

# Maths Workout - Number

Topic 24 - Surds 1				
Target 1	Target 2	Target 3	Target 4	Target 5
<i>Revise square numbers</i> <i>Express a whole number as a product of 2 factors with 1 factor being square</i>	<i>Understand a surd</i> <i>Simplify a surd</i> <i>Express a surd expression as a single surd</i>	<i>Simplify a product of surds</i>	<i>Simplify a sum or difference of surds</i>	<i>Expand and simplify a surd expression in brackets</i>
1. Revision: Identify square numbers up to 100	1. Demo: Understand a surd Distinguish between a surd and a non-surd	1. Demo: Simplify a surd expression of the form $\sqrt{a} \times \sqrt{b}$	1. Demo: Simplify an expression of the form $\sqrt{ab} \pm \sqrt{ac}$	1. Demo: Expand and simplify an expression in brackets of the form $\sqrt{a}(n \pm \sqrt{a})$ , $\sqrt{a}(\sqrt{b} \pm m\sqrt{c})$
2. Revision: Identify square numbers up to 100	2. Demo: Simplify a surd of the form $\sqrt{ab}$	2. Simplify a surd expression of the form $\sqrt{a} \times \sqrt{b}$	2. Simplify an expression of the form $\sqrt{ab} \pm \sqrt{ac}$	2. Expand and simplify an expression in brackets of the form $\sqrt{a}(n \pm \sqrt{a})$
3. Revision: Match whole numbers and their square up to 100	3. Simplify a surd of the form $\sqrt{ab}$ with assistance	3. Simplify a surd expression of the form $\sqrt{a} \times \sqrt{b}$	3. Simplify an expression of the form $\sqrt{ab} \pm \sqrt{ac}$	3. Expand and simplify an expression in brackets of the form $\sqrt{a}(\sqrt{a} \pm \sqrt{b})$
4. Revision: Identify square numbers from 121 to 400	4. Simplify a surd of the form $\sqrt{ab}$	4. Speed Response: Match a surd expression and its simplified form	4. Simplify an expression of the form $\sqrt{ab} \pm n\sqrt{ac}$	4. Expand and simplify an expression in brackets of the form $\sqrt{ab}(\sqrt{ac} \pm \sqrt{ad})$
5. Revision: Identify square numbers from 121 to 400	5. Simplify a surd of the form $\sqrt{ab}$	5. Demo: Simplify a surd expression of the form $\sqrt{a} \times n\sqrt{b} \times \sqrt{c}$	5. Simplify an expression of the form $m\sqrt{ab} \pm n\sqrt{ac}$	5. Demo: Expand and simplify an expression in brackets of the form $(n \pm m\sqrt{a})(p \pm q\sqrt{b})$
6. Revision: Match whole numbers and their square from 121 to 400	6. Speed Response: Match a surd and its simplified form	6. Simplify a surd expression of the form $\sqrt{a} \times n\sqrt{b} \times \sqrt{c}$	6. Demo: Simplify an expression of the form $\sqrt{ab} \pm n\sqrt{ac} \pm \sqrt{ad}$	6. Expand and simplify an expression in brackets of the form $(1 \pm n\sqrt{a})(n\sqrt{a} \pm 1)$
7. Express a whole number as a product of 2 factors with 1 factor being square	7. Express a surd expression as a single surd	7. Simplify a surd expression of the form $\sqrt{a} \times n\sqrt{b} \times \sqrt{c}$	7. Simplify an expression of the form $\sqrt{ab} \pm \sqrt{ac} \pm \sqrt{ad}$	7. Expand and simplify an expression in brackets of the form $(n \pm m\sqrt{a})(\sqrt{a} \pm p)$
8. Express a whole number as a product of 2 factors with 1 factor being square	8. Express a surd expression as a single surd	8. Simplify a surd expression of the form $\sqrt{a} \times n\sqrt{b} \times \sqrt{c}$	8. Simplify an expression of the form $\sqrt{ab} \pm n\sqrt{ac} \pm \sqrt{ad}$	8. Expand and simplify an expression in brackets of the form $(a \pm \sqrt{b})(c \pm \sqrt{d})$
9. Express a whole number as a product of 2 factors with 1 factor being square	9. Speed Response: Match a surd and its simplified form	9. Demo: Simplify a surd expression in index form	9. Simplify an expression of the form $m\sqrt{ab} \pm n\sqrt{ac} \pm \sqrt{ad}$	9. Expand and simplify miscellaneous expressions in brackets
10. Express a whole number as a product of 2 factors with 1 factor being square	10. Memory Task: Match a surd and its simplified form	10. Simplify a surd expression in index form	10. Demo: Simplify an expression including sums or differences of surds in index form	10. Expand and simplify miscellaneous expressions in brackets
		11. Simplify a surd expression in index form	11. Simplify an expression including sums or differences of surds in index form	
		12. Simplify a surd expression in index form	12. Simplify an expression including sums or differences of surds in index form	