Maths Workout - Number

Topic 25 - Surds 2				
Target 1	**Target 2**	**Target 3**	**Target 4**	**Target 5**
Simplify an expression with a surd in the denominator	*Rationalise the denominator*	*Simplify an expression by rationalising the denominator*	*Simplify an expression by rationalising the denominator*	*Simplify an expression by rationalising the denominator*
1. Demo: Use the rule of surds: $\sqrt{a}/b = \sqrt{a}/\sqrt{b}$ to simplify an expression	1. Demo: Rationalise the denominator: $a/\sqrt{b}$	1. Demo: Simplify an expression by rationalising the denominator: $\sqrt{a}/\sqrt{b} \times \sqrt{c}$, $\sqrt{a} \times \sqrt{b}/\sqrt{c}$	1. Demo: Simplify an expression by rationalising the denominator: $(n\sqrt{a}\pm b)/\sqrt{c}$	1. Demo: Know simple surd, compound surd, conjugate surd
2. Simplify an expression of the form $\sqrt{a}/\sqrt{b}$ which simplifies to a simple surd	2. Rationalise the denominator: $a/\sqrt{b}$ and with assistance	2. Simplify an expression: $\sqrt{a}/\sqrt{b} \times \sqrt{c}$, $\sqrt{a} \times \sqrt{b}/\sqrt{c}$	2. Simplify an expression: $(\sqrt{a}\pm b)/\sqrt{c}$	2. Demo: Multiply a compound surd by its conjugate
3. Speed Response: Match a surd fraction and its simplification	3. Rationalise the denominator: $a/\sqrt{b}$	3. Simplify an expression: $n\sqrt{a}/\sqrt{b} \times \sqrt{c}$, $n\sqrt{a} \times \sqrt{b}/m\sqrt{c}$	3. Simplify an expression: $(n\sqrt{a}\pm b)/\sqrt{c}$	3. Multiply a compound surd by its conjugate
4. Speed Response: Match a surd fraction and its simplification	4. Speed Response: Match a surd expression and its form after rationalisation of the denominator	4. Simplify an expression: $n\sqrt{a} \times \sqrt{b}/m\sqrt{c} \times \sqrt{d}$	4. Simplify an expression: $(n\sqrt{a}\pm b)/\sqrt{c}$	4. Demo: Simplify an expression by rationalising the denominator: $a/(b\pm\sqrt{c})$, $\sqrt{a}/(\ b\pm\sqrt{c})$
5. Simplify an expression of the form $(\sqrt{a}\pm\sqrt{b}\ )/\sqrt{c}$ with assistance	5. Speed Response: Match a surd expression and its form after rationalisation of the denominator	5. Simplify an expression: $n\sqrt{a} \times \sqrt{b}/m\sqrt{c} \times \sqrt{d}$	5. Simplify an expression: $(n\sqrt{a}\pm b)/\sqrt{c}$	5. Simplify an expression by rationalising the denominator: $a/(b\pm\sqrt{c})$
6. Simplify an expression of the form $(\sqrt{a}\pm\sqrt{b}\ )/\sqrt{c}$ with assistance	6. Demo: Rationalise the denominator and simplify: $1/\sqrt{a}$ and $\sqrt{a}/\sqrt{b}$	6. Demo: Simplify an expression by rationalising the denominators: $a/b\sqrt{c} + d/e\sqrt{f}$	6. Simplify an expression: $(n\sqrt{a}\pm b)/\sqrt{c}$	6. Simplify an expression by rationalising the denominator: $\sqrt{a}/(\ b\pm\sqrt{c})$
7. Simplify an expression of the form $(\sqrt{a}\pm\sqrt{b}\ )/\sqrt{c}$ with assistance	7. Rationalise the denominator and simplify: $1/\sqrt{a}$ and $n\sqrt{a}/\sqrt{b}$	7. Simplify an expression: $a/b\sqrt{c} + d/e\sqrt{f}$	7. Simplify an expression: $(n\sqrt{a}\pm b)/\sqrt{c}$	7. Demo: Simplify an expression by rationalising the denominator: $a/(\sqrt{b}\pm c)$, $a/(\sqrt{b}\pm\sqrt{c})$
8. Simplify an expression of the form $(\sqrt{a}\pm\sqrt{b}\ )/\sqrt{c}$ with assistance	8. Rationalise the denominator and simplify: $n/\sqrt{a}$ and $m\sqrt{a}/\sqrt{b}$	8. Simplify an expression: $a/b\sqrt{c} + d/e\sqrt{f}$		8. Simplify an expression by rationalising the denominator: $a/(\sqrt{b}\pm c)$, $a/(b\sqrt{c}\pm d)$, $a/(\sqrt{b}\pm\sqrt{c})$, $\sqrt{a}/(\sqrt{b}\pm\sqrt{c})$
9. Simplify an expression of the form $(\sqrt{a}\pm\sqrt{b}\ )/\sqrt{c}$ with assistance	9. Rationalise the denominator and simplify: $n/\sqrt{a}$ and $m\sqrt{a}/\sqrt{b}$			9. Demo: Simplify an expression by rationalising the denominator: $(a\pm b\sqrt{c})/(\sqrt{d}\pm e)$, $(a\pm b\sqrt{c})/\ (\sqrt{d}\pm\sqrt{e})$
10. Simplify a miscellaneous fractional expression	10. Rationalise the denominator and simplify: $n/\sqrt{a}$ and $m\sqrt{a}/\sqrt{b}$			10. Simplify an expression by rationalising the denominator: $(a\pm b\sqrt{c})/(\sqrt{d}\pm e)$, $(a\pm b\sqrt{c})/(\sqrt{d}\pm\sqrt{e})$