Algebraic Laws of Indices

(a)	(b)	(c)	(d)
Simplify $a^4 \times a^3 \times a^{-2}$ a^5	Simplify $\frac{b^7 \times b^{-1}}{b^3}$ b^3	Simplify $(c^5)^{-2}$ c^{-10}	Simplify $d^7 \times \left(d^{1/2}\right)^8$ d^{11}
(e)	**(f)**	**(g)**	**(h)**
$\frac{e^9}{e^n} = e^{11}$ Find the value of n $n = -2$	$\left(f^{\frac{1}{2}}\right)^n = f^7$ Find the value of n $n = 14$	$g^5 \times g^n = g^{15}$ Find the value of n $n = 10$	$\frac{h^7 \times h^n}{h^{-1}} = h^{11}$ Find the value of n $n = 3$
(i)	**(j)**	**(k)**	**(l)**
Simplify $(5a^4)^2$ $25a^8$	Simplify $(3a^6b^5)^3$ $27a^{18}b^{15}$	Simplify $\left(2p^{1/2}q^6\right)^4$ $16p^2q^{24}$	Simplify $(x^{12}y^3)^{1/3}$ x^4y
(m)	**(n)**	**(o)**	**(p)**
Write $\frac{y^{10} \times y^{-2}}{(y^2)^3}$ as a single power of y y^2	Write $\left(\frac{m^5}{m^{-7}}\right)^{1/2}$ as a single power of m m^6	Simplify fully $\left(\frac{2}{3}x^{-4}y^{1/3}\right)^3$ $\frac{8x^{-12}y}{27}$ or $\frac{8y}{27x^{12}}$	$(p^{-2})^4 = p \times (p^3)^n$ Find the value of n $n = -3$