

EduSahara™ Learning Center Assignment

Grade : Class VIII, CBSE
Chapter : Exponents and Powers
Name : Base Powers Miscellaneous
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1. Which of the following statements are true?

a) $a^m \cdot a^n = a^{mn}$

b) $a^0 = 1 \quad (a \neq 0)$

c) $a \cdot x^m = a^m \cdot x^m$

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

e) $(x^m)^n = (x^n)^m$

f) $(x^m)^n = x^{(m+n)}$

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

2. Simplify $\left(\frac{8^f \cdot 81^{(f-1)} \cdot 100^{(f-5)}}{64^{(f-1)} \cdot 9^{(f-5)} \cdot 10^{(f-1)}} \right)$

(i) $8^{(f+1)} \cdot 9^{(-f+9)} \cdot 10^{(-f-3)}$ (ii) $8^{(-f+2)} \cdot 9^{(-f+9)} \cdot 10^{(-f-3)}$

(iii) $8^1 \cdot 9^4 \cdot 10^{(-4)}$

(iv) $8^{(-f+2)} \cdot 9^{(f+3)} \cdot 10^{(f-9)}$

3. $-1^4 =$

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

4. $-1^5 =$

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

5. $7^0 =$

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

6. $0^0 =$

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

7. $-5^0 =$

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

8. $0^1 =$

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

9. Find the reciprocal of 7^3

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

10. Find the reciprocal of $\left(\frac{-4}{3}\right)^5$

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

11. $(8^4 \times 7^8)^3 =$

(i) $8^4 \times 7^{24}$ (ii) $8^{12} \times 7^{24}$ (iii) $8^{12} \times 7^8$

(iv) $8^4 \times 7^8$ (v) $8^{24} \times 7^{12}$

12. $(8^{-3})^4 \times (9^5)^6 \times (11^{-5})^3 =$

$$\left(8^{-3} \right)^{-3} \times \left(9^5 \right)^4 \times \left(11^{-5} \right)^6$$

(i) $8^{-21} \times 9^{10} \times 11^{15}$ (ii) $8^{-20} \times 9^{10} \times 11^{15}$

(iii) $8^{-21} \times 9^{10} \times 11^{16}$ (iv) $8^{-21} \times 9^{11} \times 11^{15}$

13. $\left[\left(3^2 \right)^3 \times \left(3^2 \right)^2 \right] \div 3^{10}$

(i) 0 (ii) 4 (iii) 2 (iv) 1 (v) 3

14. $\left[\left(\frac{2}{8} \right)^{-2} \times \left(\frac{7}{6} \right)^{-2} \right] \div \left[\left(\frac{8}{2} \right)^2 \times \left(\frac{6}{7} \right)^2 \right] =$

(i) $\frac{2}{8}$ (ii) $\frac{7}{6}$ (iii) 1 (iv) (-1) (v) 0

Assignment Key

- 1) (iii)
- 2) (iv)
- 3) (iii)
- 4) (iv)
- 5) (ii)
- 6) (iii)
- 7) (v)
- 8) (iv)
- 9) (v)
- 10) (i)
- 11) (ii)
- 12) (i)
- 13) (iv)
- 14) (iii)