**Surds Revision**

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| **(a)** | **(b)** | **(c)** | **(d)** |
| Write $\sqrt{108}$ in the form $k\sqrt{3}$ | Write $\sqrt{45}+\sqrt{20}$ in the form $k\sqrt{5}$ | Write $\sqrt{96}-\sqrt{24}$ in the form $k\sqrt{6}$ | Expand $\sqrt{2}(5+\sqrt{8}$) |
| **(e)** | **(f)** | **(g)** | **(h)** |
| Expand and simplify$$(7+\sqrt{3})(4-\sqrt{3})$$ | Expand and simplify$$(5+2\sqrt{2})(6-\sqrt{2})$$ | Expand and simplify$$(5+3\sqrt{2})^{2}$$ | Rationalise the denominator and simplify fully$$\frac{15}{\sqrt{18}}$$ |
| **(i)** | **(j)** | **(k)** | **(l)** |
| Rationalise the denominator and simplify fully$$\frac{5+4\sqrt{3}}{\sqrt{3}}$$ | Express $\frac{\sqrt{3}+\sqrt{27}}{\sqrt{2}}$ as a single surd. | Rationalise the denominator and simplify fully$$\frac{\sqrt{3}+5}{2-\sqrt{3}}$$ | $$\left(4+\sqrt{a}\right)\left(7-\sqrt{a}\right)=23+k\sqrt{a}$$Find the values of the positive integers $a$ and $k$. |