



1. Simplify the expression $7^2 \times 7^2$

- (i) 5^4 (ii) 7^3 (iii) 7^5 (iv) 7^4 (v) 10^4

2. Simplify the expression $2^{-8} \times 2^{-8}$

- (i) 5^{-16} (ii) 2^{-17} (iii) $(-1)^{-16}$ (iv) 2^{-16} (v) 2^{-15}

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

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

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

- (i) $\left(\frac{9}{7}\right)^{-5}$ (ii) $\left(\frac{11}{7}\right)^{-4}$ (iii) $\left(\frac{9}{7}\right)^{-3}$ (iv) $\left(\frac{9}{7}\right)^{-4}$ (v) 1

5. Simplify the expression $6^3 \times 6^5 \times 6^2$

- (i) 3^{10} (ii) 6^{10} (iii) 6^9 (iv) 8^{10} (v) 6^{11}

6. Simplify the expression $2^{-5} \times 2^{-6} \times 2^{-9}$

- (i) 2^{-19} (ii) 2^{-20} (iii) 2^{-21} (iv) 4^{-20} (v) $(-1)^{-20}$

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

- (i) $\left(\frac{-4}{5}\right)^{10}$ (ii) $\left(\frac{-6}{5}\right)^{11}$ (iii) $\left(\frac{-2}{5}\right)^{11}$ (iv) $\left(\frac{-4}{5}\right)^{11}$ (v) $\left(\frac{-4}{5}\right)^{12}$

8. Simplify the expression $(-9)^7 \times (-2)^7$

- (i) 18^8 (ii) 16^7 (iii) 20^7 (iv) 18^7 (v) 18^6

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

- (i) $\left(\frac{-3}{4}\right)_{(-252)}^{}$ (ii) $\left(\frac{-1}{2}\right)_{(-252)}^{}$ (iii) $\left(\frac{-3}{2}\right)_{(-252)}^{}$ (iv) $\left(\frac{-3}{4}\right)_{(-254)}^{}$ (v) $\left(\frac{-3}{4}\right)_{(-249)}^{}$

10. Simplify the expression $\left(\frac{9}{5}\right)^{-3} \times \left(\frac{9}{2}\right)^{-3} \times \left(\frac{5}{4}\right)^{-3}$

- (i) $\left(\frac{79}{8}\right)^{-3}$ (ii) $\left(\frac{81}{8}\right)^{-3}$ (iii) $\left(\frac{81}{8}\right)^{-2}$ (iv) $\left(\frac{83}{8}\right)^{-3}$ (v) $\left(\frac{81}{8}\right)^{-4}$

11. Simplify the expression $\left(\frac{7}{3}\right)^6 \times \left(\frac{7}{6}\right)^6 \times \left(\frac{7}{6}\right)^6$

- (i) $\left(\frac{115}{36}\right)^6$ (ii) $\left(\frac{343}{108}\right)^6$ (iii) $\left(\frac{343}{108}\right)^7$ (iv) $\left(\frac{343}{108}\right)^5$ (v) $\left(\frac{341}{108}\right)^6$

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

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

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

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

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

- (i) $\left(\frac{3}{1280}\right)^3$ (ii) $\left(\frac{1}{1280}\right)^2$ (iii) $\left(\frac{3}{1280}\right)^2$ (iv) $\frac{3}{1280}$ (v) $\left(\frac{1}{256}\right)^2$

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

- (i) 765^{-2} (ii) 768^{-3} (iii) 771^{-2} (iv) 768^{-2} (v) 768^{-1}

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

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

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

- (i) $\frac{-1 \times 2^2 \times 3^2}{3^3}$ (ii) $\frac{-1 \times 2^2 \times 3}{5^3}$ (iii) $\frac{(-1)^2 \times 2^2 \times 3^2}{5^3}$ (iv) $\frac{-1 \times 2^2 \times 3^2}{7^3}$ (v) $\frac{-1 \times 2^2 \times 3^2}{5^3}$

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

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

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

- (i) $\frac{-1 \times 2^8 \times 5^2}{2^6 \times 3^3 \times 5^3}$ (ii) $\frac{-1 \times 2^8 \times 5}{2^6 \times 3^3 \times 5^3}$ (iii) $\frac{-1 \times 2^8 \times 5^2}{(-1)^6 \times 3^3 \times 5^3}$ (iv) $\frac{-1 \times 2^8 \times 5^2}{2^6 \times 3^3 \times 8^3}$ (v) $\frac{-1 \times 2^8 \times 5^3}{2^6 \times 3^3 \times 5^3}$

20. Simplify $\left(\frac{5^c \cdot 36^{(c-2)} \cdot 49^{(c-3)}}{25^{(c-2)} \cdot 6^{(c-3)} \cdot 7^{(c-2)}} \right)$

- (i) $5^{(c+2)} \cdot 6^{(-c+4)} \cdot 7^{(-c+1)}$ (ii) $5^{(-c+4)} \cdot 6^{(-c+4)} \cdot 7^{(-c+1)}$ (iii) $5^{(-c+4)} \cdot 6^{(c-1)} \cdot 7^{(c-4)}$
 (iv) $5^2 \cdot 6^1 \cdot 7^{(-1)}$

Assignment Key

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