

	Introduce	Strengthen	Deepen
Surds	Q1 $5 + \sqrt{35}$ Q2 $\frac{\sqrt{30}}{3}$ Q3 $11 + 7\sqrt{5}$ Q4 $61 + 27\sqrt{3}$ Q5 $\frac{\sqrt{2} + 2}{2}$	Q1 $74 - 40\sqrt{3}$ Q2 $\frac{1 + 5\sqrt{3}}{10}$ Q3 $3\sqrt{7} - 7$ Q4 $13\sqrt{3}$	Q1 $16\sqrt{7}$ Q2 $6 + 3\sqrt{11}$ Q3 $5\sqrt{h} - 1$ Q4 $\frac{9\sqrt{3} - 13}{2}$
Expanding brackets	Q1 $m^2 + 11m + 18$ Q2 $8a^2 + 22a + 15$ Q3 $4x^2 - 3x - 27$ Q4 $36n^2 - 60n + 25$	Q1 $24d^2 + 38d + 10$ Q2 $x^3 + 4x^2 + 8x + 5$ Q3 $15n^2 + 31n + 43$ Q4 $t^3 - t^2 - 22t + 40$	Q1 $40x^3 + 38x^2 - 131x + 60$ Q2 $a = 5, b = -3, c = 6$ Q3 $\frac{1}{125x^3} + \frac{1}{64y^3}$ Q4 Equivalence correctly shown, for example through expanding brackets and simplifying both sides of the equivalence.
Factorising quadratics	Q1 $(y + 4)(y + 5)$ Q2 $(x + 4)(x - 5)$ Q3 $(w - 6)(w - 9)$	Q1 $(x + 4)(x - 4)$ Q2 $(2r + 1)(r + 7)$ Q3 $(5x + 2)(x + 4)$	Q1 $(7h + m)(7h - m)$ Q2 $(5 - b)(b - 2)$ Q3 $10n(2k - 5n)$
Simplifying expressions	Q1 $12y^7$ Q2 $\frac{1}{h^{15}}$ Q3 $\frac{t^3u}{4}$ Q4 $\frac{t^6}{u^{10}}$ Q5 $\frac{11y + 3}{6}$ Q6 $\frac{6}{a + 4}$	Q1 $\frac{a}{6k}$ Q2 $8g^4h^2$ Q3 $\frac{1}{2x - 35}$	Q1 $a = 3, b = 21, c = 24$ Q2 $8nr^3(t + 6)$ Q3 $a = 2, b = -3, c = -20, d = 4$

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Operations with algebraic fractions	Q1 $7a$ Q2 $\frac{15}{v}$ Q3 $\frac{37n + 14}{35}$	Q1 $\frac{18}{a}$ Q2 $\frac{5x - 1}{(5x - 7)(x + 1)}$ Q3 $\frac{x - 4}{2x(x + 5)}$ Q4 $\frac{7ab}{5k}$	Q1 $\frac{3x - 11}{(6 - x)(6 + x)}$ Q2 $\frac{5x + 49}{x + 7}$
Solving quadratic equations	Q1 $x = 9$ and $x = -5$ Q2 $y = 2$ and $y = -5$ Q3 $w = 2$ and $w = 6$ Q4 $x = \frac{-5}{2}$ and $x = \frac{-3}{2}$ Q5 $m = \frac{1}{2}$ and $m = 5$	Q1 $y = 3 \pm \sqrt{2}$ Q2 $y = \frac{-2}{3}$ and $y = \frac{5}{2}$ Q3 $y = \frac{-7}{2}$ and $y = \frac{5}{3}$ Q4 $r = -0.15$ and $r = 1.48$	Q1 $x = -2$ and $x = 18$ Q2 $n = \frac{2}{5}$ Q3 $y = \frac{-1}{2}$ and $y = 3$ Q4 $b = 3, c = -5$
Quadratic graphs	Q1 $(2, 0)$ and $(6, 0)$ Q2 $x = -2.8$ and $x = 1.8$ Q3 $x = -2$ and $x = 1$ Q4 a) $(x + 3)^2 + 2$ b) $(-3, 2)$	Q1 $(-4, -26)$ Q2 $\left(\frac{5}{2}, \frac{-21}{4}\right)$ Q3 $(1, -13)$ Q4 $x = -1$ and $x = 2.5$	Q1 5 Q2 $a = -10, b = 29$ Q3 a) $(8, -1)$ b) 0
Linear simultaneous equations	Q1 $x = 3, y = 4$ Q2 $x = 4, y = 2$ Q3 $a = 3, b = 5$ Q4 $x = 1, y = 2$	Q1 $x = -1, y = 3$ Q2 $x = 9, y = -7$ Q3 $x = \frac{1}{2}, y = \frac{3}{2}$ Q4 $t = 5, u = 10$	Q1 $x = 5, y = -3$ Q2 $x = 3, y = 4, a = 1$ Q3 $x = 4, y = 1$ Q4 $x = 6, y = 2$
Straight-line graphs	Q1 $y = -5x + 3$ Q2 $y = \frac{4}{7}x + 5$ Q3 $-\frac{1}{8}$ Q4 $y = 3x + 4$ Q5 $y = 5x - 7$	Q1 $y = \frac{-3}{4}x + 36$ Q2 $y = \frac{1}{3}x + 4$ Q3 $y = 3x - 10$ Q4 $y = 3x + 5$	Q1 $\frac{h}{4}$ Q2 $(12, 4)$ Q3 7:10 Q4 $y = \frac{1}{2}x - 15$

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Right-angled trigonometry	Q1 4.2 mm Q2 4.5 cm Q3 49°	Q1 18.28 m Q2 40.2° Q3 61.9°	Q1 45.9° Q2 15.62 cm Q3 79° Q4 10.91 cm
Further trigonometry	Q1 11.7 cm Q2 10.1 m Q3 41.7° Q4 77°	Q1 3.2 cm Q2 85.6°	Q1 2.2 cm Q2 $(4 + 7\sqrt{6})$ cm Q3 30 Q4 $a = 16, b = 3, c = 9$