EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Real Numbers

Grade : SSC Grade X



1. Simplify the expression $3^8 \times 3^8 \times 3^8$

   (i) $3^{23}$ (ii) $3^{25}$ (iii) $5^{24}$ (iv) $3^{24}$ (v) 1

2. The logarithmic notation of $10^3 = 1000$ is

   (i) $log_{10} 1000^2 = 3$ (ii) $log_{10} 1000 = 3$ (iii) $log_{10} 999 = 3$ (iv) $log_8 998 = 3$ (v) $log_{10} 1003 = 3$

3. $log\, 45 - log\, 62 =$

   (i) $log \frac{43}{62}$ (ii) $log \frac{3}{4}$ (iii) $log \frac{47}{62}$ (iv) $log \left(\frac{45}{62}\right)^2$ (v) $log \frac{45}{62}$

4. Solve $\frac{log\, x}{log\, 2} = \frac{log\, 36}{log \frac{1}{6}}$

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

5. $log\, 1 - log\, 1 =$

   (i) $log\, 1$ (ii) $log\, 3^{-3}$ (iii) $log\, 2^{-3}$ (iv) $log\, (-1)^{-3}$

6. $log \frac{54}{78} + log \frac{13}{27} =$

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

7. 5.2 =

   (i) 52 (ii) $\frac{13}{25}$ (iii) $\frac{26}{5}$ (iv) 520 (v) $\frac{13}{250}$

8. The exponent in the term $9^7$ is

   (i) 5 (ii) 7 (iii) -9 (iv) -7 (v) 9

9. $log_{1296} 7776 =$

   (i) 2.25 (ii) 0.25 (iii) 1.25 (iv) 3.25 (v) 9.25

10. The base of $log_3 94^3$ is

(i) 3 (ii) 6 (iii) $94^3$ (iv) 2 (v) 1

11. If $(x^3+y^3)=z^3$, then which of the following is true?

(i) $log_x(z-y) + log_x(z^2+zy+y^2)=3$ (ii) $log_x(z-y) - log_x(z^2+zy+y^2)=3$ (iii) $log_x(z-y) + log_x(z^2+zy+y^2)=5$

(iv) $log_x(z-y) + log_x(z^2+zy+y^2)=6$ (v) $\frac{log(z-y)}{log(z^2+zy+y^2)}=4$

12. 8.8 =

(i) $\frac{44}{5}$ (ii) $\frac{11}{125}$ (iii) 88 (iv) $\frac{22}{25}$ (v) 880

13. $log_{43^{12}} 43^{43} =$

(i) 3.5833 (ii) 1.5833 (iii) 4.5833 (iv) 5.5833 (v) 2.5833

14. Find the LCM of {9,10}

(i) 92 (ii) 89 (iii) 91 (iv) 87 (v) 90

15. The base of $log_{\frac{2}{4}} 53^3$ is

(i) $\left(\frac{2}{4}\right)^{-1}$ (ii) $53^3$ (iii) $\frac{2}{4}$ (iv) 1

16. $log_{\frac{4}{7}} 3^6 =$

(i) $log_{\frac{2}{7}} 1$ (ii) $6\,log_{\frac{4}{7}} 3$ (iii) $5\,log_{\frac{4}{7}} 3$ (iv) $6\,log_{\frac{4}{7}} 6$ (v) $7\,log_{\frac{4}{7}} 3$

17. If $(x^4+y^4)=z^4$, then which of the following is true?

(i) $log_x(z^2-y^2) + log_x(z^2+y^2)=4$ (ii) $log_x(z^2-y^2) + log_x(z^2+y^2)=7$ (iii) $log_x(z^2-y^2) + log_x(z^2+y^2)=6$

(iv) $\frac{log(z^2-y^2)}{log(z^2+y^2)}=5$ (v) $log_x(z^2-y^2) - log_x(z^2+y^2)=4$

18. The recurring part of the decimal $21.\overline{7}$ is

(i) 772 (ii) 21.7 (iii) 777 (iv) 7 (v) 77

19. $log_{2401} 49 =$

(i) 2.5 (ii) 7.5 (iii) 1.5 (iv) 8.5 (v) 0.5

20. Simplify the expression $(-8)^{\left(\frac{7}{4}\right)} \times (-8)^{\left(\frac{9}{7}\right)}$

(i) $(-8)^{\left(\frac{91}{30}\right)}$ (ii) $(-10)^{\left(\frac{85}{28}\right)}$ (iii) $(-8)^{\left(\frac{85}{28}\right)}$ (iv) $(-8)^{\left(\frac{79}{26}\right)}$ (v) $(-5)^{\left(\frac{85}{28}\right)}$

21. The base of $log_{10.00} 74.0000$ is

(i) 13 (ii) 9 (iii) 10 (iv) 74 (v) 7

22. $log_{10} \frac{25}{12} =$

(i) $3\,log\,5 - 2\,log\,2 - log\,3$ (ii) $log\,5 - 2\,log\,2 - log\,3$ (iii) $2\,log\,5 - 2\,log\,2 - log\,3$ (iv) $2\,log\,5 - 2\,log\,2 - log\,5$

(v) $2\,log\,5 - 2\,log\,{-1} - log\,3$

23. Express $log\ \sqrt[3]{p^3 q^3}$ in terms of $log\ p$ and $log\ q$

(i) $log\ p + log\ q$ (ii) $3\,log\ p + 3\,log\ q$ (iii) $3\,log\ q - 3\,log\ p$ (iv) $3\,log\ p - 3\,log\ q$ (v) $\frac{log\ p}{log\ q}$

24. $log\,10^{10} + log\,10^{7} =$

(i) $log\,8^{17}$ (ii) $log\,10^{16}$ (iii) $log\,13^{17}$ (iv) $log\,10^{17}$ (v) $log\,10^{18}$

25. $log\,100 - log\,25 =$

(i) $log\,6$ (ii) $log\,4^{2}$ (iii) $log\,3$ (iv) $log\,2$ (v) $log\,4$

## Assignment Key

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