorization of 1440

(i) $2^5 \times 3^2 \times 3$ (ii) $2^5 \times 3^2 \times 5$ (iii) $2^5 \times 3^3 \times 5$ (iv) $2^5 \times 3 \times 5$ (v) $2^5 \times 5^2 \times 5$

25. Find the cube root of 8

(i) 0 (ii) 2 (iii) 3 (iv) 1 (v) 5

Assignment Key

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