EduSahara™ Assignment

Name : Simplification of Base Power Expressions

Chapter : Exponents and Powers

Grade : SSC Grade VIII

License : Non Commercial Use

1. Simplify $\frac{(-4)^2 \times 5^2 \times (-3)^2 \times 2^2}{2^{-2} \times 4^2 \times 4^2 \times 5^2}$

(i) 3 (ii) 1 (iii) 3^3 (iv) 3^2 (v) 6^2

2. Simplify $\frac{(-4)^3 \times (-3)^2}{3^2 \times 2^2}$

(i) -2×2^4 (ii) -1×4^4 (iii) $(-1)^2 \times 2^4$ (iv) -1×2^4 (v) -3×2^4

3. Simplify $\frac{(-3)^{-2} \times 3^{-2} \times (-3)^2}{(-4)^2 \times 5^{-2} \times (-3)^{-2}}$

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

4. Simplify $\frac{(-5)^3 \times 2^3 \times 5^2}{4^2 \times 4^2 \times 2^2 \times 5^3}$

(i) $\frac{-1 \times 2^3 \times 5^5}{4^{10} \times 5^3}$ (ii) $\frac{-1 \times 2^3 \times 5^5}{(-1)^{10} \times 5^3}$ (iii) $\frac{-1 \times 2^3 \times 5^5}{2^{10} \times 5^3}$ (iv) $\frac{-1 \times 2^4 \times 5^5}{2^{10} \times 5^3}$ (v) $\frac{-1 \times 2^2 \times 5^5}{2^{10} \times 5^3}$

5. Simplify $\frac{3^{-2} \times 4^{-2} \times 4^{-3} \times (-3)^{-2}}{4^{-2} \times 2^{-2} \times (-5)^{-3}}$

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

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

(i) 6^{-6} (ii) 9^{-6} (iii) 6^{-5} (iv) 6^{-7} (v) 4^{-6}

7. Simplify the expression $\left(\frac{-2}{7}\right)_{(-3)} \times \left(\frac{-2}{7}\right)_{(-3)}$

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

8. Simplify the expression $\left(\frac{8}{7}\right)_{(-3)} \times \left(\frac{7}{2}\right)_{(-3)}$

(i) $\left(\frac{65}{14}\right)_{(-1)}$ (ii) $\left(\frac{19}{4}\right)_{(-3)}$ (iii) $\left(\frac{73}{16}\right)_{(-3)}$ (iv) $\left(\frac{65}{14}\right)_{(-6)}$ (v) $\left(\frac{65}{14}\right)_{(-3)}$

9. Simplify the expression $\left(\frac{-2}{5}\right)_{(-3)} \times \left(\frac{-6}{5}\right)_{(-3)}$

(i) $\left(\frac{-8}{5}\right)_{(-3)}$ (ii) $\left(\frac{-6}{5}\right)_{(-3)}$ (iii) $\left(\frac{-8}{5}\right)_{(-6)}$ (iv) $\left(\frac{-10}{7}\right)_{(-3)}$ (v) $(-3)^{-2}$

10. Simplify $\left(\frac{w^f}{w^g}\right)^{(f+g)} \left(\frac{w^g}{w^h}\right)^{(g+h)} \left(\frac{w^h}{w^f}\right)^{(h+f)}$

(i) -1 (ii) $w^{(f+g+h)}$ (iii) 1 (iv) w (v) 0

11. Simplify $\left(w^g\right)^{(h-i)} \left(w^h\right)^{(i-g)} \left(w^i\right)^{(g-h)}$

(i) $w^{(g+h+i)}$ (ii) w (iii) 0 (iv) 1 (v) -1

12. Simplify $\left(z^{(m+n)}\right)^{(m-n)} \left(z^{(n+o)}\right)^{(n-o)} \left(z^{(o+m)}\right)^{(o-m)}$

(i) $z^{(m+n+o)}$ (ii) 1 (iii) -1 (iv) 0 (v) z

13. Simplify $\left(\frac{t^g}{t^h}\right)^{i} \left(\frac{t^h}{t^i}\right)^{g} \left(\frac{t^i}{t^g}\right)^{h}$

(i) 1 (ii) t (iii) 0 (iv) $t^{(g+h+i)}$ (v) -1

14. Simplify $\left(\frac{2^{h}.9^{(h-4)}.16^{(h-1)}}{4^{(h-4)}.3^{(h-1)}.4^{(h-3)}}\right)$

(i) $2^{4}.3^{(-3)}.4^{2}$ (ii) $2^{(h+4)}.3^{(-h-2)}.4^{(-h+5)}$ (iii) $2^{(-h+8)}.3^{(-h-2)}.4^{(-h+5)}$

(iv) $2^{(-h+8)}.3^{(h-7)}.4^{(h+1)}$

15. $\frac{\left(9^{4}\right)^{-3}\times\left(11^{(-5)}\right)^{2}\times\left(12^{4}\right)^{6}}{\left(9^{(-6)}\right)^{5}\times\left(11^{6}\right)^{3}\times\left(12^{(-5)}\right)^{-2}} =$

(i) $9^{18}\times11^{(-27)}\times12^{14}$ (ii) $9^{18}\times11^{(-28)}\times12^{15}$ (iii) $9^{19}\times11^{(-28)}\times12^{14}$ (iv) $9^{18}\times11^{(-28)}\times12^{14}$

16. $\left[\left(6^{2}\right)^{5}\times\left(6^{5}\right)^{4}\right]\div6^{30}$

(i) 4 (ii) 6 (iii) 1 (iv) 2 (v) 0

17. $\left[\left(\frac{2}{6}\right)^{-9}\times\left(\frac{8}{7}\right)^{-9}\right]\div\left[\left(\frac{6}{2}\right)^{9}\times\left(\frac{7}{8}\right)^{9}\right] =$

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

18. Simplify $8^{-1}+6^{0}+5^{1}+7^{-1}$

(i) $\frac{349}{56}$ (ii) $\frac{113}{18}$ (iii) $\frac{363}{58}$ (iv) $\frac{351}{56}$ (v) $\frac{353}{56}$

Assignment Key

1) (iv)	2) (iv)	3) (i)	4) (iii)	5) (ii)	6) (i)
7) (i)	8) (v)	9) (i)	10) (iii)	11) (iv)	12) (ii)
13) (i)	14) (iv)	15) (iv)	16) (iii)	17) (iv)	18) (iv)

Copyright © Small Systems Computing Pvt. Ltd.