EduSahara™ Assignment

Name : Simplification

Chapter : Logarithms

Grade : ICSE Grade IX

1. $log\,3 + log\,6 =$

   (i) $log\,15$ (ii) $log\,17$ (iii) $log\,18$ (iv) $log\,20$ (v) $log\,18^2$

2. $log\,45 + log\,24 =$

   (i) $log\,1080^2$ (ii) $log\,1080$ (iii) $log\,1079$ (iv) $log\,1078$ (v) $log\,1082$

3. $log\,5^6 + log\,5^7 =$

   (i) $log\,2^{13}$ (ii) $log\,5^{13}$ (iii) $log\,5^{12}$ (iv) $log\,7^{13}$ (v) $log\,5^{14}$

4. $log\,73^3 + log\,73^3 =$

   (i) $log\,73^7$ (ii) $log\,71^6$ (iii) $log\,73^6$ (iv) $log\,76^6$ (v) $log\,73^5$

5. $log\,99 - log\,33 =$

   (i) $log\,1$ (ii) $log\,3^2$ (iii) $log\,5$ (iv) $log\,2$ (v) $log\,3$

6. $log\,19 - log\,39 =$

   (i) $log\,\frac{7}{13}$ (ii) $log\left(\frac{19}{39}\right)^2$ (iii) $log\,\frac{19}{39}$ (iv) $log\,\frac{19}{37}$ (v) $log\,\frac{17}{39}$

7. $log\,33 - log\,3 =$

   (i) $log\,10$ (ii) $log\,14$ (iii) $log\,11^2$ (iv) $log\,9$ (v) $log\,11$

8. $log_{10}56 =$

   (i) $2\,log\,2 + log\,7$ (ii) $3\,log\,2 + log\,10$ (iii) $3\,log\,2 + log\,7$ (iv) $3\,log\,2 + 2\,log\,7$ (v) $3\,log\,2 + log\,5$

9. $log_{10}588 =$

   (i) $2\,log\,2 + log\,3 + 3\,log\,7$ (ii) $2\,log\,2 + log\,3 + 2\,log\,7$ (iii) $2\,log\,2 + log\,3 + 2\,log\,5$ (iv) $2\,log\,4 + log\,3 + 2\,log\,7$

   (v) $log\,2 + log\,3 + 2\,log\,7$

10. $log\,1260 =$

    (i) $log\,36 \times log\,35$ (ii) $log\,36 \div log\,35$ (iii) $log\,36 + log\,35$ (iv) $35\,log\,36$ (v) $log\,36 - log\,35$

11. $log_4 15 =$

(i) $log\,15 \times log\,4$ (ii) $log\,15 \div log\,4$ (iii) $log\,4 \div log\,15$ (iv) $log\,15 - log\,4$ (v) $log\,15 + log\,4$

12. $log_2 87 =$

(i) $log_2 28 \times log_{87} 28$ (ii) $log_2 28 \div log_{87} 28$ (iii) $log_2 28 - log_{87} 28$ (iv) $log_2 28 + log_{87} 28$ (v) $log_{87} 28 \div log_2 28$

13. $log_{10} 25 =$

(i) $log_5 25 \times log_{10} 5$ (ii) $log_{10} 5 \div log_5 25$ (iii) $log_5 25 + log_{10} 5$ (iv) $log_5 25 \div log_{10} 5$ (v) $log_5 25 - log_{10} 5$

14. $log\,\frac{1}{2} + log\,\frac{1}{2} =$

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

15. $log\,\frac{5}{6} + log\,\frac{26}{67} =$

(i) $log\,\frac{65}{199}$ (ii) $log\left(\frac{65}{201}\right)^2$ (iii) $log\,\frac{65}{201}$ (iv) $log\,\frac{21}{67}$ (v) $log\,\frac{1}{3}$

16. $log\,2^5 + log\,2^5 =$

(i) $log\,2^9$ (ii) $log\,(-1)^{10}$ (iii) $log\,5^{10}$ (iv) $log\,2^{10}$ (v) $log\,2^{11}$

17. $log\,44^7 + log\,44^2 =$

(i) $log\,44^8$ (ii) $log\,44^{10}$ (iii) $log\,47^9$ (iv) $log\,42^9$ (v) $log\,44^9$

18. $log\,10.0000 + log\,4.0000 =$

(i) $log\,42.0000$ (ii) $log\,40.0000$ (iii) $log\,39.0000$ (iv) $log\,41.0000$ (v) $log\,38.0000$

19. $log\,32.0000 + log\,67.0000 =$

(i) $log\,2146.0000$ (ii) $log\,2142.0000$ (iii) $log\,2144.0000$ (iv) $log\,2145.0000$ (v) $log\,2143.0000$

20. $log\,1 + log\,3 =$

(i) $log\,3^2$ (ii) $log\,2$ (iii) $log\,3^{-1}$ (iv) $log\,3$ (v) $log\,5$

21. $log\,79 + log\,81 =$

(i) $log\,6401$ (ii) $log\,6399$ (iii) $log\,6396$ (iv) $log\,6398$ (v) $log\,6399^2$

22. $log\,\frac{10}{13} + log\,\frac{9}{20} =$

(i) $log\,\frac{7}{26}$ (ii) $log\left(\frac{9}{26}\right)^{2}$ (iii) $log\,\frac{11}{26}$ (iv) $log\,\frac{9}{26}$ (v) $log\,\frac{3}{8}$

23. $log\,63^{10} + log\,63^{4} =$

(i) $log\,63^{15}$ (ii) $log\,66^{14}$ (iii) $log\,63^{13}$ (iv) $log\,63^{14}$ (v) $log\,61^{14}$

24. $log\,51 + log\,84 =$

(i) $log\,4284$ (ii) $log\,4287$ (iii) $log\,4283$ (iv) $log\,4284^{2}$ (v) $log\,4281$

25. $log\,\frac{12}{13} + log\,\frac{26}{28} =$

(i) $log\,\frac{6}{5}$ (ii) $log\,\frac{8}{7}$ (iii) $log\,\frac{6}{7}$ (iv) $log\left(\frac{6}{7}\right)^{2}$ (v) $log\,\frac{4}{7}$

26. $log\,41^{3} + log\,41^{7} =$

(i) $log\,41^{11}$ (ii) $log\,43^{10}$ (iii) $log\,38^{10}$ (iv) $log\,41^{10}$ (v) $log\,41^{9}$

27. $log\,95.0000 + log\,52.0000 =$

(i) $log\,4940.0000$ (ii) $log\,4942.0000$ (iii) $log\,4939.0000$ (iv) $log\,4938.0000$ (v) $log\,4941.0000$

28. $log\,0.5424 + log\,0.7297 =$

(i) $log\,8.3958$ (ii) $log\,1.3958$ (iii) $log\,2.3958$ (iv) $log\,7.3958$ (v) $log\,0.3958$

29. $log\,8^{10} + log\,8^{10} =$

(i) $log\,6^{20}$ (ii) $log\,11^{20}$ (iii) $log\,8^{20}$ (iv) $log\,8^{21}$ (v) $log\,8^{19}$

30. $log\,\frac{25}{37} - log\,\frac{44}{75} =$

(i) $log\,\frac{1877}{1628}$ (ii) $log\left(\frac{1875}{1628}\right)^{2}$ (iii) $log\,\frac{1873}{1628}$ (iv) $log\,\frac{625}{542}$ (v) $log\,\frac{1875}{1628}$

31. $log\,6^{2} - log\,6^{7} =$

(i) $log\,6^{-4}$ (ii) $log\,9^{-5}$ (iii) $log\,4^{-5}$ (iv) $log\,6^{-6}$ (v) $log\,6^{-5}$

32. $log\,82.0000 - log\,9.0000 =$

(i) $log\,11.1111$ (ii) $log\,8.1111$ (iii) $log\,10.1111$ (iv) $log\,7.1111$ (v) $log\,9.1111$

33. $log\,\frac{8}{17} - log\,\frac{1}{5} =$

(i) $log\left(\frac{40}{17}\right)^{2}$ (ii) $log\,\frac{42}{17}$ (iii) $log\,\frac{38}{17}$ (iv) $log\,\frac{8}{3}$ (v) $log\,\frac{40}{17}$

34. $log\,75^{2} - log\,75^{2} =$

(i) $log\,75^{-1}$ (ii) $log\,75^{-3}$ (iii) $log\,75^{3}$ (iv) $log\,75$ (v) $log\,1$

35. $log\,55.8200 - log\,80.3100 =$

(i) $log\,1.6951$ (ii) $log\,0.6951$ (iii) $log\,2.6951$ (iv) $log\,8.6951$ (v) $log\,7.6951$

36. $log\,\frac{24}{30} - log\,\frac{19}{69} =$

(i) $log\,\frac{278}{95}$ (ii) $log\,\frac{274}{95}$ (iii) $log\left(\frac{276}{95}\right)^{2}$ (iv) $log\,\frac{92}{31}$ (v) $log\,\frac{276}{95}$

37. $log\,11^{5} - log\,11^{3} =$

(i) $log\,11^{3}$ (ii) $log\,11^{2}$ (iii) $log\,11$ (iv) $log\,13^{2}$ (v) $log\,8^{2}$

38. $log\,7.7400 - log\,5.5000 =$

(i) $log\,1.4073$ (ii) $log\,0.4073$ (iii) $log\,2.4073$ (iv) $log\,9.4073$ (v) $log\,3.4073$

39. $log\,42^{10} - log\,42^{9} =$

(i) $log\,42^{2}$ (ii) $log\,45$ (iii) $log\,42$ (iv) $log\,41$ (v) $log\,40$

40. $log_{8}\,9^{4} =$

(i) $log_{6}\,6^{4}$ (ii) $4\,log_{8}\,9$ (iii) $3\,log_{8}\,9$ (iv) $5\,log_{8}\,9$ (v) $4\,log_{8}\,12$

41. $log_{10}\,\frac{16}{21} =$

(i) $3\,log\,2 - log\,3 - log\,7$ (ii) $4\,log\,2 - log\,3 - log\,4$ (iii) $4\,log\,2 - log\,3 - log\,10$ (iv) $5\,log\,2 - log\,3 - log\,7$

(v) $4\,log\,2 - log\,3 - log\,7$

42. $log_{10}\frac{16}{7} =$

(i) $4\,log\,2 - log\,5$ (ii) $3\,log\,2 - log\,7$ (iii) $4\,log\,2 - log\,9$ (iv) $4\,log\,2 - log\,7$ (v) $5\,log\,2 - log\,7$

43. $log_{10}100 =$

(i) $2\,log\,2 + log\,5$ (ii) $2\,log\,2 + 2\,log\,8$ (iii) $2\,log\,2 + 2\,log\,5$ (iv) $3\,log\,2 + 2\,log\,5$ (v) $2\,log\,2 + 2\,log\,3$

44. $log_{10}720 =$

(i) $4\,log\,2 + 2\,log\,3 + log\,4$ (ii) $4\,log\,2 + 2\,log\,3 + log\,5$ (iii) $4\,log\,2 + 3\,log\,3 + log\,5$ (iv) $4\,log\,2 + 2\,log\,3 + log\,8$

(v) $2\,log\,2 + 2\,log\,3 + log\,5$

45. $log\,900 =$

(i) $log\,15 \div log\,60$ (ii) $log\,15 + log\,60$ (iii) $log\,15 \times log\,60$ (iv) $60\,log\,15$ (v) $log\,15 - log\,60$

46. $log\,\frac{76}{55} =$

(i) $log\,76 \div log\,55$ (ii) $55\,log\,76$ (iii) $log\,76 - log\,55$ (iv) $log\,76 \times log\,55$ (v) $log\,76 + log\,55$

47. $log_{10}\frac{4}{5} =$

(i) $log\,\frac{4}{5} - log\,10$ (ii) $log\,\frac{4}{5} \times log\,10$ (iii) $log\,\frac{4}{5} \div log\,10$ (iv) $log\,10 \div log\,\frac{4}{5}$ (v) $log\,\frac{4}{5} + log\,10$

48. $log_2 79 =$

(i) $log\,79 \div log\,2$ (ii) $log\,79 \times log\,2$ (iii) $log\,79 + log\,2$ (iv) $log\,2 \div log\,79$ (v) $log\,79 - log\,2$

49. $log_{3.10}72.2900 =$

(i) $log\,72.2900 + log\,3.10$ (ii) $log\,72.2900 \div log\,3.10$ (iii) $log\,3.10 \div log\,72.2900$ (iv) $log\,72.2900 - log\,3.10$

(v) $log\,72.2900 \times log\,3.10$

50. $log_{\frac{1}{2}}\frac{13}{36} =$

(i) $log\,\frac{13}{36} \times log\,\frac{1}{2}$ (ii) $log\,\frac{13}{36} \div log\,\frac{1}{2}$ (iii) $log\,\frac{1}{2} \div log\,\frac{13}{36}$ (iv) $log\,\frac{13}{36} - log\,\frac{1}{2}$ (v) $log\,\frac{13}{36} + log\,\frac{1}{2}$

51. $log_{6^6}2^5 =$

(i) $5\,log\,2 - 6\,log\,6$ (ii) $5\,log\,2 + 6\,log\,6$ (iii) $5\,log\,2 \div 6\,log\,6$ (iv) $6\,log\,6 \div 5\,log\,2$ (v) $5\,log\,2 \times 6\,log\,6$

52. $log_{4^6}36^{10} =$

(i) $\frac{5}{3}\,log_4 35$ (ii) $\frac{5}{3}\,log_2 34$ (iii) $\frac{10}{3}\,log_4 36$ (iv) $\frac{5}{3}\,log_4 36$ (v) $\frac{5}{3}\,log_4 39$

53. $log_2 9 =$

(i) $log_2 50 \times log_9 50$ (ii) $log_2 50 + log_9 50$ (iii) $log_2 50 - log_9 50$ (iv) $log_9 50 \div log_2 50$ (v) $log_2 50 \div log_9 50$

54. $log_5 49 =$

(i) $log_3 49 \times log_5 3$ (ii) $log_5 3 \div log_3 49$ (iii) $log_3 49 - log_5 3$ (iv) $log_3 49 \div log_5 3$ (v) $log_3 49 + log_5 3$

55. $log_{45^{12}} 45^{33} =$

(i) 2.75 (ii) 4.75 (iii) 0.75 (iv) 3.75 (v) 1.75

56. $log\, 69.5300 + log\, 45.2000 =$

(i) $log\, 3143.7561$ (ii) $log\, 3142.7561$ (iii) $log\, 3144.7561$ (iv) $log\, 3141.7561$ (v) $log\, 3140.7561$

57. $log\, 3.3500 + log\, 87.5600 =$

(i) $log\, 293.3260$ (ii) $log\, 291.3260$ (iii) $log\, 292.3260$ (iv) $log\, 294.3260$ (v) $log\, 295.3260$

58. $log\, 70^4 + log\, 70^{10} =$

(i) $log\, 70^{14}$ (ii) $log\, 70^{13}$ (iii) $log\, 70^{15}$ (iv) $log\, 67^{14}$ (v) $log\, 73^{14}$

59. $log\, 12.1200 + log\, 11.6200 =$

(i) $log\, 138.8344$ (ii) $log\, 141.8344$ (iii) $log\, 139.8344$ (iv) $log\, 140.8344$ (v) $log\, 142.8344$

60. $log\, 63 - log\, 6 =$

(i) $log\, \frac{21}{2}$ (ii) $log\, 21$ (iii) $log\, \frac{23}{2}$ (iv) $log\, \frac{19}{2}$ (v) $log \left(\frac{21}{2}\right)^2$

61. $log\, \frac{17}{26} - log\, \frac{13}{22} =$

(i) $log\, \frac{189}{169}$ (ii) $log\, \frac{187}{167}$ (iii) $log\, \frac{187}{169}$ (iv) $log \left(\frac{187}{169}\right)^2$ (v) $log\, \frac{185}{169}$

62. $log\, 54^5 - log\, 54^{10} =$

(i) $log\, 54^{-5}$ (ii) $log\, 57^{-5}$ (iii) $log\, 54^{-4}$ (iv) $log\, 54^{-6}$ (v) $log\, 52^{-5}$

63. $log\, 11.3800 - log\, 87.7100 =$

(i) $log\, 7.1297$ (ii) $log\, 0.1297$ (iii) $log\, 1.1297$ (iv) $log\, 8.1297$ (v) $log\, 2.1297$

64. $log_{\frac{1}{2}} 48^5 =$

(i) $4 log_{\frac{1}{2}} 48$ (ii) $log_{(\frac{-1}{2})} 46^5$ (iii) $5 log_{\frac{1}{2}} 48$ (iv) $6 log_{\frac{1}{2}} 48$ (v) $5 log_{\frac{1}{2}} 51$

65. $log_{3^5} 90^7 =$

(i) $log_{3^3} 88^7$ (ii) $8 log_{3^5} 90$ (iii) $7 log_{3^5} 93$ (iv) $7 log_{3^5} 90$ (v) $6 log_{3^5} 90$

66. $log_{\frac{161}{20}} 44^3 =$

(i) $2 log_{\frac{161}{20}} 44$ (ii) $4 log_{\frac{161}{20}} 44$ (iii) $3 log_{\frac{161}{20}} 47$ (iv) $log_{\frac{159}{20}} 41^3$ (v) $3 log_{\frac{161}{20}} 44$

67. $log_{10} \frac{35}{2} =$

(i) $log 5 + log 7 - log 2$ (ii) $log 5 + 2 log 7 - log 2$ (iii) $log 5 + log 7 - log 4$ (iv) $log 5 + log 6 - log 2$

(v) $log 5 + log 7 - log$ -1

Assignment Key

1) (iii)	2) (ii)	3) (ii)	4) (iii)	5) (v)	6) (iii)
7) (v)	8) (iii)	9) (ii)	10) (iii)	11) (ii)	12) (ii)
13) (i)	14) (ii)	15) (iii)	16) (iv)	17) (v)	18) (ii)
19) (iii)	20) (iv)	21) (ii)	22) (iv)	23) (iv)	24) (i)
25) (iii)	26) (iv)	27) (i)	28) (v)	29) (iii)	30) (v)
31) (v)	32) (v)	33) (v)	34) (v)	35) (ii)	36) (v)
37) (ii)	38) (i)	39) (iii)	40) (ii)	41) (v)	42) (iv)
43) (iii)	44) (ii)	45) (ii)	46) (iii)	47) (iii)	48) (i)
49) (ii)	50) (ii)	51) (iii)	52) (iv)	53) (v)	54) (i)
55) (i)	56) (ii)	57) (i)	58) (i)	59) (iv)	60) (i)
61) (iii)	62) (i)	63) (ii)	64) (iii)	65) (iv)	66) (v)
67) (i)					