1 NUMBER – Further Maths

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Section 1.1

Mark schemes

Q1.

Answer	Mark	Comments
1 : 2 : 5	B3	B2 For any ratio that is one step away from the answer e.g. $\sqrt{12} : 2\sqrt{12} : 5\sqrt{12}$ $\sqrt{1} : \sqrt{4} : \sqrt{25}$ 2 : 4 : 10 B1 For at least two of the three terms in their simplest form i.e. two of $2\sqrt{3} : 4\sqrt{3} : 10\sqrt{3}$ B1 For any correct equivalent ratio e.g. $\sqrt{2} : \sqrt{8} : \sqrt{50}$ $\sqrt{3} : \sqrt{12} : \sqrt{75}$

Q2.

Answer	Mark	Comments
29 and 23 identified	B2	B1 $(n + 9)(n + 3)$ or 667 or 29 or 23

Q3.

Answer	Mark	Comments

1.5t	M1	oe eg1 $t + \frac{50}{100}t$ eg2 $2x = 3t$ eg3 $x : t = 3 : 2$
0.9w	M1	oe eg1 $w - \frac{10}{100}w$ eg2 $10y = 9w$ eg3 $w : y = 10 : 9$
Their 1.5t = their 0.9w	M1dep	Dep on at least one M mark gained oe eg1 $\frac{\text{their } 0.9}{\text{their } 1.5}$ eg2 $15t = 9w$ eg3 w (: x) : t = 10 (: 9) : 6
0.6	A1ft	ft from M1 M0 M1 or M0 M1 M1 SC2 1.6 or 1.67 SC1 $\frac{5}{3}$ oe fraction

Alternative method		
Chooses an appropriate pair of values for x and t eg x = 90 and t = 60	M1	Chooses an appropriate pair of values for y and w eg y = 180 and w = 200
Their 90 = 0.9w (w = 100)	M1	Their 180 = 1.5t (t = 120)
$\frac{\text{their } 60}{\text{their } 100}$	M1dep	Dep on at least one M mark gained $\frac{\text{their } 120}{\text{their } 200}$
0.6	A1ft	ft from M1 M0 M1 or M0 M1 M1 SC2 1.6 or 1.67 SC1 $\frac{5}{3}$ oe fraction

Q4.

	Answer	Mark	Comments
(a)	$\frac{2}{5}n$ **or** $0.4n$	B1	oe

(b)	(10m =) 10 × their $\frac{2}{5}n$ (= 4n)	M1	10 × 2 (= 20) **and** 3 × 5 (= 15)
	4 : 3	A1ft	oe numerical ratio of integers ft their $\frac{2}{5}n$ if used

Q5.

Answer	Mark	Comments
Alternative method 1		
1.2 or $\frac{6}{5}$	M1	oe could be seen in calculation (120% is not M1 – something needs to have been done with it) $\frac{5}{6}$ if used correctly could be an oe. Don't award just for $\frac{5}{6}$ seen
1.2x + 1.2 = x + 6 or 0.2x + 1.2 = 6 or 0.2x = 4.8	M1dep	oe but must have expanded brackets missing brackets need to be recovered
24	A1	

Alternative method 2		
(x + 1) + $\frac{(x+1)}{5}$	M1	oe
$\frac{(x+1)}{5}$ = 5 or (x + 1) = 25	M1dep	oe eg could be written as 20% of (x + 1) = 5
24	A1	

Additional Guidance	
20% = 5 or 100% = 25 1.2(x +1) = x + 6 then 1.2x + 1 = x + 6 would not gain	SC1

second M mark	

Q6.

Answer	Mark	Comments
2 : 1	B2	B1 Ratio equivalent to 2 : 1 or 1 : 2 SC1 Ratio seen that is correctly converted to simplest form

Additional Guidance	
Equivalent ratios may involve decimals or fractions eg 1.8 : 0.9	B1
Equivalent ratios must be a pair of values or a pair of single term expressions in the same variable eg1 36 : 18 eg2 $6b : 3b$ eg3 20 − 2 : 9	 B1 B1 B0
For B1 equivalent ratios to 2 : 1 can be seen as fractions eg $\frac{18}{9}$	B1

Q7.

Answer	Mark	Comments
±25 or ±15 seen	B1	
Using 80% or 20% in a correct calculation eg 0.8 × (16 − −9) or 0.2 × 15 or $\frac{4}{5}$ × 15 or $\frac{1}{5}$ × 25 or $\frac{80}{100}$ × 25	M1	oe eg answers of 5 or 3 or 20 or 12 seen is evidence of a correct calculation
(11, 6)	A2	A1 for each

Q8.

Answer	Mark	Comments

Alternative method 1		
(0.8 × 5x) **or** 4x	M1	oe
(1.3 × 2x) **or** 2.6x	M1	oe
their 4x − their 2.6x = 35	M1dep	oe dep on at least M1 M0 or M0 M1
25	A1	

Alternative method 2		
Two numbers in the ratio 5 : 2 and one correctly evaluated increase or decrease	M1	
Both increase and decrease calculations correctly evaluated	M1dep	dep on the first M1
Trial seen with 125 red and 50 blue or 100 red and 65 blue seen	M1dep	dep on both previous M marks
25	A1	

Q9.

Answer	Mark	Comments
Always true Sometimes true Never true Sometimes true	B4	B1 for each correct answer

Additional Guidance
More than one box selected in a row is B0 for that row
Allow any unambiguous indication of a selection in a row eg uses crosses instead of ticks
Ignore working seen and mark the boxes

Q10.

Answer	Mark	Comments

$b(a - 11)$ or $-b(11 - a)$	M1	Implied by square numbers > 1 used eg1 4(36 − 11) eg2 9(16 − 11)
a = 36 and b = square number > 1 with working for M1 seen	A1	Must be in correct order Allow unprocessed squares eg $a = 6^2$ and $b = 5^2$ SC1 a = 36 and b = square number > 1 without working for M1 seen

Additional Guidance	
$b(a - 11) = 0$ or $b(a - 11)$ with further work	M1
Answer line takes precedence over working lines	
Embedded answer eg 81(36 – 11)	M1A0

Q11.

Answer	Mark	Comments
Alternative method 1		
$1.25 \times 4x$ or $5x$	M1	oe
$0.6 \times 7x$ or $4.2x$	M1	oe
their $5x$ − their $4.2x = 28$ or $0.8x = 28$	M1dep	oe eg their $5x$ = their $4.2x + 28$ dep upon at least one of previous M marks earned
$x = 35$	A1	

Alternative method 2		
two numbers in the ratio 4 : 7	M1	
correct increase by 25% and decrease by 40% calculations **and** comparison with 28	M1dep	If difference is not 28, then first numbers must be clearly rejected
second trial with correct calculations and comparison	M1dep	correct first trial means 2nd and 3rd M marks scored automatically

$x = 35$	A1	

Additional Guidance
Mark the better of their two versions if they try both methods.
In alt 2 ... for the 2nd M1 (dep on 1st M1) ... the % calculations must be correct. If the difference is not 28 they must reject them. Attempting another two % calculations is sufficient evidence of this.
In alt 2 ... for the 3rd M1 (dep on the first two M1s) ... the difference must be closer than their first attempt. They can have more than one attempt at this so as to eventually score the 3rd M1. To score this mark they need to indicate clearly that this further attempt is better than their first attempt.
In alt 2 ... if it isn't clear in which order they have done their attempts (eg very untidy working written all over the page) and they do not indicate which is the better attempt, then they can score a maximum of 2 marks.

Q12.

Answer	Mark	Comments
3 (×) 455 or 5 (×) 273 or 7 (×) 195 or 13 (×) 105 or 15 (×) 91 or 21 (×) 65 or 35 (×) 39 or 3 (×) 5 (×) 7 (×) 13	M1	oe eg 1365 ÷ 5 = 273 Any order Must be integers May be seen in a factor tree or repeated division
3 5 91 or 3 7 65 or 3 13 35 or 5 7 39 or 5 13 21 or 7 13 15	A1	Any order Must be integers

Additional Guidance	
If using division the correct answer must be seen for M1	
Correct answer can be implied by working lines eg 3 (×) 5 (×) 91 with blank answer line	M1A1
Answer line correct	M1A1
Allow inclusion of 1 for M1 eg 1 (×) 3 (×) 455	M1

Q13.

Answer	Mark	Comments
$5m \times (1 - 0.4)$ or $5m \times 0.6$ or $3m$	M1	oe eg $5m - 0.4 \times 5m$ or $5m - 2m$ may be seen in an equation eg $3m = m + 1$
$\frac{1}{2}$ or 0.5	A1	

Additional Guidance	
$2m$ only	M0
$2m = 1$	M1

Q14.

Answer	Mark	Comments
$\frac{1}{3}\pi r^2 \times \frac{5r}{3} = \frac{320}{9}\pi$	M1	oe eg $\frac{5}{9}\pi r^3 = \frac{320}{9}\pi$
$r^3 = \frac{320}{5}$ or $r^3 = 64$ or $\sqrt[3]{64}$	M1dep	oe eg $r^3 = \frac{\frac{320\pi}{9}}{\frac{5\pi}{9}}$
4	A1	SC2 [5.6, 5.623]

Q15.

Answer	Mark	Comments
$\sqrt{\frac{130-49}{130+39}}$ or $\sqrt{\frac{81}{169}}$	M1	
$\pm\frac{9}{13}$	A1	condone $\pm\frac{9}{13}$

Q16.

Answer	Mark	Comments

$\frac{1}{5} \times 3a = \frac{35}{100} \times (a + 6)$	M1	oe
$60a = 35a + 210$ or $\frac{3a}{5} - \frac{35a}{100} = \frac{210}{100}$	M1dep	oe eg $25a = 210$ expands brackets and eliminates fractions or expands brackets and collects terms
$\frac{42}{5}$ or 8.4	A1	oe value

Section 1.2

Mark schemes

Q1.

Answer	Mark	Comments
240	B2	B1 2 × 5 × 4 × 3 × 2 or 2 × 120 or 2 × 5! or 240 seen SC1 answer 120 or 360 or 480 or 600 or 720

Additional Guidance	
Ignore × 1 for B1	
240 in working lines with 60 on answer line	B1
720 in working lines with 1440 on answer line	Zero
Allow dots for multiplication but do not allow addition	

Q2.

Answer	Mark	Comments
5 × …	M1	oe eg listing the 5 possible first

		digits
5 × 5 × 4 × 3	M1dep	
300	A1	SC1 (6 × 5 × 4 × 3 =) 360

Q3.

Answer	Mark	Comments
6 × 5 × 4 × 3 × 2 or 720	M1	oe eg 6! 6 digit numbers
2 × 5 × 4 × 3 × 2 or 240	M1	oe 5 digit numbers
960	A1	

Q4.

Answer	Mark	Comments
18	B3	B2 identifies there are 3 choices for first digit and 3 choices for second digit B1 identifies there are 3 choices for first digit or identifies there is 1 choice for last digit

Section 1.3

Mark schemes

Q1.

Answer	Mark	Comments
1 : 2 : 5	B3	B2 For any ratio that is one step away from the answer e.g. √12 : 2√12 : 5√12 √1 : √4 : √25 2 : 4 : 10

		B1 For at least two of the three terms in their simplest form i.e. two of $2\sqrt{3} : 4\sqrt{3} : 10\sqrt{3}$ B1 For any correct equivalent ratio e.g. $\sqrt{2} : \sqrt{8} : \sqrt{50}$ $\sqrt{3} : \sqrt{12} : \sqrt{75}$

Q2.

Answer	Mark	Comments
$\frac{5\sqrt{2}\,(3\sqrt{6}+7)}{(3\sqrt{6}-7)(3\sqrt{6}+7)}$	M1	
Numerator = $15\sqrt{2}\sqrt{6} + 35\sqrt{2}$	M1dep	oe eg $15\sqrt{12} + 35\sqrt{2}$ or $5\sqrt{2} \times 3\sqrt{6} + 35\sqrt{2}$ dep on the first M1
Denominator = 54 − 49	M1dep	dep on the first M1
$3\sqrt{12} + 7\sqrt{2}$	A1	oe eg $6\sqrt{3} + 7\sqrt{2}$
$\sqrt{108} + \sqrt{98}$	A1	

Q3.

Answer	Mark	Comments
$\sqrt{500} = 10\sqrt{5}$ or $\sqrt{45} = 3\sqrt{5}$	M1	or for $5\sqrt{4}\sqrt{5}$ and $2\sqrt{9}\sqrt{5}$
$4\sqrt{5}$	A1	

Q4.

Answer	Mark	Comments
$(y =) \frac{8}{\sqrt{3}-1}$	M1	oe
$(y =) \frac{8}{(\sqrt{3}-1)} \times \frac{(\sqrt{3}+1)}{(\sqrt{3}+1)}$	M1	
$(y =) \frac{8\sqrt{3}+8}{3-1}$	A1	

$(y =)\ 4\sqrt{3} + 4$	A1	$2\sqrt{3} + 2$ from $\frac{8\sqrt{3} + 8}{3 + 1}$ and $\sqrt{3} + 1$ from $\frac{8\sqrt{3} + 8}{9 - 1}$ both score SC3

Alternative method 1		
$y\sqrt{3} = 8 + y$ and $3y^2 = 64 + 16y + y^2$	M1	Re-arrange and square both sides Allow one error
$y^2 - 8y - 32 = 0$ or $2y^2 - 16y - 64 = 0$ **and** $(y =)\ \frac{8 \pm \sqrt{\{8^2 - 4(1)(-32)\}}}{2(1)}$ or $(y =)\ \frac{16 \pm \sqrt{\{16^2 - 4(2)(-64)\}}}{2(2)}$	M1	Allow one substitution or sign error
$(y =)\ 4 \pm 4\sqrt{3}$	A1	
$(y =)\ 4 + 4\sqrt{3}$	A1	Solution with negative sign must be discounted

Alternative method 2		
$(a + b\sqrt{3})(\sqrt{3} - 1)\ (=8)$	M1	
$a\sqrt{3} + 3b - a - b\sqrt{3}$	M1	
$a = b$	A1	
$(y =)\ 4 + 4\sqrt{3}$	A1	

Q5.

Answer	Mark	Comments
$\sqrt{125} = 5\sqrt{5}$, $\sqrt{20} = 2\sqrt{5}$	M1	allow one error any two of these correct seen

and $\sqrt{80} = 4\sqrt{5}$		anywhere in the working
$(\sqrt{x} =)\ 3\sqrt{5}$	A1	
45	A1	

Q6.

Answer	Mark	Comments
Alternative method 1		
$10^{\sqrt{3}}$	B1	
$\frac{(24 - \text{their } 10\sqrt{3})(4\sqrt{3} + 5)}{(4\sqrt{3} - 5)(4\sqrt{3} + 5)}$	M1	oe
$96\sqrt{3} - 120 + 120 - 50\sqrt{3}$	M1dep	allow one sign error
48 − 25 or 23	M1	
$2^{\sqrt{3}}$	A1	

Alternative method 2		
$\frac{(24 - \sqrt{300})(4\sqrt{3} + 5)}{(4\sqrt{3} - 5)(4\sqrt{3} + 5)}$	M1	
$96\sqrt{3} + 120 - 4\sqrt{900} - 5\sqrt{300}$	M1dep	allow one sign error
$96\sqrt{3} - 120 + 120 - 50\sqrt{3}$	M1	
48 − 25 or 23	M1	
$2^{\sqrt{3}}$	A1	

Additional Guidance
For the 1st M1, multiplying numerator and denominator by $(4\sqrt{3} + 5)$ could legitimately be replaced by $-4\sqrt{3} - 5$ ... almost identical working ... it just changes all the signs on the next lines of working

Q7.

Answer	Mark	Comments
$(-2)^3$ or −8 seen	B1	
$-\sqrt{x}$ = (their −8) − 3 or	M1	

$-\sqrt{x}$ − 11 or $\sqrt{x}$ = 11		
121	A1	

Additional Guidance
-2^3 (no brackets) is B0 unless −8 seen For M1 it must say $\sqrt{x}$ = ... or $-\sqrt{x}$ = ... Note: ... (their −8) cannot be −2 ... and it must be **correct** manipulation from their −8 eg 3 $^{-\sqrt{x}}$ = $(-2)^3$ or $3^{-\sqrt{x}}$ = −8 B1 $\sqrt{x}$ = −11 M0 (error in manipulating terms) x = 121 A0 (correct answer from wrong working)

Q8.

Answer	Mark	Comments
$4-\sqrt{5}+8\sqrt{5}-2\sqrt{5}\sqrt{5}$	M1	oe allow one incorrect term in a four term expansion
$-6+7\sqrt{5}$	A1	

Additional Guidance
Any incorrect further work loses the A mark, so they can only score M1 A0

Q9.

Answer	Mark	Comments
$7+12\sqrt{5}+6(9-2\sqrt{5})$ or $12\sqrt{5}+6(-2\sqrt{5})=0$ or $12\sqrt{5}\div 2\sqrt{5}=6$	M1	oe eg 7 + 6 × 9 or 7 + 54 or 6 × −2 = −12 allow $7+12\sqrt{5}+(n-1)(9-2\sqrt{5})$

or states that need to add 6 lots of $(9-2\sqrt{5})$ or 7th term		with $n = 7$ allow $7+12\sqrt{5}+n(9-2\sqrt{5})$ with $n = 6$

Additional Guidance	
61 in working lines with 7(th) on answer line	M1 A0
If repeatedly adding $(9-2\sqrt{5})$ they must stop after adding 6 lots or clearly select the relevant one	
Answer 6 or 6th term with M1 not seen	M0 A0
Ignore any conversions to decimals	
Beware $(9-2\sqrt{5})(9+2\sqrt{5})=61$	M0 A0

Q10.

Answer	Mark	Comments
$\frac{(21-11\sqrt{5})(3+\sqrt{5})}{(3-\sqrt{5})(3+\sqrt{5})}$	M1	$-3-\sqrt{5}$ condone missing final bracket of $3+\sqrt{5}$ if written in this form. Brackets not needed if written as two separate fractions
Denominator of 4	B1	Would be −4 if $-3-\sqrt{5}$
Numerator $63-33\sqrt{5}+21\sqrt{5}-55$ or $8-12\sqrt{5}$	M1	allow three terms correct in a 4 term expansion. If error appears in 2 or 3 term simplification and 4 term expansion not seen award M0 expansion could be seen in a grid
$2-3\sqrt{5}$ or $-3\sqrt{5}+2$	A1	only if M1 awarded for correct product

Additional Guidance
Correct first A mark and M1dep mark would assume first M mark correct if not seen.

Q11.

Answer	Mark	Comments
Alternative method 1		
$\frac{\sqrt{3}}{3+\sqrt{3}} \times \frac{3-\sqrt{3}}{3-\sqrt{3}}$ or $\frac{\sqrt{3}}{3+\sqrt{3}} \times \frac{\sqrt{3}-3}{\sqrt{3}-3}$	M1	× (3 – √3) can still gain full marks if recovered but doesn't gain M1 if the second M mark isn't awarded
$\frac{3\sqrt{3}-3}{9-3}$	M1dep	oe eg $\frac{3\sqrt{3}-\sqrt{3}\sqrt{3}}{9+3\sqrt{3}-3\sqrt{3}-\sqrt{3}\sqrt{3}}$ or $\frac{3\sqrt{3}-\sqrt{9}}{9+3\sqrt{3}-3\sqrt{3}-\sqrt{9}}$ or $\frac{3\sqrt{3}}{6}-\frac{3}{6}$
$\frac{\sqrt{3}-1}{2}$	A1	oe to something fully simplified eg $\frac{\sqrt{3}}{2}-\frac{1}{2}$ or $\frac{1-\sqrt{3}}{-2}$

Alternative method 2		
$\frac{\sqrt{3}}{3+\sqrt{3}} = \frac{1}{\sqrt{3}+1}$	M1	
$\frac{1}{\sqrt{3}+1} \times \frac{\sqrt{3}-1}{\sqrt{3}-1}$ or $\frac{1}{\sqrt{3}+1} \times \frac{1-\sqrt{3}}{1-\sqrt{3}}$	M1dep	oe ×(√3 − 1) can still gain full marks if recovered but doesn't gain M1 if the A mark isn't awarded
$\frac{\sqrt{3}-1}{2}$	A1	oe eg $\frac{\sqrt{3}}{2}-\frac{1}{2}$ or $\frac{1-\sqrt{3}}{-2}$

Alternative method 3		
$\frac{\sqrt{3}}{3+\sqrt{3}} \times \frac{\sqrt{3}}{\sqrt{3}} = \frac{3}{3\sqrt{3}+3}$	M1	
$\frac{3}{3\sqrt{3}+3} \times \frac{3\sqrt{3}-3}{3\sqrt{3}-3}$ or $\frac{3}{3\sqrt{3}+3} \times \frac{3-3\sqrt{3}}{3-3\sqrt{3}}$	M1dep	oe × (3√3 − 3) can still gain full marks if recovered but doesn't gain M1 if the A mark isn't awarded
$\frac{\sqrt{3}-1}{2}$	A1	oe eg $\frac{\sqrt{3}}{2}-\frac{1}{2}$ or $\frac{1-\sqrt{3}}{-2}$

Additional Guidance	
Penalise further incorrect working	

Q12.

Answer	Mark	Comments
Multiplies numerator and denominator by $\sqrt{3} - 1$	M1	
(denominator =) 2	A1	
(numerator =) $3 - \sqrt{3} - 7\sqrt{3} + 7$ or $10 - 8\sqrt{3}$	M1dep	
$5 - 4\sqrt{3}$	A1	

Q13.

Answer	Mark	Comments
Alternative method 1		
$\sqrt{225} + \sqrt{144}$ or 15 + 12	M1	
27	A1	

Alternative method 2		
$5\sqrt{3} + 4\sqrt{3}$ or $9\sqrt{3}$ or 9 x 3 or 15 + 12	M1	
27	A1	

Q14.

Answer	Mark	Comments
$10\sqrt{6}$ or $3\sqrt{6}$ or $2\sqrt{6}$ or $\frac{\sqrt{100\times6}-\sqrt{9\times6}}{\sqrt{4\times6}}$	M1	
Two of $10\sqrt{6}$ and $3\sqrt{6}$ and $2\sqrt{6}$	M1dep	
$\frac{7}{2}$ or 3.5	A1	oe value

Q15.

Answer	Mark	Comments
Alternative method 1 Works out $\frac{1}{2}\times(6+2\sqrt{7})$		
$\frac{1}{2}\times(6+2\sqrt{7})\times AD$	M1	oe eg $(3+\sqrt{7})\times AD$ or $(3+\sqrt{7})\times AC\sin c$ may be implied
$\frac{13+3\sqrt{7}}{3+\sqrt{7}}\times\frac{3-\sqrt{7}}{3-\sqrt{7}}$	M1	ft their $\frac{13+3\sqrt{7}}{3+\sqrt{7}}$ their denominator must have 2 terms
(numerator =) $39-13\sqrt{7}+9\sqrt{7}-21$ or $18-4\sqrt{7}$	M1dep	ft their numerator which must have 2 terms oe dep on 2nd M1
(denominator =) 2	M1dep	ft their denominator dep on 2nd M1
$9-2\sqrt{7}$	A1	

Alternative method 2 Works out $2\times(13+3\sqrt{7})$		
$\frac{1}{2}\times(6+2\sqrt{7})\times AD$	M1	oe eg $(6+2\sqrt{7})\times AD=(26+6\sqrt{7})$ may be implied

$\frac{26+6\sqrt{7}}{6+2\sqrt{7}} \times \frac{6-2\sqrt{7}}{6-2\sqrt{7}}$	M1	ft their $\frac{26+6\sqrt{7}}{6+2\sqrt{7}}$ their denominator must have 2 terms
(numerator =) $156 - 52\sqrt{7} + 36\sqrt{7} - 84$ or $72 - 16\sqrt{7}$	M1dep	ft their numerator which must have 2 terms oe dep on 2nd M1
(denominator =) 8	M1dep	ft their denominator dep on 2nd M1
$9 - 2\sqrt{7}$	A1	

Alternative method 3 Using identities		
$(6 + 2\sqrt{7}) \times AD = (26 + 6\sqrt{7})$	M1	oe
$(6 + 2\sqrt{7}) \times (a + b\sqrt{7}) = (26 + 6\sqrt{7})$	M1	oe
$6a + 14b = 26$ and $2a + 6b = 6$	M1dep	oe eg $3a + 7b = 13$ and $a + 3b = 3$
$a = 9$ or $b = -2$	M1dep	
$9 - 2\sqrt{7}$	A1	

Additional Guidance	
Alt1 $\frac{18-4\sqrt{7}}{2}$	M4
Alt2 $\frac{72-16\sqrt{7}}{8}$	M4
Omission of $\frac{1}{2}$ can score up to M0M1M1M1A0	
eg $\frac{13+3\sqrt{7}}{6+2\sqrt{7}} \times \frac{6-2\sqrt{7}}{6-2\sqrt{7}}$	M0M1
$\frac{78-26\sqrt{7}+18\sqrt{7}-42}{8}$	M1M1
$4.5 - \sqrt{7}$	A0
(If the $\frac{1}{2}$ is recovered then all 5 marks are possible)	

Missing brackets must be recovered	