**Powers and Roots Revision**

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