EduSahara™ Assignment

Name : Exponents Concepts

Chapter : Exponents

Grade : ICSE Grade VIII

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1. The base in the term 5^4 is

   (i) -4 (ii) 3 (iii) -5 (iv) 4 (v) 5

2. The exponent in the term 5^6 is

   (i) -5 (ii) 5 (iii) 6 (iv) 3 (v) -6

3. The power in the term 6^4 is

   (i) 4 (ii) 6 (iii) -4 (iv) -6 (v) 1

4. The base in the term $\left(\frac{8}{7}\right)^6$ is

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

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

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

6. The power in the term $\left(\frac{9}{5}\right)^6$ is

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

7. The base in the term 5^2 is

   (i) -5 (ii) $\frac{2}{1}$ (iii) 2 (iv) -2 (v) 5

8. The exponent in the term $2^{\left(\frac{4}{3}\right)}$ is

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

9. The power in the term 5^{10} is

(i) 7 (ii) 10 (iii) -5 (iv) -10 (v) 5

10. The base in the term $\left(\frac{3}{2}\right)^{(5/4)}$ is

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

11. The exponent in the term $\left(\frac{9}{8}\right)^{(7/3)}$ is

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

12. The power in the term $\left(\frac{5}{3}\right)^{(6/5)}$ is

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

13. $(-4 \times -7)^{7} =$

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

14. $(6 \times 2 \times -4)^{5} =$

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

15. $(3 \times 2)^{7/4} =$

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

16. $(-2 \times -6 \times 2)^{-4/3} =$

(i) $(-2)^{\left(\frac{-4}{3}\right)} \times (-4)^{\left(\frac{-4}{3}\right)} \times 5^{\left(\frac{-4}{3}\right)}$ (ii) $(-2)^{\left(\frac{-4}{3}\right)} \times (-6)^{\left(\frac{-4}{3}\right)} \times 2^{\left(\frac{-4}{3}\right)}$ (iii) $(-2)^{\left(\frac{-4}{3}\right)} \times (-9)^{\left(\frac{-4}{3}\right)} \times (-1)^{\left(\frac{-4}{3}\right)}$

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

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

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

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

18. $\left(\left(\frac{-6}{5}\right) \times \left(\frac{-3}{4}\right) \times \frac{-2}{1}\right)^{5/3} =$

(i) $\left(\frac{-6}{5}\right)^{(5/3)} \times \left(\frac{-3}{4}\right)^{(5/3)} \times (-2)^{\left(\frac{5}{3}\right)}$ (ii) $\left(\frac{-6}{5}\right)^{(5/3)} \times \left(\frac{-5}{4}\right)^{(5/3)} \times (-4)^{\left(\frac{5}{3}\right)}$ (iii) $\left(\frac{-6}{5}\right)^{(5/3)} \times \left(\frac{-1}{4}\right)^{(5/3)} \times (-2)^{\left(\frac{7}{3}\right)}$

(iv) $\left(\frac{-6}{5}\right)^{(5/3)} \times \left(\frac{-3}{4}\right)^{5} \times (-2)^{5}$ (v) $\left(\frac{-6}{5}\right)^{(5/3)} \times \left(\frac{-3}{4}\right) \times \frac{-2}{1}$

19. $(-4)^{3} =$

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

20. $\left(\frac{7}{6}\right)^{-5} =$

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

21. $\left(\frac{-9}{5}\right)^{(5/4)} =$

(i) $\frac{\left(\frac{5}{6}\right)^{(-9)}}{\left(\frac{5}{4}\right)^{5}}$ (ii) $\frac{\left(\frac{5}{4}\right)^{(-9)}}{\left(\frac{5}{4}\right)^{5}}$ (iii) $\frac{\left(\frac{5}{4}\right)^{(-9)}}{\left(\frac{5}{4}\right)^{2}}$ (iv) $\frac{\left(\frac{5}{2}\right)^{(-9)}}{\left(\frac{5}{4}\right)^{5}}$ (v) $\frac{\left(\frac{5}{4}\right)^{(-9)}}{\left(\frac{5}{4}\right)^{8}}$

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

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

23. $(-5)^6 =$

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

24. $5^{-9} =$

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

25. $(-2)^{-7} =$

(i) $\left(\frac{1}{2}\right)^{7}$ (ii) $\left(\frac{-1}{2}\right)^{6}$ (iii) $\left(\frac{-3}{2}\right)^{7}$ (iv) $\left(\frac{-1}{2}\right)^{7}$ (v) $\left(\frac{-1}{2}\right)^{8}$

26. $\left(\frac{9}{2}\right)^{(-8/5)} =$

(i) $\left(\frac{2}{9}\right)^{2}$ (ii) $\left(\frac{2}{9}\right)^{(8/5)}$ (iii) $\left(\frac{2}{9}\right)^{(6/5)}$ (iv) $\left(\frac{4}{9}\right)^{(8/5)}$ (v) $\left(\frac{2}{9}\right)^{(10/7)}$

27. $\dfrac{(-7)^{-7}}{(-7)^{2}} =$

(i) $(-9)^{-9}$ (ii) $(-7)^{-8}$ (iii) $(-7)^{-9}$ (iv) $(-5)^{-9}$ (v) $(-7)^{-10}$

28. $\dfrac{\left(\frac{8}{5}\right)^{-2}}{\left(\frac{8}{5}\right)^{7}} =$

(i) $\left(\frac{8}{5}\right)^{-10}$ (ii) $\left(\frac{8}{5}\right)^{-9}$ (iii) $\left(\frac{8}{5}\right)^{-8}$ (iv) $\left(\frac{6}{5}\right)^{-9}$ (v) 2^{-9}

29. $\dfrac{\left(\frac{5}{4}\right)^{(-9)}}{\left(\frac{-2}{5}\right)^{(-9)}} =$

(i) $\left(\frac{31}{18}\right)^{(-9)}$ (ii) $\left(\frac{33}{20}\right)^{(-9)}$ (iii) $\left(\frac{35}{22}\right)^{(-9)}$ (iv) $\left(\frac{33}{20}\right)^{(-12)}$ (v) $\left(\frac{33}{20}\right)^{(-7)}$

30. $\dfrac{\left(\frac{-9}{5}\right)^{(5/4)}}{\left(\frac{-9}{5}\right)^{(-3/4)}} =$

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

31. $[(-2)^{5}]^{-4} =$

(i) 1 (ii) $(-2)^{-20}$ (iii) $(-4)^{-20}$ (iv) $(-2)^{-19}$ (v) $(-2)^{-21}$

32. $[7^{-4}]^{2} =$

(i) 10^{-8} (ii) 4^{-8} (iii) 7^{-8} (iv) 7^{-7} (v) 7^{-9}

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

(i) $(-3)^{\left(\frac{17}{4}\right)}$ (ii) $(-3)^{\left(\frac{9}{2}\right)}$ (iii) $(-3)^{\left(\frac{7}{2}\right)}$ (iv) $(-5)^{\left(\frac{15}{4}\right)}$ (v) $(-3)^{\left(\frac{15}{4}\right)}$

34. $[(-4)^{5}]^{-3/5} =$

(i) $(-4)^{-2}$ (ii) $(-4)^{-4}$ (iii) $(-4)^{-3}$ (iv) $(-7)^{-3}$ (v) $(-2)^{-3}$

35. $\left[\left(\frac{-6}{5}\right)^{-2}\right]^{5} =$

(i) $\left(\frac{-6}{5}\right)^{-11}$ (ii) $\left(\frac{-4}{5}\right)^{-10}$ (iii) $\left(\frac{-6}{5}\right)^{-10}$ (iv) $\left(\frac{-8}{5}\right)^{-10}$ (v) $\left(\frac{-6}{5}\right)^{-9}$

36. $\left[\left(\frac{8}{7}\right)^{-3}\right]^{5/2} =$

(i) $\left(\frac{8}{7}\right)^{-8}$ (ii) $\left(\frac{8}{7}\right)^{(-29/4)}$ (iii) $\left(\frac{10}{7}\right)^{(-15/2)}$ (iv) $\left(\frac{8}{7}\right)^{(-15/2)}$ (v) $\left(\frac{6}{7}\right)^{(-15/2)}$

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

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

38. $\left[\left(\frac{7}{4}\right)^{-4}\right]^{5/3} =$

(i) $\left(\frac{5}{4}\right)^{(-20/3)}$ (ii) $\left(\frac{7}{4}\right)^{(-32/5)}$ (iii) $\left(\frac{7}{4}\right)^{(-20/3)}$ (iv) $\left(\frac{9}{4}\right)^{(-20/3)}$ (v) $\left(\frac{7}{4}\right)^{-8}$

39. The multiplicative inverse of 8^{-6} is

(i) $\left(\frac{1}{8}\right)^{6}$ (ii) 1 (iii) 0 (iv) $(-8)^{-6}$ (v) 8^{6}

40. The multiplicative inverse of $\left(\frac{1}{3}\right)^{8}$ is

(i) 3^{-8} (ii) 1 (iii) $\left(\frac{-1}{3}\right)^{8}$ (iv) 0 (v) $\left(\frac{1}{3}\right)^{-8}$

41. Which of the following statements are true?

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

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

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

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

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

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

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

42. $-1^{2} =$

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

43. $-1^{7} =$

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

44. $2^{0} =$

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

45. $0^{0} =$

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

46. $-1^{0} =$

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

47. $0^{6} =$

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

48. $\sqrt{\frac{49}{81}} =$

(i) 1 (ii) $\frac{7}{9}$ (iii) $\frac{7}{11}$ (iv) $\frac{5}{9}$

49. Find the reciprocal of 9^6

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

50. Find the reciprocal of $\left(\frac{-4}{9}\right)^5$

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

Assignment Key

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

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