

EduSahara™ Learning Center Assignment**Grade : Class VIII, SSC****Chapter : Exponents and Powers****Name : Base Power Concepts****Licensed To : Teachers and Students for non-commercial use**

Find the exponential notation of

1. $2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2$

(i) 2^6 (ii) $(-1)^7$ (iii) 2^7 (iv) 4^7 (v) 2^8

Find the exponential notation of

2. $-2 \times -2 \times -2 \times -2 \times -2$

(i) $(-2)^6$ (ii) $(-2)^4$ (iii) $(-5)^5$ (iv) $(-2)^5$ (v) $(-2)^7$

Find the exponential notation of

3. $-17 \times -17 \times -17 \times -17$

(i) $(-20)^4$ (ii) $(-14)^4$ (iii) $(-17)^4$ (iv) $(-17)^3$ (v) $(-17)^5$

Find the exponential notation of

4. $13 \times 13 \times 13 \times 13 \times 13 \times 13$

(i) 13^6 (ii) 11^6 (iii) 13^5 (iv) 13^7 (v) 16^6

Find the exponential notation of

5. $\frac{9}{7} \times \frac{9}{7} \times \frac{9}{7} \times \frac{9}{7}$

(i) $\left(\frac{11}{7}\right)^4$ (ii) 1 (iii) $\left(\frac{9}{7}\right)^5$ (iv) $\left(\frac{9}{7}\right)^4$ (v) $\left(\frac{9}{7}\right)^3$

6. Simplify the expression $3^7 \times 3^7 \times 3^7$

(i) 3^{20} (ii) 1 (iii) 3^{21}

(iv) 3^{22} (v) 6^{21}

7. Simplify the expression $3^{-5} \times 3^{-5}$

(i) 3^{-10} (ii) 3^{-11} (iii) 1

(iv) 5^{-10} (v) 3^{-9}

8. Simplify the expression $(-4)^6 \times (-4)^6$

(i) $(-2)^{12}$ (ii) $(-4)^{12}$ (iii) $(-6)^{12}$

(iv) $(-4)^{11}$ (v) $(-4)^{13}$

9. Simplify the expression $3^6 \times 3^7$

(i) 3^{14} (ii) 5^{13} (iii) 3^{12}

(iv) 3^{11} (v) 3^{13}

10. Simplify the expression $(-7)^{-4} \times (-7)^{-3} \times (-7)^{-4}$

(i) $(-7)^{-11}$ (ii) $(-4)^{-11}$ (iii) $(-7)^{-10}$

(iv) $(-10)^{-11}$ (v) $(-7)^{-12}$

11. Simplify the expression $2^5 \times 3^5 \times 3^5$

(i) 18^6 (ii) 18^5 (iii) 15^5

(iv) 21^5 (v) 18^4

12. Simplify the expression $6^{-2} \times 2^{-2} \times 2^{-2}$

(i) 24^{-3} (ii) 24^{-2} (iii) 27^{-2}

(iv) 22^{-2} (v) 24^{-1}

13. Simplify the expression $(-4)^3 \times (-3)^3$

(i) 12^2 (ii) 9^3 (iii) 12^3

(iv) 12^4 (v) 15^3

14. Expand the following base power 3^3

(i) 81 (ii) 216 (iii) 9 (iv) 27 (v) 3

15. Expand the following base power 3^{-3}

(i) $\frac{1}{243}$ (ii) $\frac{1}{9}$ (iii) $\frac{1}{125}$ (iv) $\frac{1}{81}$ (v) $\frac{1}{27}$

16. $(-2 \times 7)^{-8/5} =$

(i) $(-2)^{\left(\frac{-8}{5}\right)} \times 7^{\left(\frac{-8}{3}\right)}$ (ii) $(-2)^{\left(\frac{-8}{5}\right)} \times 5^{\left(\frac{-8}{5}\right)}$

(iii) $(-2)^{\left(\frac{-8}{5}\right)} \times 9^{\left(\frac{-8}{5}\right)}$ (iv) $(-2)^{\left(\frac{-8}{5}\right)} \times 7^{\left(\frac{-8}{7}\right)}$

(v) $(-2)^{\left(\frac{-8}{5}\right)} \times 7^{\left(\frac{-8}{5}\right)}$

17. $(-9 \times -2 \times -5)^{-7/2} =$

(i) $(-9)^{\left(\frac{-7}{2}\right)} \times (-2)^{-7} \times (-5)^{-7}$ (ii) $(-9)^{\left(\frac{-7}{2}\right)} \times (-2)^{\left(\frac{-7}{2}\right)} \times (-5)^{\left(\frac{-7}{2}\right)}$

(iii) $(-9)^{\left(\frac{-7}{2}\right)} \times 1 \times (-2)^{\left(\frac{-7}{2}\right)}$ (iv) $(-9)^{\left(\frac{-7}{2}\right)} \times (-2)^{\left(\frac{-7}{4}\right)} \times (-5)^{\left(\frac{-7}{4}\right)}$

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

18. $\left(\left(\frac{-9}{5}\right) \times \frac{6}{5}\right)^3 =$

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

(iii) $\left(\frac{-9}{5}\right)^3 \times \left(\frac{6}{5}\right)^3$ (iv) $\left(\frac{-9}{5}\right)^3 \times \left(\frac{8}{5}\right)^3$

(v) $\left(\frac{-9}{5}\right)^3 \times \left(\frac{6}{5}\right)^4$

19. $\left(\frac{9}{2}\right)^5 =$

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

$$2^2 \quad 4^5 \quad 2^5 \quad 2^5 \quad 2^5$$

20. $\left(\frac{-5}{8}\right)^{-4} =$

(i) $\frac{(-5)^{-4}}{11^{-4}}$ (ii) $\frac{(-5)^{-4}}{8^{-4}}$ (iii) $\frac{(-5)^{-4}}{5^{-4}}$ (iv) $\frac{(-5)^{-3}}{8^{-4}}$ (v) $\frac{(-5)^{-5}}{8^{-4}}$

21. $\left(\frac{-6}{5}\right)^{(8/3)} =$

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

22. $\frac{\left(\frac{-5}{9}\right)^5}{\left(\frac{-5}{9}\right)^{-9}} =$

(i) $\left(\frac{-5}{9}\right)^{15}$ (ii) $\left(\frac{-5}{9}\right)^{13}$ (iii) $\left(\frac{-1}{3}\right)^{14}$ (iv) $\left(\frac{-5}{9}\right)^{14}$ (v) $\left(\frac{-7}{9}\right)^{14}$

$$\left(\frac{-5}{2}\right)_{(-6)}$$

23. $\frac{\left(\frac{-5}{2}\right)}{(-6)} =$

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

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

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

25. The multiplicative inverse of 6^{-3} is

- (i) 1 (ii) $(-6)^{-3}$ (iii) $\left(\frac{1}{6}\right)^3$ (iv) 0 (v) 6^3
-

26. The multiplicative inverse of $\left(\frac{1}{2}\right)^9$ is

- (i) 0 (ii) $\left(\frac{1}{2}\right)^{-9}$ (iii) 2^{-9} (iv) 1 (v) $\left(\frac{-1}{2}\right)^9$
-

27. Which of the following statements are true?

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

28. $-1^6 =$

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

29. $-1^3 =$

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

30. $2^0 =$

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

31. $0^0 =$

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

32. $-5^0 =$

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

33. $0^1 =$

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

34. Find the reciprocal of 5^7

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

35. Find the reciprocal of $\left(\frac{-7}{5}\right)^9$

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

Assignment Key

- 1) (iii)
- 2) (iv)
- 3) (iii)
- 4) (i)
- 5) (iv)
- 6) (iii)
- 7) (i)
- 8) (ii)
- 9) (v)
- 10) (i)
- 11) (ii)
- 12) (ii)
- 13) (iii)
- 14) (iv)
- 15) (v)
- 16) (v)
- 17) (ii)
- 18) (iii)
- 19) (iii)
- 20) (ii)
- 21) (v)
- 22) (iv)
- 23) (ii)
- 24) (i)
- 25) (v)
- 26) (ii)
- 27) (iii)
- 28) (iii)
- 29) (v)
- 30) (v)
- 31) (iii)
- 32) (v)
- 33) (ii)
- 34) (i)
- 35) (ii)