

Transition Subject Tasks



Subject: Mathematics/Further Mathematics

Course: A Level

Exam Board: AQA

A secure knowledge of algebra is vital to the study of mathematics at A Level so please complete the following questions which are designed to refresh and reinforce your algebra knowledge. Please use the videos and the practice questions links to consolidate your skills.

Questions	Video	Practice questions
<p>Expanding single brackets</p> <p>Expand the following brackets: -</p> <p>a) $2(x + 3)$ b) $3x(x - y)$ c) $7x^2(4z - x^3)$</p>	<p>https://corbettmaths.com/2013/12/23/expanding-brackets-video-13/</p>	<p>https://corbettmaths.com/wp-content/uploads/2013/02/expanding-brackets-pdf.pdf</p>
<p>Expanding double brackets</p> <p>Expand the following brackets: -</p> <p>a) $(x + 4)(x + 3)$ b) $(x - 5)(x + 7)$ c) $(2x^2 + 3)(4 - x)$</p>	<p>https://corbettmaths.com/2013/12/23/expanding-two-brackets-video-14/</p>	<p>https://corbettmaths.com/wp-content/uploads/2013/02/expanding-two-brackets-pdf1.pdf</p>
<p>Factorising single brackets</p> <p>Factorise the following: -</p> <p>a) $25y - 35z$ b) $40x^2 - 50x$ c) $8xy + 4y^2$ d) $4xy^2 + 6xy + 2x^2$</p>	<p>https://corbettmaths.com/2013/02/06/factorisation/</p>	<p>https://corbettmaths.com/wp-content/uploads/2013/02/factorisation-pdf.pdf</p>
<p>Factorising Quadratics</p> <p>Factorise the following: -</p> <p>a) $x^2 + 9x + 14$ b) $x^2 - 6x - 55$ c) $x^2 - 21x + 110$</p>	<p>https://corbettmaths.com/2013/02/06/factorising-quadratics-1/</p>	<p>https://www.missbsresources.com/files/Algebra/Skill%20Review/Factorising Quadratic Expressions.pdf</p>
<p>Factorising Harder Quadratics</p> <p>Factorise the following: -</p> <p>a) $2x^2 + 7x + 5$ b) $2x^2 - 3x - 44$ c) $12x^2 + 5x - 3$</p>	<p>https://corbettmaths.com/2013/02/07/factorising-quadratics-2/</p>	<p>https://corbettmaths.com/wp-content/uploads/2013/02/factorising-quadratics.pdf</p>

<p>Factorising Harder Quadratics</p> <p>Factorise the following: -</p> <p>a) $2x^2 + 7x + 5$ b) $2x^2 - 3x - 44$ c) $12x^2 + 5x - 3$</p>	<p>https://corbettmaths.com/2013/02/07/factorising-quadratics-2/</p>	<p>https://corbettmaths.com/wp-content/uploads/2013/02/factorising-quadratics.pdf</p>
<p>Difference of two squares</p> <p>Factorise the following: -</p> <p>a) $y^2 - 9$ b) $36a^2 - c^2$ c) $81p^4 - x^6$</p>	<p>https://corbettmaths.com/2013/02/08/difference-between-two-squares/</p>	<p>https://corbettmaths.com/wp-content/uploads/2013/02/factorising-quadratics.pdf</p>
<p>Solving quadratics</p> <p>Solve the following: -</p> <p>a) $x^2 + 7x + 12 = 0$ b) $2x^2 - 7x - 15 = 0$</p>	<p>https://corbettmaths.com/2013/05/03/solving-quadratics-by-factorising/</p>	<p>https://corbettmaths.files.wordpress.com/2013/02/solving-quadratics-factorising-pdf.pdf</p>
<p>Solving simultaneous equations</p> <p>Solve the equations for both x and y.</p> <p>a) $3x + 2y = 22$ $5x - 2y = 26$ b) $y + x = 3$ $x^2 + y^2 = 5$ c) $y = 2x + 4$ $4x^2 + 4 = y$</p>	<p>https://corbettmaths.com/2013/05/07/simultaneous-equations-linear-and-quadratic/</p>	<p>https://corbettmaths.files.wordpress.com/2013/02/simultaneous-equations-non-linear-pdf.pdf</p>
<p>Completing the square</p> <p>Complete the square for the following: -</p> <p>a) $x^2 + 8x + 1$ b) $x^2 - 7x - 2$ c) $3x^2 + 12x + 3$ d) $2x^2 - 7x + 1$</p>	<p>https://corbettmaths.com/2013/12/29/completing-the-square-video-10/</p>	<p>https://corbettmaths.com/wp-content/uploads/2013/02/completing-the-square-pdf1.pdf</p>
<p>Solving inequalities</p> <p>Solve the following inequalities: -</p> <p>a) $5x - 2 \geq 68$ b) $\frac{x-5}{4} > 2$ c) $3(2x + 7) \leq 9$ d) $-3 \leq \frac{x}{4} - 1 < 0$</p>	<p>https://corbettmaths.com/2013/05/07/solving-inequalities-one-sign-corbettmaths/</p>	<p>https://corbettmaths.com/wp-content/uploads/2013/02/inequalities.pdf</p>
<p>Quadratic inequalities</p> <p>Solve the following inequalities: -</p> <p>a) $(x - 4)(x - 1) < 0$ b) $x^2 - 4x - 5 \leq 0$ c) $2x^2 - x - 12 \leq x^2 - 2x$</p>	<p>https://corbettmaths.com/2016/08/07/quadratic-inequalities/</p>	<p>https://corbettmaths.com/wp-content/uploads/2013/02/quadratic-inequalities-pdf.pdf</p>

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