

## Algebraic Laws of Indices

<b>(a)</b>	<b>(b)</b>	<b>(c)</b>	<b>(d)</b>
Simplify $a^4 \times a^3 \times a^{-2}$	Simplify $\frac{b^7 \times b^{-1}}{b^3}$	Simplify $(c^5)^{-2}$	Simplify $d^7 \times (d^{1/2})^8$
<b>(e)</b>	<b>(f)</b>	<b>(g)</b>	<b>(h)</b>
$\frac{e^9}{e^n} = e^{11}$ Find the value of $n$	$(f^{1/2})^n = f^7$ Find the value of $n$	$g^5 \times g^n = g^{15}$ Find the value of $n$	$\frac{h^7 \times h^n}{h^{-1}} = h^{11}$ Find the value of $n$
<b>(i)</b>	<b>(j)</b>	<b>(k)</b>	<b>(l)</b>
Simplify $(5a^4)^2$	Simplify $(3a^6b^5)^3$	Simplify $(2p^{1/2}q^6)^4$	Simplify $(x^{12}y^3)^{1/3}$
<b>(m)</b>	<b>(n)</b>	<b>(o)</b>	<b>(p)</b>
Write $\frac{y^{10} \times y^{-2}}{(y^2)^3}$ as a single power of $y$	Write $(\frac{m^5}{m^{-7}})^{1/2}$ as a single power of $m$	Simplify fully $(\frac{2}{3}x^{-4}y^{1/3})^3$	$(p^{-2})^4 = p \times (p^3)^n$ Find the value of $n$