

Exponential and Logarithmic Functions Part 1

1 INDICES AND INDEX LAWS

Simplify the following:

a. $15x^4y^5 \div 3xy^3$

b. $\left(\frac{x^a}{x^b}\right) \times \left(\frac{x^b}{x^c}\right) \times \left(\frac{x^c}{x^a}\right)$

c. $\frac{m^{-2}n^{-4}}{(2m^{-2}n^4p^{-3})^0 2m^2n^{-4}p^{-1}}$

d. $\frac{\sqrt{a^b c^{2d} e^{3f} g^{4h}}}{\sqrt{a^{2b} c^{3d} e^{4f} g^{5h}}}$

e. $\frac{1}{1 + a^{m-n} + a^{m-p}} + \frac{1}{1 + a^{n-m} + a^{n-p}} + \frac{1}{1 + a^{p-m} + a^{p-n}}$

Make sure that you ask for help if you don't understand completely! :)