EduSahara™ Assignment

Name : Base Powers Miscellaneous

Chapter : Exponents and Powers

Grade : CBSE Grade VIII



1. Which of the following statements are true?

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

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

   c) $a . x^m = a^m . x^m$

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

   e) $a^0 = 1 \ (a \neq 0)$

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

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

2. Simplify $\left(\frac{4^g . 25^{(g-3)} . 36^{(g-3)}}{16^{(g-3)} . 5^{(g-3)} . 6^{(g-1)}}\right)$

   (i) $4^{(-g+6)} . 5^{(-g+3)} . 6^{(-g-1)}$ (ii) $4^{(-g+6)} . 5^{(g-3)} . 6^{(g-5)}$ (iii) $4^{(g+3)} . 5^{(-g+3)} . 6^{(-g-1)}$

   (iv) $4^3 . 5^0 . 6^{(-2)}$

3. $-1^4 =$

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

4. $-1^9 =$

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

5. $7^0 =$

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

6. $0^0 =$

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

7. $-5^0 =$

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

8. $0^1 =$

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

9. Find the reciprocal of $5^8$

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

10. Find the reciprocal of $\left(\frac{-2}{9}\right)^7$

(i) $\left(\frac{-9}{2}\right)^8$ (ii) $\left(\frac{-11}{2}\right)^7$ (iii) $\left(\frac{-9}{2}\right)^7$ (iv) $\left(\frac{-7}{2}\right)^7$ (v) $\left(\frac{-9}{2}\right)^6$

11. $\left(7^5 \times 5^9\right)^4 =$

(i) $7^{20} \times 5^9$ (ii) $7^{20} \times 5^{36}$ (iii) $7^5 \times 5^{36}$ (iv) $7^5 \times 5^9$ (v) $7^{36} \times 5^{20}$

12. $\frac{\left(8^4\right)^{-2} \times \left(9^{(-3)}\right)^2 \times \left(12^4\right)^{-4}}{\left(8^{(-5)}\right)^{-3} \times \left(9^2\right)^{-2} \times \left(12^6\right)^6} =$

(i) $8^{(-23)} \times 9^{(-2)} \times 12^{(-51)}$ (ii) $8^{(-22)} \times 9^{(-2)} \times 12^{(-52)}$ (iii) $8^{(-23)} \times 9^{(-1)} \times 12^{(-52)}$

(iv) $8^{(-23)} \times 9^{(-2)} \times 12^{(-52)}$

13. $\left[\left(5^4\right)^4 \times \left(5^6\right)^4\right] \div 5^{40}$

(i) 2 (ii) 1 (iii) 4 (iv) 0 (v) 5

14. $\left[\left(\frac{5}{8}\right)^{-9} \times \left(\frac{4}{2}\right)^{-9}\right] \div \left[\left(\frac{8}{5}\right)^9 \times \left(\frac{2}{4}\right)^9\right] =$

(i) $\frac{4}{2}$ (ii) $\frac{5}{8}$ (iii) (-1) (iv) 0 (v) 1

## Assignment Key

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