

Laws of Indices

Simplify:

- (a) $4^5 \times 4^2$ (b) $4^5 \times 4^3$
(c) $4^3 \times 4^5$ (d) 4×4^5
(e) $4^5 \times 4^{-2}$ (f) $4^0 \times 4^3$
(g) $4^{2.5} \times 4^{0.5}$ (h) $4^5 \times 5^2$
(i) $5^{-3} \times 5^2$ (j) $5^{-5} \times 5^{-3}$

- (a) 4^7 (b) 4^8
(c) 4^8 (d) 4^6
(e) 4^3 (f) 4^3
(g) 4^3 (h) cannot simplify
(i) 5^{-1} (j) 5^{-8}

Simplify:

- (a) $4^5 \div 4^2$ (b) $4^5 \div 4^3$
(c) $4^2 \div 4^5$ (d) $4^5 \div 4$
(e) $4^2 \div 4^0$ (f) $4^5 \div 4^{-2}$
(g) $4^5 \div 5^4$ (h) $5^{2.5} \div 5^{0.5}$
(i) $\frac{5^7}{5^2}$ (j) $\frac{(-5)^7}{(-5)^2}$

- (a) 4^3 (b) 4^2
(c) 4^{-3} (d) 4^4
(e) 4^2 (f) 4^7
(g) cannot simplify (h) 5^2
(i) 5^5 (j) $(-5)^5$

Simplify:

- (a) $(3^4)^5$ (b) $(3^5)^4$
(c) $(3^2)^5$ (d) $(3^{-2})^5$
(e) $(3^4)^1$ (f) $3^3 \times (3^4)^{0.5}$

- (a) 3^{20} (b) 3^{20}
(c) 3^{10} (d) 3^{-10}
(e) 3^4 (f) 3^5

Simplify:

- (a) $\frac{2^3 \times 2^8}{2^5}$ (b) $\frac{2^{-3} \times 2^8}{2^1}$

- (a) 2^6 (b) 2^4

Find x :

- (a) $5^x \times 5^4 = 5^7$
(b) $\frac{3^x \times 3^{-2}}{3^4} = 3^{10}$
(c) $10^2 \times 10^x = 1000000$

- (a) $x = 3$
(b) $x = 16$
(c) $x = 4$