

Powers and Roots Revision

(a)	(b)	(c)	(d)
Write down the cube root of 27 3	Work out $3^5 - \sqrt{441}$ 322	Write down the value of 5^0 1	Simplify $y^5 \times y^4$ y^9
(e)	(f)	(g)	(h)
Simplify $(x^{-3})^5$ x^{-15}	Write as a power of 2 $\frac{2^{12}}{2^3}$ 2^9	Simplify $(3a^2b^4)^3$ $27a^6b^{12}$	Simplify $\frac{a^5 \times a^2}{a^{-3}}$ a^{10}
(i)	(j)	(k)	(l)
Write $2\sqrt{2}$ as a single power of 2 $2^{3/2}$	Evaluate $\left(\frac{4}{9}\right)^{3/2}$ $\frac{8}{27}$	Evaluate $8^{-4/3}$ $\frac{1}{16}$	$\frac{4^{10} \times 4^x}{4^6} = 4^{-1}$ Find the value of x . $x = -5$
(m)	(n)	(o)	(p)
$\frac{2^{10}}{64} = 2^n$ Find the value of n . $n = 4$	Write $\frac{1}{\sqrt[3]{4}}$ as a single power of 2 $2^{-2/3}$	$4^a = 16 \times 8^{2a}$ Find the value of a . $a = -1$	Given that $9^x = (27^a)^{1/2} \times 3^b$ find an expression for x in terms of a and b . $x = \frac{3}{4}a + \frac{1}{2}b$