



Laws of Indices – Multiplying, Dividing and Brackets

1. Simplify each expression, leaving your answers in index form:

a. $4^3 \times 4^2$

c. $3^8 \div 3^2$

e. $(7^3)^2$

b. $2^7 \times 2^9$

d. $\frac{5^{11}}{5^3}$

f. $(x^4)^3$

2. Simplify each expression, leaving your answers in index form:

a. $x^5 \times x^{-2}$

d. $8x^4 \times 4x^5$

g. $(3c^3)^2$

b. $y^{-3} \div y^{-2}$

e. $\frac{4b^3}{2b^2}$

h. $(x^2y^{-3})^4$

c. $3a^4 \times 2a^7$

f. $10x^7 \div 5x^4$

3. Simplify fully, leaving your answers in index form:

a. $\frac{p^5 \times p^3}{p^2}$

c. $\frac{(3ab^2)^3}{a^2b}$

b. $\frac{4x^2 \times 2x^5}{x^3}$

d. $\frac{(3x^2)^3 \times xy^4}{2x \times (xy)^2}$

Challenge:

Simplify fully $\frac{x^{\frac{5}{2}} \times x^{\frac{1}{4}}}{x^{\frac{1}{3}}}$
