EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Number Systems

Grade : CBSE Grade IX

1. Simplify the expression $\left(\frac{3}{2}\right)_{(-3)} \times \left(\frac{9}{8}\right)_{(-3)} \times \left(\frac{8}{3}\right)_{(-3)}$

(i) $\left(\frac{127}{24}\right)_{(-6)}$ (ii) $\left(\frac{43}{8}\right)_{(-3)}$ (iii) $\left(\frac{127}{24}\right)_{(-3)}$ (iv) $\left(\frac{117}{22}\right)_{(-3)}$ (v) $\left(\frac{137}{26}\right)_{(-3)}$

2. Expand the following base power $(-5)^{-3}$

(i) $\frac{1}{25}$ (ii) $\left(\frac{-1}{8}\right)$ (iii) $\left(\frac{-1}{512}\right)$ (iv) $\frac{1}{625}$ (v) $\left(\frac{-1}{125}\right)$

3. If $\sqrt{2} = 1.4142, \sqrt{3} = 1.7321, \sqrt{5} = 2.2361, \sqrt{7} = 2.6458,$

the value of $(-6\sqrt{6} + 5\sqrt{3}) =$

(i) 1.963 (ii) 0.963 (iii) 4.963 (iv) -6.037

4. The decimal number 699.76 lies between

(i) {698,699} (ii) {701,702} (iii) {700,701} (iv) {699,700} (v) {697,698}

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

(i) $\left(\frac{5}{16}\right)^2$ (ii) $\left(\frac{7}{16}\right)^2$ (iii) $\left(\frac{5}{16}\right)^3$ (iv) $\frac{5}{16}$ (v) $\left(\frac{3}{16}\right)^2$

6. Which of the following decimal numbers lie between 1860.75 and 1860.76 ?

(i) 186.076 (ii) 1860.769 (iii) 1860.756 (iv) 1860.741 (v) 18607.557

7. The solution of $\sqrt{10}$ lies between

(i) 3.1621 and 3.1622 (ii) 3.1622 and 3.1623 (iii) 3.1624 and 3.1625 (iv) 3.1620 and 3.1621

(v) 3.1623 and 3.1624

8. $[7^{-3}]^{-2} =$

(i) 5^6 (ii) 7^6 (iii) 7^5 (iv) 7^7 (v) 9^6

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

(i) $\left(\frac{81}{10}\right)^{-9}$ (ii) $\left(\frac{81}{10}\right)^{-10}$ (iii) $\left(\frac{83}{10}\right)^{-9}$ (iv) $\left(\frac{81}{10}\right)^{-8}$ (v) $\left(\frac{79}{10}\right)^{-9}$

10. 10.4 =

(i) 1040 (ii) $\frac{52}{5}$ (iii) $\frac{13}{125}$ (iv) $\frac{26}{25}$ (v) 104

11. The solution of $\sqrt{11}$ lies between

(i) 3.315 and 3.316 (ii) 3.316 and 3.317 (iii) 3.314 and 3.315 (iv) 3.317 and 3.318 (v) 3.318 and 3.319

12. Find the value of $\left(\frac{625}{16}\right)^{(5/4)}$

(i) $\frac{3125}{34}$ (ii) $\frac{625}{6}$ (iii) $\frac{3123}{32}$ (iv) $\frac{3127}{32}$ (v) $\frac{3125}{32}$

13. Express $\frac{8923}{10000}$ as a decimal correct to 4 decimal places

(i) 0.9923 (ii) 0.6923 (iii) 0.8923 (iv) 8.923 (v) 0.0892

14. Simplify the expression $\left(\frac{8}{3}\right)^{(-7/8)} \times \left(\frac{5}{3}\right)^{(-7/8)} \times \left(\frac{3}{2}\right)^{(-7/8)}$

(i) $\left(\frac{20}{3}\right)^{(-7/10)}$ (ii) $6^{\left(\frac{-7}{8}\right)}$ (iii) $\left(\frac{22}{3}\right)^{(-7/8)}$ (iv) $\left(\frac{20}{3}\right)^{(-7/6)}$ (v) $\left(\frac{20}{3}\right)^{(-7/8)}$

15. $\sqrt[4]{\sqrt{4}}$ =

(i) 1 (ii) $\sqrt[16]{4}$ (iii) $\sqrt{4}$ (iv) $\sqrt[4]{1}$ (v) $\sqrt[16]{7}$

16. $(-6\sqrt[3]{4}-3\sqrt[3]{2}-3\sqrt[3]{6})-(-8\sqrt[3]{5}-6\sqrt[3]{8}-7\sqrt[3]{7})=$

(i) $(-6-3\sqrt[3]{2}-3\sqrt[3]{6}+8\sqrt[3]{5}+6\sqrt[3]{8}+7\sqrt[3]{7})$ (ii) $(-6\sqrt[3]{4}-3\sqrt[5]{2}-3\sqrt[3]{6}+8\sqrt[3]{5}+6\sqrt[3]{8}+7\sqrt[3]{7})$

(iii) $(-6\sqrt[3]{4}-3\sqrt[3]{2}-3\sqrt[5]{6}+8\sqrt[3]{5}+6\sqrt[3]{8}+7\sqrt[3]{7})$ (iv) $(-6\sqrt[3]{4}-3\sqrt[3]{2}-3\sqrt[3]{6}+8\sqrt[3]{5}+6\sqrt[3]{8}+7\sqrt[3]{7})$

(v) $(-6\sqrt[3]{4}-3\sqrt[3]{2}-3\sqrt[3]{6}+8\sqrt[3]{7}+6\sqrt[3]{8}+7\sqrt[3]{7})$

17. Simplify the expression $\left(\frac{5}{2}\right)_{2} \times \left(\frac{5}{2}\right)_{2}$

(i) 1 (ii) $\left(\frac{5}{4}\right)_{4}$ (iii) $\left(\frac{5}{2}\right)_{7}$ (iv) 4^{5} (v) $\left(\frac{5}{2}\right)_{4}$

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

(i) $\left(\frac{-22}{3}\right)_{(-1)}$ (ii) $(-3)^{-8}$ (iii) $\left(\frac{-22}{3}\right)_{(-6)}$ (iv) $\left(\frac{-36}{5}\right)_{(-3)}$ (v) $\left(\frac{-22}{3}\right)_{(-3)}$

19. Simplify the expression $\left(\frac{-2}{3}\right)_{3} \times \left(\frac{-2}{3}\right)_{2}$

(i) 6^{-2} (ii) $\left(\frac{-2}{3}\right)_{3}$ (iii) $\left(\frac{-2}{3}\right)_{6}$ (iv) $\left(\frac{-2}{5}\right)_{6}$ (v) $\left(\frac{-2}{3}\right)_{9}$

20. Simplify the expression $\left(\frac{9}{7}\right)^{8} \times \left(\frac{7}{3}\right)^{8}$

(i) 3^{9} (ii) 3^{7} (iii) 6^{8} (iv) 3^{5} (v) 3^{8}

21. Simplify the expression $(-7)^{-4} \times (-7)^{-6} \times (-7)^{-6}$

(i) $(-7)^{-17}$ (ii) $(-7)^{-16}$ (iii) $(-7)^{-15}$ (iv) $(-10)^{-16}$ (v) $(-4)^{-16}$

22. $(-5 \times 5)^{5/3} =$

(i) $\left(\frac{5}{3}\right)_{(-5)} \times \left(\frac{5}{3}\right)_{2}$ (ii) $\left(\frac{5}{3}\right)_{(-5)} \times 5$ (iii) $\left(\frac{5}{3}\right)_{(-5)} \times 5^{5}$ (iv) $\left(\frac{5}{3}\right)_{(-5)} \times \left(\frac{5}{3}\right)_{8}$ (v) $\left(\frac{5}{3}\right)_{(-5)} \times \left(\frac{5}{3}\right)_{5}$

23. Simplify the expression $(-7)^6 \times \left(\frac{-3}{2}\right)^6$

(i) $\left(\frac{23}{2}\right)^6$ (ii) $\left(\frac{21}{2}\right)^7$ (iii) $\left(\frac{21}{2}\right)^5$ (iv) $\left(\frac{19}{2}\right)^6$ (v) $\left(\frac{21}{2}\right)^6$

24. Expand the following base power $\left(\frac{5}{2}\right)^{-2}$

(i) $\frac{2}{5}$ (ii) $\frac{4}{9}$ (iii) $\frac{8}{125}$ (iv) $\frac{4}{25}$ (v) $\frac{4}{49}$

25. The recurring part of the decimal $0.33333333333333...$ is

(i) 33 (ii) 330 (iii) 3 (iv) 0.3 (v) 333

Assignment Key

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