



1. Find the exponential notation of

$$7 \times 7 \times 7 \times 7 \times 7 \times 7 \times 7 \times 7$$

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

2. Find the exponential notation of

$$-7 \times -7 \times -7 \times -7 \times -7 \times -7 \times -7$$

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

3. Find the exponential notation of

$$-14 \times -14 \times -14 \times -14 \times -14 \times -14 \times -14$$

- (i) $(-16)^7$ (ii) $(-14)^8$ (iii) $(-11)^7$ (iv) $(-14)^6$ (v) $(-14)^7$

4. Find the exponential notation of

$$19 \times 19 \times 19 \times 19 \times 19 \times 19$$

- (i) 19^6 (ii) 21^6 (iii) 19^7 (iv) 19^5 (v) 17^6

Find the exponential notation of

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

- (i) $\left(\frac{11}{7}\right)^6$ (ii) $\left(\frac{9}{7}\right)^6$ (iii) 1 (iv) $\left(\frac{9}{7}\right)^7$ (v) $\left(\frac{9}{7}\right)^5$

6. Simplify the expression $6^4 \times 6^4$

- (i) 6^9 (ii) 9^8 (iii) 6^8 (iv) 6^7 (v) 3^8

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

- (i) 7^{-11} (ii) 7^{-10} (iii) 7^{-9} (iv) 5^{-10} (v) 9^{-10}

8. Simplify the expression $(-9)^6 \times (-9)^6 \times (-9)^6$

- (i) $(-11)^{18}$ (ii) $(-9)^{19}$ (iii) $(-7)^{18}$ (iv) $(-9)^{18}$ (v) $(-9)^{17}$

9. Simplify the expression $7^7 \times 7^7 \times 7^5$

- (i) 7^{19} (ii) 4^{19} (iii) 10^{19} (iv) 7^{18} (v) 7^{20}

10. Simplify the expression $(-8)^{-4} \times (-8)^{-2}$

- (i) $(-8)^{-6}$ (ii) $(-8)^{-5}$ (iii) $(-5)^{-6}$ (iv) $(-8)^{-7}$ (v) $(-10)^{-6}$

11. Simplify the expression $5^8 \times 6^8$

- (i) 27^8 (ii) 30^7 (iii) 32^8 (iv) 30^8 (v) 30^9

12. Simplify the expression $6^{-2} \times 2^{-2} \times 7^{-2}$

- (i) 86^{-2} (ii) 84^{-3} (iii) 82^{-2} (iv) 84^{-2} (v) 84^{-1}

13. Simplify the expression $(-2)^4 \times (-2)^4 \times (-7)^4$

- (i) $(-30)^4$ (ii) $(-26)^4$ (iii) $(-28)^3$ (iv) $(-28)^5$ (v) $(-28)^4$

14. Expand the following base power 2^5

- (i) 1024 (ii) 32 (iii) -1 (iv) 16 (v) 64

15. Expand the following base power 5^{-5}

- (i) $\frac{1}{3125}$ (ii) $\frac{1}{16807}$ (iii) $\frac{1}{625}$ (iv) $\frac{1}{15625}$ (v) $\frac{1}{243}$

16. $(-9 \times -9)^{-2/9} =$

- (i) $(\frac{-2}{9}) \times (-7)$ (ii) $(\frac{-2}{9}) \times (-9)$ (iii) $(\frac{-2}{7}) \times (-9)$ (iv) $(\frac{-2}{9}) \times (-11)$ (v) $(\frac{-2}{9}) \times (-9) \times (\frac{-2}{11})$

- (v) $(\frac{-2}{9}) \times (-9)$

17. $(-5 \times -7 \times 7)^{4/3} =$

- (i) $(\frac{4}{3}) \times (-7) \times 7$ (ii) $(\frac{4}{3}) \times (-4) \times 10$ (iii) $(\frac{4}{3}) \times (-7)^4 \times 7^4$ (iv) $(\frac{4}{3}) \times (-7) \times (\frac{4}{3}) \times 7$

- (v) $(\frac{4}{3}) \times (-9) \times 4$

18. $(\frac{9}{5} \times (\frac{-3}{2}))^{-3} =$

- (i) $(\frac{9}{5})^{-3} \times (\frac{-3}{2})^{-4}$ (ii) $(\frac{9}{5})^{-3} \times (\frac{-3}{2})^{-2}$ (iii) $(\frac{9}{5})^{-3} \times (\frac{-3}{2})^{-3}$ (iv) $(\frac{9}{5})^{-3} \times (\frac{-1}{2})^{-3}$ (v) $(\frac{9}{5})^{-3} \times (\frac{-5}{2})^{-3}$

$$19. \left(\frac{-3}{2}\right)^5 =$$

- (i) $\frac{(-3)^5}{2^3}$ (ii) $\frac{(-3)^6}{2^5}$ (iii) $\frac{(-3)^5}{2^5}$ (iv) $\frac{(-3)^4}{2^5}$ (v) $\frac{(-3)^5}{4^5}$
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$$20. \left(\frac{3}{2}\right)^{-2} =$$

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

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

- (i) $\frac{(-6)^9}{5^8}$ (ii) $\frac{(-6)^8}{5^8}$ (iii) $\frac{(-6)^8}{8^8}$ (iv) $\frac{(-6)^8}{2^8}$ (v) $\frac{(-6)^7}{5^8}$
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$$\left(\frac{-7}{3}\right)^4$$

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

- (i) $\left(\frac{-7}{3}\right)^{11}$ (ii) $\left(\frac{-5}{3}\right)^{11}$ (iii) $\left(\frac{-7}{3}\right)^{10}$ (iv) $(-3)^{11}$ (v) $\left(\frac{-7}{3}\right)^{12}$
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$$23. \frac{(-3)^{-2}}{(-3)^5} =$$

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

$$24. [(-3)^3]^{-2} =$$

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

25. The multiplicative inverse of 7^{-4} is

- (i) 1 (ii) $(-7)^{-4}$ (iii) 0 (iv) 7^4 (v) $\left(\frac{1}{7}\right)^4$

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

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

27. Which of the following statements are true?

- a) $(x^m)^n = x^{(m+n)}$
b) $(x^m)^n = (x^n)^m$
c) $a \cdot x^m = a^m \cdot x^m$
d) $a^m \cdot a^n = a^{mn}$
e) $\frac{x^m}{x^n} = x^{\frac{m}{n}}$
f) $a^0 = 1 \ (a \neq 0)$
- (i) {b,f} (ii) {a,b} (iii) {d,e,b} (iv) {a,f,b} (v) {c,f}

28. $-1^{10} =$

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

29. $-1^3 =$

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

30. $1^0 =$

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

31. $0^0 =$

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

32. $-2^0 =$

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

33. $0^2 =$

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

34. Find the reciprocal of 7^2

- (i) $\left(\frac{3}{7}\right)^2$ (ii) $\left(\frac{1}{7}\right)^2$ (iii) $\left(\frac{-1}{7}\right)^2$ (iv) $\left(\frac{1}{7}\right)^3$ (v) $\frac{1}{7}$
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35. Find the reciprocal of $\left(\frac{-7}{5}\right)^7$

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

Assignment Key

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