



Air maths tuition

Interact, engage and perform

## Simplifying Surds

$\sqrt{a \times b} = \sqrt{a} \times \sqrt{b}$	$\begin{aligned}\sqrt{320} &= \sqrt{64 \times 5} \\ &= \sqrt{64} \times \sqrt{5} \\ &= 8\sqrt{5}\end{aligned}$	<u>Square Numbers</u>										
$\begin{aligned}\sqrt{36} &= \sqrt{9 \times 4} \\ &= \sqrt{9} \times \sqrt{4} \\ &= 3 \times 2 \\ &= 6\end{aligned}$	$\begin{aligned}\sqrt{320} &= \sqrt{32 \times 10} \\ &= \sqrt{16 \times 2 \times 2 \times 5} \\ &= \sqrt{16 \times 4 \times 5} \\ &= \sqrt{16} \times \sqrt{4} \times \sqrt{5} \\ &= 4 \times 2 \times \sqrt{5} \\ &= 8\sqrt{5}\end{aligned}$	<table><tr><td>4</td><td>36</td></tr><tr><td>9</td><td>49</td></tr><tr><td>16</td><td>64</td></tr><tr><td>25</td><td>81</td></tr><tr><td></td><td>100</td></tr></table>	4	36	9	49	16	64	25	81		100
4	36											
9	49											
16	64											
25	81											
	100											
$\begin{aligned}\sqrt{27} &= \sqrt{9 \times 3} \\ &= \sqrt{9} \times \sqrt{3} \\ &= 3\sqrt{3}\end{aligned}$												
$\begin{aligned}\sqrt{50} &= \sqrt{25 \times 2} \\ &= \sqrt{25} \times \sqrt{2} \\ &= 5\sqrt{2}\end{aligned}$												

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