

Surds Revision

(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 $\frac{\sqrt{3} + 5}{2 - \sqrt{3}}$	$(4 + \sqrt{a})(7 - \sqrt{a}) = 23 + k\sqrt{a}$ Find the values of the positive integers a and k .