EduSahara™ Assignment

Name : Exponents Concepts

Chapter : Exponents

Grade : ICSE Grade VIII

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1. The base in the term 8^2 is

   (i) -2 (ii) 8 (iii) 6 (iv) 2 (v) -8

2. The exponent in the term 5^2 is

   (i) -2 (ii) 5 (iii) -5 (iv) 2 (v) -1

3. The power in the term 7^3 is

   (i) 3 (ii) -3 (iii) 0 (iv) 7 (v) -7

4. The base in the term $\left(\frac{9}{8}\right)^6$ is

   (i) $\frac{9}{8}$ (ii) $\left(\frac{-9}{8}\right)$ (iii) -6 (iv) $\frac{7}{8}$ (v) 6

5. The exponent in the term $\left(\frac{4}{3}\right)^9$ is

   (i) 6 (ii) $\left(\frac{-4}{3}\right)$ (iii) 9 (iv) -9 (v) $\frac{4}{3}$

6. The power in the term 9^4 is

   (i) -9 (ii) 2 (iii) $\frac{9}{1}$ (iv) 4 (v) -4

7. The base in the term $5^{\left(\frac{5}{4}\right)}$ is

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

8. The exponent in the term 7^8 is

   (i) $\frac{8}{1}$ (ii) 5 (iii) 7 (iv) -7 (v) -8

9. The power in the term $4^{\left(\frac{7}{3}\right)}$ is

(i) $\frac{5}{3}$ (ii) 4 (iii) -4 (iv) $\frac{7}{3}$ (v) $\left(\frac{-7}{3}\right)$

10. The base in the term $\left(\frac{7}{2}\right)^{(5/2)}$ is

(i) $\frac{7}{2}$ (ii) $\left(\frac{-5}{2}\right)$ (iii) $\left(\frac{-7}{2}\right)$ (iv) $\frac{5}{2}$

11. The exponent in the term $\left(\frac{9}{5}\right)^{(9/2)}$ is

(i) $\frac{9}{5}$ (ii) $\left(\frac{-9}{5}\right)$ (iii) $\frac{7}{2}$ (iv) $\left(\frac{-9}{2}\right)$ (v) $\frac{9}{2}$

12. The power in the term $\left(\frac{5}{3}\right)^{7}$ is

(i) 5 (ii) $\frac{5}{3}$ (iii) $\left(\frac{-5}{3}\right)$ (iv) -7 (v) $\frac{7}{1}$

13. $(-6 \times -3)^{-6} =$

(i) $(-6)^{-6} \times (-5)^{-6}$ (ii) $(-6)^{-6} \times (-3)^{-6}$ (iii) $(-6)^{-6} \times (-3)^{-7}$ (iv) $(-6)^{-6} \times (-3)^{-5}$ (v) $(-6)^{-6} \times (-1)^{-6}$

14. $(-7 \times -5 \times 6)^{8} =$

(i) $(-7)^{8} \times (-2)^{8} \times 9^{8}$ (ii) $(-7)^{8} \times (-8)^{8} \times 4^{8}$ (iii) $(-7)^{8} \times (-5)^{7} \times 6^{7}$ (iv) $(-7)^{8} \times (-5)^{9} \times 6^{9}$ (v) $(-7)^{8} \times (-5)^{8} \times 6^{8}$

15. $(-7 \times -2)^{-7/5} =$

(i) $(-7)^{\left(\frac{-7}{5}\right)} \times (-2)^{-1}$ (ii) $(-7)^{\left(\frac{-7}{5}\right)} \times (-2)^{\left(\frac{-7}{3}\right)}$ (iii) $(-7)^{\left(\frac{-7}{5}\right)} \times 1$ (iv) $(-7)^{\left(\frac{-7}{5}\right)} \times (-4)^{\left(\frac{-7}{5}\right)}$ (v) $(-7)^{\left(\frac{-7}{5}\right)} \times (-2)^{\left(\frac{-7}{5}\right)}$

16. $(-2 \times 7 \times 5)^{-3} =$

(i) $(-2)^{-3} \times 7^{-3} \times 5^{-3}$ (ii) $(-2)^{-3} \times 7^{-2} \times 5^{-2}$ (iii) $(-2)^{-3} \times 4^{-3} \times 3^{-3}$ (iv) $(-2)^{-3} \times 7^{-4} \times 5^{-4}$ (v) $(-2)^{-3} \times 10^{-3} \times 8^{-3}$

17. $\left(\frac{-3}{1} \times \frac{9}{8}\right)^{8/7} =$

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

(v) $(-3)^{\left(\frac{8}{7}\right)} \times \left(\frac{11}{8}\right)^{(8/7)}$

18. $\left(\frac{2}{1} \times \frac{7}{2} \times \frac{8}{5}\right)^{9/2} =$

(i) $2^{\left(\frac{9}{2}\right)} \times \left(\frac{7}{2}\right)^{(9/2)} \times \left(\frac{8}{5}\right)^{(9/2)}$ (ii) $2^{\left(\frac{9}{2}\right)} \times \left(\frac{7}{2}\right)^{9} \times \left(\frac{8}{5}\right)^{9}$ (iii) $2^{\left(\frac{9}{2}\right)} \times \left(\frac{5}{2}\right)^{(9/2)} \times \left(\frac{6}{5}\right)^{(9/2)}$

(iv) $2^{\left(\frac{9}{2}\right)} \times \left(\frac{7}{2}\right)^{(9/4)} \times \left(\frac{8}{5}\right)^{(9/4)}$ (v) $2^{\left(\frac{9}{2}\right)} \times \left(\frac{9}{2}\right)^{(9/2)} \times 2^{\left(\frac{9}{2}\right)}$

19. $\left(\frac{8}{3}\right)^{3} =$

(i) $\frac{8^3}{6^3}$ (ii) $\frac{8^4}{3^3}$ (iii) $\frac{8^3}{1}$ (iv) $\frac{8^2}{3^3}$ (v) $\frac{8^3}{3^3}$

20. $\left(\frac{-7}{3}\right)^{-8} =$

(i) $\frac{(-7)^{-9}}{3^{-8}}$ (ii) $\frac{(-7)^{-8}}{5^{-8}}$ (iii) $\frac{(-7)^{-8}}{1}$ (iv) $\frac{(-7)^{-7}}{3^{-8}}$ (v) $\frac{(-7)^{-8}}{3^{-8}}$

21. $\left(\frac{8}{3}\right)^{(7/5)} =$

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

22. $(-9)^{-8} =$

(i) $\frac{(-9)^{-8}}{1}$ (ii) $\frac{(-9)^{-9}}{1}$ (iii) $\frac{(-9)^{-8}}{4^{-8}}$ (iv) $\frac{(-9)^{-8}}{(-2)^{-8}}$ (v) $\frac{(-9)^{-7}}{1}$

23. $7^{3} =$

(i) $\left(\frac{1}{7}\right)^{-3}$ (ii) $\left(\frac{1}{7}\right)^{-2}$ (iii) $\left(\frac{3}{7}\right)^{-3}$ (iv) $\left(\frac{-1}{7}\right)^{-3}$ (v) $\left(\frac{1}{7}\right)^{-4}$

24. $(-4)^{-5} =$

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

25. $\left(\frac{-2}{9}\right)^{-6} =$

(i) $\left(\frac{-11}{2}\right)^{6}$ (ii) $\left(\frac{-7}{2}\right)^{6}$ (iii) $\left(\frac{-9}{2}\right)^{6}$ (iv) $\left(\frac{-9}{2}\right)^{7}$ (v) $\left(\frac{-9}{2}\right)^{5}$

26. $(-4)^{\left(\frac{-7}{3}\right)} =$

(i) $\left(\frac{-3}{4}\right)^{(7/3)}$ (ii) $\left(\frac{-1}{4}\right)^{(7/3)}$ (iii) $\left(\frac{-1}{4}\right)^{3}$ (iv) $\left(\frac{1}{4}\right)^{(7/3)}$ (v) $\left(\frac{-1}{4}\right)^{(11/5)}$

27. $\frac{7^8}{7^2} =$

(i) 10^6 (ii) 4^6 (iii) 7^6 (iv) 7^7 (v) 7^5

28. $\frac{\left(\frac{-4}{3}\right)^{-5}}{\left(\frac{-4}{3}\right)^{-7}} =$

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

29. $\frac{(-3)^{\left(\frac{4}{3}\right)}}{(-3)^{\left(\frac{5}{2}\right)}} =$

(i) $(-5)^{\left(\frac{-7}{6}\right)}$ (ii) $(-3)^{\left(\frac{-5}{4}\right)}$ (iii) $(-3)^{\left(\frac{-9}{8}\right)}$ (iv) $(-3)^{\left(\frac{-7}{6}\right)}$ (v) $(-1)^{\left(\frac{-7}{6}\right)}$

30. $\frac{\left(\frac{-3}{5}\right)^{(5/3)}}{\left(\frac{-3}{5}\right)^{(-3/4)}} =$

(i) $\left(\frac{-3}{5}\right)^{(5/2)}$ (ii) $\left(\frac{-3}{5}\right)^{(29/12)}$ (iii) $\left(\frac{-3}{5}\right)^{(33/14)}$ (iv) $(-1)^{\left(\frac{29}{12}\right)}$ (v) $\left(\frac{-1}{5}\right)^{(29/12)}$

31. $[5^3]^5 =$

(i) 5^{15} (ii) 7^{15} (iii) 5^{14} (iv) 2^{15} (v) 5^{16}

32. $[(-3)^{-3}]^{5/4} =$

(i) $(-1)^{\left(\frac{-15}{4}\right)}$ (ii) $(-3)^{\left(\frac{-7}{2}\right)}$ (iii) $(-3)^{\left(\frac{-15}{4}\right)}$ (iv) $(-6)^{\left(\frac{-15}{4}\right)}$ (v) $(-3)^{\left(\frac{-9}{2}\right)}$

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

(i) $(-2)^{5}$ (ii) $(-2)^{6}$ (iii) $(-5)^{6}$ (iv) $(-2)^{7}$ (v) $(-2)^{8}$

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

(i) $(-4)^{\left(\frac{-10}{3}\right)}$ (ii) $(-7)^{-4}$ (iii) $(-9)^{\left(\frac{-10}{3}\right)}$ (iv) $(-7)^{\left(\frac{-10}{3}\right)}$ (v) $(-7)^{\left(\frac{-16}{5}\right)}$

35. $\left[\left(\frac{9}{5}\right)^{3}\right]^{-5} =$

(i) $\left(\frac{9}{5}\right)^{-14}$ (ii) $\left(\frac{7}{5}\right)^{-15}$ (iii) $\left(\frac{9}{5}\right)^{-15}$ (iv) $\left(\frac{9}{5}\right)^{-16}$ (v) $\left(\frac{11}{5}\right)^{-15}$

36. $\left[\left(\frac{9}{2}\right)^{-2}\right]^{-2/3} =$

(i) $\left(\frac{7}{2}\right)^{(4/3)}$ (ii) $\left(\frac{11}{2}\right)^{(4/3)}$ (iii) $\left(\frac{9}{2}\right)^{2}$ (iv) $\left(\frac{9}{2}\right)^{(6/5)}$ (v) $\left(\frac{9}{2}\right)^{(4/3)}$

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

(i) $\left(\frac{-5}{3}\right)^{(4/3)}$ (ii) $\left(\frac{-5}{3}\right)^{(8/7)}$ (iii) $(-1)^{\left(\frac{6}{5}\right)}$ (iv) $\left(\frac{-7}{3}\right)^{(6/5)}$ (v) $\left(\frac{-5}{3}\right)^{(6/5)}$

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

(i) $\left(\frac{-3}{4}\right)^{-1}$ (ii) $\left(\frac{-1}{4}\right)^{(-1/2)}$ (iii) $\left(\frac{-5}{4}\right)^{(-1/2)}$ (iv) $\left(\frac{-3}{4}\right)^{(-1/2)}$ (v) $\left(\frac{-3}{4}\right)^{(-1/4)}$

39. The multiplicative inverse of 5^{-5} is

(i) 1 (ii) 0 (iii) 5^5 (iv) $\left(\frac{1}{5}\right)^5$ (v) $(-5)^{-5}$

40. The multiplicative inverse of $\left(\frac{1}{7}\right)^7$ is

(i) 7^{-7} (ii) $\left(\frac{1}{7}\right)^{-7}$ (iii) 0 (iv) $\left(\frac{-1}{7}\right)^7$ (v) 1

41. Which of the following statements are true?

a) $a.x^m = a^m.x^m$

b) $\left(x^m\right)^n = x^{(m+n)}$

c) $a^m.a^n = a^{mn}$

d) $\frac{x^m}{x^n} = x^{\frac{m}{n}}$

e) $\left(x^m\right)^n = \left(x^n\right)^m$

f) $a^0 = 1 \ (a \neq 0)$

(i) {c,d,e} (ii) {e,f} (iii) {a,e} (iv) {b,f} (v) {a,f,e}

42. $-1^2 =$

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

43. $-1^5 =$

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

44. $4^0 =$

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

45. $0^0 =$

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

46. $-1^0 =$

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

47. $0^4 =$

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

48. $\sqrt{\frac{169}{196}} =$

(i) $\frac{15}{14}$ (ii) $\frac{13}{14}$ (iii) $\frac{13}{12}$ (iv) $\frac{13}{16}$ (v) $\frac{11}{14}$

49. Find the reciprocal of 3^5

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

50. Find the reciprocal of $\left(\frac{-2}{6}\right)^8$

(i) $(-2)^8$ (ii) $\left(\frac{-6}{2}\right)^7$ (iii) $\left(\frac{-6}{2}\right)^9$ (iv) $(-4)^8$ (v) $\left(\frac{-6}{2}\right)^8$

Assignment Key

1) (ii)	2) (iv)	3) (i)	4) (i)	5) (iii)	6) (iv)
7) (ii)	8) (i)	9) (iv)	10) (i)	11) (v)	12) (v)
13) (ii)	14) (v)	15) (v)	16) (i)	17) (iv)	18) (i)
19) (v)	20) (v)	21) (iv)	22) (i)	23) (i)	24) (ii)
25) (iii)	26) (ii)	27) (iii)	28) (i)	29) (iv)	30) (ii)
31) (i)	32) (iii)	33) (ii)	34) (iv)	35) (iii)	36) (v)
37) (v)	38) (iv)	39) (iii)	40) (ii)	41) (ii)	42) (iii)
43) (ii)	44) (iv)	45) (iv)	46) (i)	47) (v)	48) (ii)
49) (v)	50) (v)				

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