



Air maths tuition

Interact, engage and perform

Indices (Exponents) - Negative Types Exercise

Simplify 1) $\frac{4^3}{4^7}$ 2) $\frac{a^2}{a^5}$ 3) 7^{-1} 4) $\frac{x^2y}{x^5y^3}$ 5) $\frac{12x^3y^2}{14xy^3z}$

① $\frac{4^3}{4^7} = 4^{-4}$
 $= \frac{1}{4^4}$

② $\frac{a^2}{a^5} = a^{-3}$
 $= \frac{1}{a^3}$

③ $7^{-1} = \frac{1}{7}$

④ $\frac{x^2y}{x^5y^3} = x^{-3}y^{-2}$
 $= \left(\frac{1}{x^3}\right)\left(\frac{1}{y^2}\right)$
 $= \frac{1}{x^3y^2}$

⑤ $\frac{12x^3y^2}{14xy^3z} = \frac{6}{7} \frac{x^2y^{-1}}{z}$
 $= \frac{6}{7} \left(\frac{x^2}{z}\right)\left(\frac{1}{y}\right)$
 $= \frac{6x^2}{7yz}$

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