



1. Simplify the expression $2^5 \times 2^5 \times 2^5$

- (i) 5^{15} (ii) 2^{15} (iii) 2^{14} (iv) 2^{16} (v) 2^{12}

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

- (i) 3^{-16} (ii) 3^{-14} (iii) 3^{-15} (iv) 6^{-15} (v) 3^{-17}

3. Simplify the expression $(-5)^{-2} \times (-5)^{-2} \times (-5)^{-2}$

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

4. Simplify the expression $\left(\frac{6}{5}\right)^{-4} \times \left(\frac{6}{5}\right)^{-4} \times \left(\frac{6}{5}\right)^{-4}$

- (i) $\left(\frac{6}{5}\right)^{-11}$ (ii) $\left(\frac{6}{5}\right)^{-13}$ (iii) $\left(\frac{6}{5}\right)^{-12}$ (iv) $\left(\frac{8}{5}\right)^{-12}$ (v) $\left(\frac{4}{5}\right)^{-12}$

5. Simplify the expression $7^6 \times 7^2$

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

6. Simplify the expression $5^{-5} \times 5^{-2}$

- (i) 5^{-7} (ii) 7^{-7} (iii) 5^{-8} (iv) 2^{-7} (v) 5^{-6}

7. Simplify the expression $(-4)^2 \times (-4)^3 \times (-4)^3$

- (i) $(-4)^7$ (ii) $(-7)^8$ (iii) $(-4)^8$ (iv) $(-2)^8$ (v) $(-4)^9$

8. Simplify the expression $(-5)^3 \times (-2)^3$

- (i) 7^3 (ii) 12^3 (iii) 10^3 (iv) 10^4 (v) 10^2

9. Simplify the expression $\left(\frac{-2}{9}\right)^{-7} \times \left(\frac{-2}{9}\right)^{-4} \times \left(\frac{-2}{9}\right)^{-3}$

- (i) $\left(\frac{-2}{7}\right)^{-84}$ (ii) $\left(\frac{-2}{9}\right)^{-86}$ (iii) $\left(\frac{-2}{9}\right)^{-84}$ (iv) $\left(\frac{-2}{11}\right)^{-84}$ (v) $\left(\frac{-2}{9}\right)^{-81}$

10. Simplify the expression $5^{-9} \times \left(\frac{7}{2}\right)^{-9} \times \left(\frac{9}{5}\right)^{-9}$

- (i) $\left(\frac{63}{2}\right)^{-10}$ (ii) $\left(\frac{63}{2}\right)^{-8}$ (iii) $\left(\frac{61}{2}\right)^{-9}$ (iv) $\left(\frac{65}{2}\right)^{-9}$ (v) $\left(\frac{63}{2}\right)^{-9}$

11. Simplify the expression $\left(\frac{8}{7}\right)^{(3/2)} \times \left(\frac{7}{5}\right)^{(3/2)}$

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

12. Simplify $\frac{(-5)^{-2}}{5^2}$

- (i) 5^{-5} (ii) 2^{-4} (iii) 7^{-4} (iv) 5^{-4} (v) 5^{-3}

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

- (i) 8^{-2} (ii) 13^{-2} (iii) 10^{-1} (iv) 10^{-2} (v) 10^{-3}

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

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

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

- (i) 2^{-8} (ii) 2^{-7} (iii) 2^{-9} (iv) $(-1)^{-8}$ (v) 4^{-8}

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

- (i) 6^{-2} (ii) 9^{-3} (iii) 6^{-4} (iv) 3^{-3} (v) 6^{-3}

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

- (i) $\frac{-1 \times 2}{2^{10} \times 3 \times 5}$ (ii) $\frac{-1 \times 1}{2^{10} \times 1 \times 5}$ (iii) $\frac{-1 \times 1}{2^{10} \times 3 \times 5}$ (iv) $\frac{-2 \times 1}{2^{10} \times 3 \times 5}$ (v) $\frac{-1 \times 1}{2^{10} \times 6 \times 5}$

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

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

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

- (i) $\frac{2^{14}}{5^6 \times 3^3 \times 5^3}$ (ii) $\frac{2^{13}}{2^6 \times 3^3 \times 5^3}$ (iii) $\frac{2^{14}}{2^4 \times 3^3 \times 5^3}$ (iv) $\frac{2^{15}}{2^6 \times 3^3 \times 5^3}$ (v) $\frac{2^{14}}{2^6 \times 3^3 \times 5^3}$

20. Simplify $\left(\frac{6^c \cdot 49^{(c-5)} \cdot 64^{(c-4)}}{36^{(c-5)} \cdot 7^{(c-4)} \cdot 8^{(c-5)}} \right)$

- (i) $6^{(-c+10)} \cdot 7^{(-c+3)} \cdot 8^{(-c+6)}$ (ii) $6^5 \cdot 7^{(-1)} \cdot 8^1$ (iii) $6^{(c+5)} \cdot 7^{(-c+3)} \cdot 8^{(-c+6)}$
 (iv) $6^{(-c+10)} \cdot 7^{(c-6)} \cdot 8^{(c-3)}$

Assignment Key

1) (ii)	2) (iii)	3) (iii)	4) (iii)	5) (i)	6) (i)
7) (iii)	8) (iii)	9) (iii)	10) (v)	11) (iii)	12) (iv)
13) (iv)	14) (v)	15) (i)	16) (v)	17) (iii)	18) (v)
19) (v)	20) (iv)				