

Surds Revision

(a)	(b)	(c)	(d)
<p>Write $\sqrt{108}$ in the form $k\sqrt{3}$</p> <p style="text-align: center;">$6\sqrt{3}$</p>	<p>Write $\sqrt{45} + \sqrt{20}$ in the form $k\sqrt{5}$</p> <p style="text-align: center;">$5\sqrt{5}$</p>	<p>Write $\sqrt{96} - \sqrt{24}$ in the form $k\sqrt{6}$</p> <p style="text-align: center;">$2\sqrt{6}$</p>	<p>Expand $\sqrt{2}(5 + \sqrt{8})$</p> <p style="text-align: center;">$5\sqrt{2} + 4$</p>
(e)	(f)	(g)	(h)
<p>Expand and simplify $(7 + \sqrt{3})(4 - \sqrt{3})$</p> <p style="text-align: center;">$25 - 3\sqrt{3}$</p>	<p>Expand and simplify $(5 + 2\sqrt{2})(6 - \sqrt{2})$</p> <p style="text-align: center;">$26 + 7\sqrt{2}$</p>	<p>Expand and simplify $(5 + 3\sqrt{2})^2$</p> <p style="text-align: center;">$43 + 30\sqrt{2}$</p>	<p>Rationalise the denominator and simplify fully</p> $\frac{15}{\sqrt{18}}$ <p style="text-align: center;">$\frac{5\sqrt{2}}{2}$</p>
(i)	(j)	(k)	(l)
<p>Rationalise the denominator and simplify fully</p> $\frac{5 + 4\sqrt{3}}{\sqrt{3}}$ <p style="text-align: center;">$\frac{5\sqrt{3}}{3} + 4$</p>	<p>Express $\frac{\sqrt{3} + \sqrt{27}}{\sqrt{2}}$ as a single surd.</p> <p style="text-align: center;">$\sqrt{24}$</p>	<p>Rationalise the denominator and simplify fully</p> $\frac{\sqrt{3} + 5}{2 - \sqrt{3}}$ <p style="text-align: center;">$13 + 7\sqrt{3}$</p>	<p>$(4 + \sqrt{a})(7 - \sqrt{a}) = 23 + k\sqrt{a}$ Find the values of the positive integers a and k.</p> <p style="text-align: center;">$a = 5, k = 3$</p>