EduSahara™ Assignment

Name : Exponents Concepts

Chapter : Exponents

Grade : ICSE Grade VIII

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1. The base in the term 2^5 is

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

2. The exponent in the term 3^5 is

   (i) 5 (ii) -5 (iii) 2 (iv) 3 (v) -3

3. The power in the term 3^6 is

   (i) -3 (ii) 6 (iii) -6 (iv) 3 (v) 4

4. The base in the term $\left(\frac{9}{7}\right)^2$ is

   (i) 2 (ii) -2 (iii) 1 (iv) $\frac{9}{7}$ (v) $\left(\frac{-9}{7}\right)$

5. The exponent in the term $\left(\frac{9}{8}\right)^5$ is

   (i) 2 (ii) 5 (iii) $\left(\frac{-9}{8}\right)$ (iv) $\frac{9}{8}$ (v) -5

6. The power in the term $\left(\frac{9}{4}\right)^2$ is

   (i) 0 (ii) $\frac{9}{4}$ (iii) 2 (iv) $\left(\frac{-9}{4}\right)$ (v) -2

7. The base in the term $6^{\left(\frac{7}{4}\right)}$ is

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

8. The exponent in the term $2^{\left(\frac{9}{7}\right)}$ is

   (i) -2 (ii) $\left(\frac{-9}{7}\right)$ (iii) $\frac{9}{7}$ (iv) 1 (v) 2

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

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

10. The base in the term $\left(\frac{5}{4}\right)^{(8/7)}$ is

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

11. The exponent in the term $4^{\left(\frac{8}{5}\right)}$ is

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

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

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

13. $(-4 \times 6)^{9} =$

(i) $(-4)^{9} \times 3^{9}$ (ii) $(-4)^{9} \times 6^{10}$ (iii) $(-4)^{9} \times 6^{8}$ (iv) $(-4)^{9} \times 9^{9}$ (v) $(-4)^{9} \times 6^{9}$

14. $(-2 \times 2 \times -2)^{-3} =$

(i) $(-2)^{-3} \times 2^{-2} \times (-2)^{-2}$ (ii) $(-2)^{-3} \times 2^{-6} \times (-4)^{-3}$ (iii) $(-2)^{-3} \times 2^{-4} \times (-2)^{-4}$ (iv) $(-2)^{-3} \times 5^{-3} \times 1$

(v) $(-2)^{-3} \times 2^{-3} \times (-2)^{-3}$

15. $(6 \times -2)^{-8} =$

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

16. $(5 \times -3 \times -7)^{5/4} =$

(i) $5^{\left(\frac{5}{4}\right)} \times (-6)^{\left(\frac{5}{4}\right)} \times (-10)^{\left(\frac{5}{4}\right)}$ (ii) $5^{\left(\frac{5}{4}\right)} \times (-3)^{\left(\frac{5}{4}\right)} \times (-7)^{\left(\frac{5}{4}\right)}$ (iii) $5^{\left(\frac{5}{4}\right)} \times (-3)^{\left(\frac{7}{4}\right)} \times (-4)^{\left(\frac{5}{4}\right)}$

(iv) $5^{\left(\frac{5}{4}\right)} \times (-3)^{\left(\frac{5}{2}\right)} \times (-7)^{\left(\frac{5}{2}\right)}$ (v) $5^{\left(\frac{5}{4}\right)} \times (-3)^{\left(\frac{5}{6}\right)} \times (-7)^{\left(\frac{5}{6}\right)}$

17. $\left(\left(\frac{-3}{2}\right)\times\left(\frac{-6}{7}\right)\right)^{9/2} =$

(i) $\left(\frac{-3}{2}\right)^{(9/2)} \times\left(\frac{-8}{7}\right)^{(9/2)}$ (ii) $\left(\frac{-3}{2}\right)^{(9/2)} \times\left(\frac{-6}{7}\right)^{(9/2)}$ (iii) $\left(\frac{-3}{2}\right)^{(9/2)} \times\left(\frac{-4}{7}\right)^{(9/2)}$ (iv) $\left(\frac{-3}{2}\right)^{(9/2)} \times\left(\frac{-6}{7}\right)^{9}$

(v) $\left(\frac{-3}{2}\right)^{(9/2)} \times\left(\frac{-6}{7}\right)^{(9/4)}$

18. $\left(\left(\frac{-3}{7}\right)\times\frac{7}{6}\times\left(\frac{-7}{4}\right)\right)^{-4/5} =$

(i) $\left(\frac{-3}{7}\right)^{(-4/5)} \times\left(\frac{5}{6}\right)^{(-4/5)} \times\left(\frac{-9}{4}\right)^{(-4/5)}$ (ii) $\left(\frac{-3}{7}\right)^{(-4/5)} \times\left(\frac{7}{6}\right)^{(-4/3)} \times\left(\frac{-7}{4}\right)^{(-4/3)}$

(iii) $\left(\frac{-3}{7}\right)^{(-4/5)} \times\left(\frac{7}{6}\right)^{(-4/5)} \times\left(\frac{-7}{4}\right)^{(-4/5)}$ (iv) $\left(\frac{-3}{7}\right)^{(-4/5)} \times\left(\frac{7}{6}\right)^{(-4/7)} \times\left(\frac{-7}{4}\right)^{(-4/7)}$

(v) $\left(\frac{-3}{7}\right)^{(-4/5)} \times\left(\frac{3}{2}\right)^{(-4/5)} \times\left(\frac{-5}{4}\right)^{(-4/5)}$

19. $\left(\frac{8}{7}\right)^{8} =$

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

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

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

21. $\left(\frac{-9}{2}\right)^{(7/3)} =$

(i) $\frac{(-9)^{\left(\frac{7}{5}\right)}}{\left(\frac{7}{3}\right)^{2}}$ (ii) $\frac{(-9)^{\left(\frac{7}{3}\right)}}{\left(\frac{7}{3}\right)^{2}}$ (iii) $\frac{(-9)^{\left(\frac{7}{3}\right)}}{\left(\frac{7}{3}\right)^{5}}$ (iv) $\frac{(-9)^{7}}{\left(\frac{7}{3}\right)^{2}}$ (v) $\frac{(-9)^{\left(\frac{7}{3}\right)}}{\left(\frac{7}{3}\right)^{(-1)}}$

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

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

23. $5^{9} =$

(i) $\left(\frac{-1}{5}\right)^{-9}$ (ii) $\left(\frac{1}{5}\right)^{-9}$ (iii) $\left(\frac{1}{5}\right)^{-8}$ (iv) $\left(\frac{3}{5}\right)^{-9}$ (v) $\left(\frac{1}{5}\right)^{-10}$

24. $(-7)^{-7} =$

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

25. $\left(\frac{8}{5}\right)^{-3} =$

(i) $\left(\frac{5}{8}\right)^{3}$ (ii) $\left(\frac{7}{8}\right)^{3}$ (iii) $\left(\frac{5}{8}\right)^{2}$ (iv) $\left(\frac{3}{8}\right)^{3}$ (v) $\left(\frac{5}{8}\right)^{4}$

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

(i) $\left(\frac{-3}{7}\right)^{(6/5)}$ (ii) $\left(\frac{-1}{7}\right)^{(8/7)}$ (iii) $\left(\frac{-3}{7}\right)^{(8/7)}$ (iv) $\left(\frac{-3}{7}\right)^{(10/9)}$ (v) $\left(\frac{-5}{7}\right)^{(8/7)}$

27. $\frac{5^8}{5^8} =$

(i) 5^{-2} (ii) 5 (iii) 5^3 (iv) 5^{-1} (v) 1

28. $\frac{6^4}{6^6} =$

(i) 9^{-2} (ii) 6^{-1} (iii) 3^{-2} (iv) 6^{-3} (v) 6^{-2}

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

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

30. $\frac{\left(\frac{-7}{4}\right)^{(3/2)}}{\left(\frac{-7}{4}\right)^{-5}} =$

(i) $\left(\frac{-7}{4}\right)^{(25/4)}$ (ii) $\left(\frac{-5}{4}\right)^{(13/2)}$ (iii) $\left(\frac{-7}{4}\right)^7$ (iv) $\left(\frac{-9}{4}\right)^{(13/2)}$ (v) $\left(\frac{-7}{4}\right)^{(13/2)}$

31. $[2^{-3}]^4 =$

(i) 2^{-12} (ii) 5^{-12} (iii) 2^{-11} (iv) 2^{-14} (v) 2^{-13}

32. $[(-4)^3]^{-2/5} =$

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

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

(i) $(-7)^{\left(\frac{25}{3}\right)}$ (ii) $(-5)^9$ (iii) $(-5)^{\left(\frac{25}{3}\right)}$ (iv) $(-2)^{\left(\frac{25}{3}\right)}$ (v) $(-5)^{\left(\frac{41}{5}\right)}$

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

(i) $(-3)^{\left(\frac{-17}{10}\right)}$ (ii) $(-3)^{\left(\frac{-13}{8}\right)}$ (iii) $(-3)^{\left(\frac{-13}{6}\right)}$ (iv) $(-6)^{\left(\frac{-15}{8}\right)}$ (v) $(-3)^{\left(\frac{-15}{8}\right)}$

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

(i) $\left(\frac{-6}{7}\right)^9$ (ii) $\left(\frac{-4}{7}\right)^9$ (iii) $\left(\frac{-4}{7}\right)^{10}$ (iv) $\left(\frac{-2}{7}\right)^9$ (v) $\left(\frac{-4}{7}\right)^8$

36. $\left[\left(\frac{-8}{9}\right)^4\right]^{5/3} =$

(i) $\left(\frac{-10}{9}\right)^{(20/3)}$ (ii) $\left(\frac{-8}{9}\right)^8$ (iii) $\left(\frac{-8}{9}\right)^{(32/5)}$ (iv) $\left(\frac{-8}{9}\right)^{(20/3)}$ (v) $\left(\frac{-2}{3}\right)^{(20/3)}$

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

(i) $\left(\frac{-5}{3}\right)^{(29/4)}$ (ii) $\left(\frac{-5}{3}\right)^{(15/2)}$ (iii) $\left(\frac{-5}{3}\right)^8$ (iv) $(-1)^{\left(\frac{15}{2}\right)}$ (v) $\left(\frac{-7}{3}\right)^{(15/2)}$

38. $\left[\left(\frac{9}{7}\right)^{-5}\right]^{5/4} =$

(i) $\left(\frac{9}{7}\right)^{(-13/2)}$ (ii) 1 (iii) $\left(\frac{9}{7}\right)^{(-37/6)}$ (iv) $\left(\frac{11}{7}\right)^{(-25/4)}$ (v) $\left(\frac{9}{7}\right)^{(-25/4)}$

39. The multiplicative inverse of 7^{-9} is

(i) $\left(\frac{1}{7}\right)^{9}$ (ii) 1 (iii) $(-7)^{-9}$ (iv) 7^{9} (v) 0

40. The multiplicative inverse of $\left(\frac{1}{9}\right)^{3}$ is

(i) 9^{-3} (ii) 1 (iii) $\left(\frac{1}{9}\right)^{-3}$ (iv) $\left(\frac{-1}{9}\right)^{3}$ (v) 0

41. Which of the following statements are true?

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

b) $a^{0} = 1 \ (a \neq 0)$

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

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

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

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

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

42. $-1^{8} =$

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

43. $-1^{3} =$

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

44. $6^{0} =$

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

45. $0^0 =$

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

46. $-6^0 =$

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

47. $0^2 =$

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

48. $\sqrt{\frac{121}{25}} =$

(i) $\frac{11}{3}$ (ii) $\frac{13}{5}$ (iii) $\frac{9}{5}$ (iv) $\frac{11}{7}$ (v) $\frac{11}{5}$

49. Find the reciprocal of 3^7

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

50. Find the reciprocal of $\left(\frac{-7}{8}\right)^7$

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

Assignment Key

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

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