

N4 EXPRESSIONS & FORMULAE 1.1

This resource is to support pupils in passing the appropriate National 4 Assessment Standard. The questions and marking schemes used are from SQA past papers and as such test the topics in their entirety from grade A to C and *may* include other areas from the course. In addition the questions from **Paper 1** (P1) should be completed **without** the use of a calculator and questions from **Paper 2** (P2) permit the use of a calculator.

Each Assessment Standard is used to ensure pupils have the minimum competency on the specified sub-skills for the National 4 course. As such each Assessment Standard will test grade C work on that specific topic.

This resource is divided into two sections:

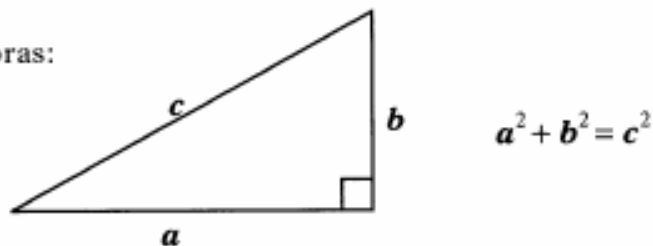
- Section A has an example on each sub skill for the relevant Assessment Standard and the marking scheme for these questions
- Section B has extra practice questions on this Assessment Standard and the marking scheme for these questions

<u>Unit Assessment Standard</u>	<u>Sub skills</u>	Section A – Question Number
Expressions & Formulae 1.1 Applying algebraic skills to manipulating expressions and working with formulae	The sub-skills are: using the distributive law in an expression with a numerical common factor to produce a sum of terms	Q1
	factorising a sum of terms with a numerical common factor	Q2
	simplifying an expression which has more than one variable	Q3
	evaluating an expression or a formulae which has more than one variable	Q4
	extending a straightforward number or diagrammatic pattern and determining its formula	Q5
	calculating the gradient of a straight line from horizontal and vertical distances	Q6

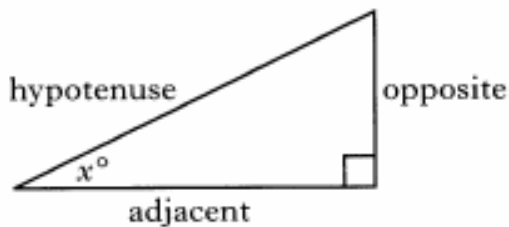
FORMULAE LIST

Circumference of a circle:	$C = \pi d$
Area of a circle:	$A = \pi r^2$
Curved surface area of a cylinder:	$A = 2\pi r h$
Volume of a cylinder:	$V = \pi r^2 h$
Volume of a triangular prism:	$V = Ah$

Theorem of Pythagoras:



Trigonometric ratios
in a right angled
triangle:

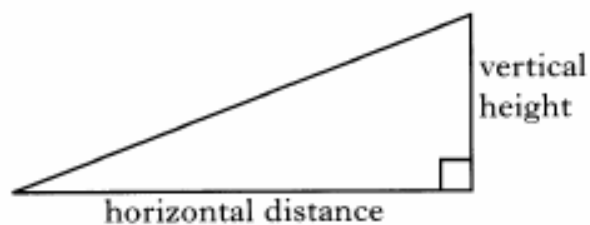


$$\tan x^\circ = \frac{\text{opposite}}{\text{adjacent}}$$

$$\sin x^\circ = \frac{\text{opposite}}{\text{hypotenuse}}$$

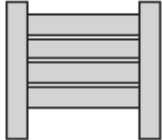
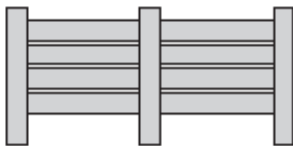
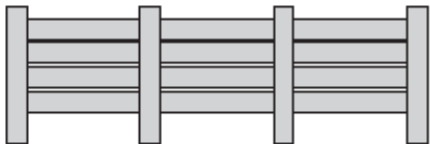
$$\cos x^\circ = \frac{\text{adjacent}}{\text{hypotenuse}}$$

Gradient:



$$\text{Gradient} = \frac{\text{vertical height}}{\text{horizontal distance}}$$

Section A

Q		Marks																
Q1 P2	5. (a) Multiply out the brackets and simplify $5(2m + 7) - m.$	2																
Q2 P2	Factorise $12t + 9u$	2																
Q3	Simplify $3d + 4f - d + 6f$	1																
Q4 P1	9. Evaluate $2gh - w$ when $g = -10$, $h = 4$ and $w = -30$.	3																
Q5 P1	<p>6. A children's play area is to be fenced. The fence is made in sections using lengths of wood, as shown below.</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  </div> <div style="text-align: center;"> <p>1 section</p> </div> </div> <div style="display: flex; justify-content: space-around; align-items: flex-start; margin-top: 20px;"> <div style="text-align: center;">  </div> <div style="text-align: center;"> <p>2 sections</p> </div> </div> <div style="display: flex; justify-content: space-around; align-items: flex-start; margin-top: 20px;"> <div style="text-align: center;">  </div> <div style="text-align: center;"> <p>3 sections</p> </div> </div> <p>(a) Complete the table below.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tbody> <tr> <td style="padding: 5px;">Number of sections (s)</td> <td style="padding: 5px;">1</td> <td style="padding: 5px;">2</td> <td style="padding: 5px;">3</td> <td style="padding: 5px;">4</td> <td style="padding: 5px;">5</td> <td style="padding: 5px; background-color: #cccccc;"></td> <td style="padding: 5px;">12</td> </tr> <tr> <td style="padding: 5px;">Number of lengths of wood (w)</td> <td style="padding: 5px;">6</td> <td style="padding: 5px;">11</td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px; background-color: #cccccc;"></td> <td style="padding: 5px;"></td> </tr> </tbody> </table> <p>(b) Write down a formula for calculating the number of lengths of wood (w), when you know the number of sections (s).</p> <p>(c) A fence has been made from 81 lengths of wood. How many sections are in this fence? You must show your working.</p>	Number of sections (s)	1	2	3	4	5		12	Number of lengths of wood (w)	6	11						<p style="text-align: center;">2</p> <p style="text-align: center;">2</p> <p style="text-align: center;">2</p>
Number of sections (s)	1	2	3	4	5		12											
Number of lengths of wood (w)	6	11																
Q6	Find the gradient of the line AB when A (2,6) and B(6,14)	2																

Section A

MARKING

SCHEME

Section A - Marking Scheme

Q					Marks										
Q1	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Question</th> <th>Expected Answer/s</th> <th>Max Mark</th> <th>Additional Guidance</th> </tr> </thead> <tbody> <tr> <td style="text-align: center; vertical-align: top;">5</td> <td style="text-align: center; vertical-align: top;">a</td> <td> <p>Ans: $9m + 35$</p> <ul style="list-style-type: none"> •¹ multiply out bracket: $10m + 35$ •² collect like terms: $9m + 35$ </td> <td style="text-align: center; vertical-align: top;">2</td> <td> <ol style="list-style-type: none"> 1. Correct answer without working award 2/2 2. 2nd mark is not available if there is invalid subsequent working eg $9m + 35 \rightarrow 44m$ award 1/2 $9m + 35 \rightarrow 35/9$ award 1/2 3. $10m + 35 - 5m = 5m + 35$ ×✓ award 1/2 </td> </tr> </tbody> </table>				Question		Expected Answer/s	Max Mark	Additional Guidance	5	a	<p>Ans: $9m + 35$</p> <ul style="list-style-type: none"> •¹ multiply out bracket: $10m + 35$ •² collect like terms: $9m + 35$ 	2	<ol style="list-style-type: none"> 1. Correct answer without working award 2/2 2. 2nd mark is not available if there is invalid subsequent working eg $9m + 35 \rightarrow 44m$ award 1/2 $9m + 35 \rightarrow 35/9$ award 1/2 3. $10m + 35 - 5m = 5m + 35$ ×✓ award 1/2 	2
Question		Expected Answer/s	Max Mark	Additional Guidance											
5	a	<p>Ans: $9m + 35$</p> <ul style="list-style-type: none"> •¹ multiply out bracket: $10m + 35$ •² collect like terms: $9m + 35$ 	2	<ol style="list-style-type: none"> 1. Correct answer without working award 2/2 2. 2nd mark is not available if there is invalid subsequent working eg $9m + 35 \rightarrow 44m$ award 1/2 $9m + 35 \rightarrow 35/9$ award 1/2 3. $10m + 35 - 5m = 5m + 35$ ×✓ award 1/2 											
Q2	<table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="vertical-align: top;">(b)</td> <td> <p>Ans: $3(4t + 3u)$</p> <ul style="list-style-type: none"> •¹ correct factor •² correct factorisation </td> <td style="vertical-align: top;"> <ul style="list-style-type: none"> •¹ $3()$ or $(4t + 3u)$ •² $3(4t + 3u)$ </td> <td style="text-align: right; vertical-align: bottom;">2K</td> </tr> </tbody> </table>				(b)	<p>Ans: $3(4t + 3u)$</p> <ul style="list-style-type: none"> •¹ correct factor •² correct factorisation 	<ul style="list-style-type: none"> •¹ $3()$ or $(4t + 3u)$ •² $3(4t + 3u)$ 	2K	2						
(b)	<p>Ans: $3(4t + 3u)$</p> <ul style="list-style-type: none"> •¹ correct factor •² correct factorisation 	<ul style="list-style-type: none"> •¹ $3()$ or $(4t + 3u)$ •² $3(4t + 3u)$ 	2K												
Q3	$2d + 10f$				1										

Question		Expected Answer/s	Max Mark	Additional Guidance													
Q4	9	<p>Ans: - 50</p> <ul style="list-style-type: none"> •¹ know to multiply $2 \times (-10) \times 4$: $2 \times (-10) \times 4$ •² multiply three integers correctly (see note 2): $2 \times (-10) \times 4 = -80$ •³ subtract - 30 correctly: $-80 - (-30) = -50$ 	3	<p>1. Correct answer without working award 2/3</p> <p>2. 2nd mark is only available for correctly multiplying at least three of the numbers 2, -10, 4 and -30.</p> <p>3. Some common answers (a) -80 award 2/3 ✓✓× (b) $-80 - 30 = -50$ award 2/3 ✓✓× (c) $-80 - 30 = -110$ award 2/3 ✓✓× (d) $2 \times (-10) \times 4 = 80 \rightarrow 80 - (-30) = 110$ award 2/3 ✓×✓ (e) $2 \times 10 \times 4 = 80 \rightarrow 80 - (-30) = 110$ award 1/3 ××✓ (f) $2 \times (-10) + 2 \times 4 = -12$ award 0/3</p>													
	Q5	6 (a)	<p>Ans:</p> <table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>12</td> </tr> <tr> <td>6</td><td>11</td><td>16</td><td>21</td><td>26</td><td>61</td> </tr> </table> <ul style="list-style-type: none"> •¹ Any 2 correct lengths of wood •² 2 further correct lengths of wood 	1	2	3	4	5	12	6	11	16	21	26	61		<ul style="list-style-type: none"> •¹ Any 2 from 16, 21, 26, 61 •² Remaining 2 from 16, 21, 26, 61 <p style="text-align: right;">2R</p>
		1	2	3	4	5	12										
6		11	16	21	26	61											
(b)	<p>Ans: $w = 5s + 1$</p> <ul style="list-style-type: none"> •¹&•² Correct formula 		<ul style="list-style-type: none"> •¹&•² $w = 5s + 1$ <p style="text-align: right;">2R</p>														
(c)	<p>Ans: $s = 16$</p> <ul style="list-style-type: none"> •¹ Correct strategy to find s •² Correct solution 		<ul style="list-style-type: none"> •¹ $81 = 5s + 1$ •² $s = 16$ <p style="text-align: right;">2R</p>														

	<p>Notes:</p> <p>In part (b)</p> <ul style="list-style-type: none"> (i) For an answer of (=) $5s + 1$ – award 1/2 (ii) Do not penalise bad form eg $w = 6s - (s - 1)$ (iii) A formula in words is not acceptable (iv) For $s = 5w + 1$ – award 0/2 <p>In part (c)</p> <ul style="list-style-type: none"> (i) Solution may be obtained by extending the table (ii) For a final answer of 16 without working – award 0/2 (iii) For $81 \div 5 = 16(\cdot 2)$ – award 1/2 	
<p>Q6</p>	<ul style="list-style-type: none"> • 1 mark for using • 1 mark for correct answer $m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{14 - 6}{6 - 2} = \frac{8}{4} = 2$ <p>Note : 1/2 for gradient of $\frac{1}{2}$.</p>	<p>2</p>

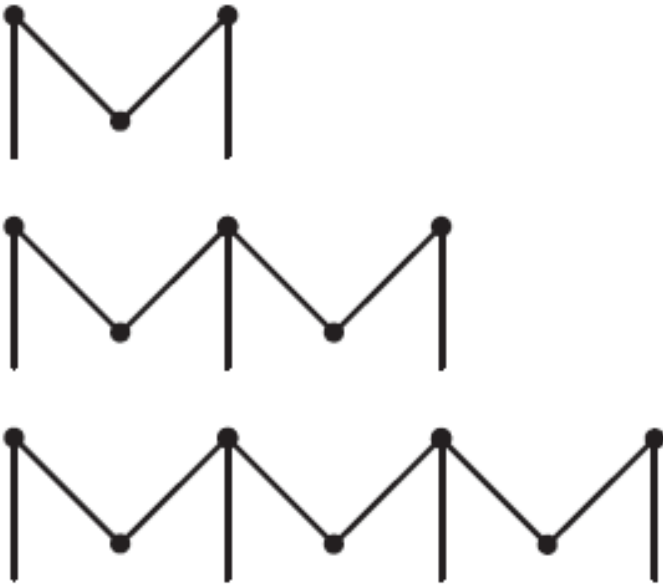
Section B

Section B – Paper 1 – Questions

Q		Marks																
1	<p>3. Samira is designing a chain belt. Each section of the belt is made from metal rings as shown below.</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>1 section, 4 rings</p> </div> <div style="text-align: center;"> <p>2 sections, 9 rings</p> </div> <div style="text-align: center;"> <p>3 sections</p> </div> </div> <p>(a) Complete the table below.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tbody> <tr> <td>Number of sections (s)</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td style="background-color: #cccccc;"></td> <td>11</td> </tr> <tr> <td>Number of metal rings (r)</td> <td>4</td> <td>9</td> <td></td> <td></td> <td></td> <td style="background-color: #cccccc;"></td> <td></td> </tr> </tbody> </table> <p>(b) Write down a formula for calculating the number of rings (r), when you know the number of sections (s).</p> <p>(c) Samira uses 79 rings to make her belt. How many sections does her belt have?</p>	Number of sections (s)	1	2	3	4	5		11	Number of metal rings (r)	4	9						<p>2</p> <p>2</p> <p>2</p>
Number of sections (s)	1	2	3	4	5		11											
Number of metal rings (r)	4	9																

2	Simplify $8t + 2s - 3t + s - 4t$	1
3	Simplify $9n + 8m - 10n + m$	1
4	Simplify $7a - 3b + 4a + 9b$	1

Section B – Paper 2 – Questions

Q		Marks														
5	<p>4. Mhairi makes necklaces in M-shapes using silver bars.</p>  <p>(a) Complete the table below.</p> <table border="1"> <tbody> <tr> <td>Number of M-shapes (m)</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td></td> <td>15</td> </tr> <tr> <td>Number of bars (b)</td> <td>4</td> <td>7</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>(b) Write down a formula for calculating the number of bars (b) when you know the number of M-shapes (m).</p> <p>(c) Mhairi has 76 silver bars. How many M-shapes can she make?</p>	Number of M-shapes (m)	1	2	3	4		15	Number of bars (b)	4	7					<p>2</p> <p>2</p> <p>2</p>
Number of M-shapes (m)	1	2	3	4		15										
Number of bars (b)	4	7														

6	<p>6. (a) Simplify</p> $8(c - 3) + 5(c + 2).$	3
7	<p>8. (b) Factorise fully</p> $20x - 12y.$	2
8	<p>5. (a) Factorise</p> $6c - 15d.$	2
	<p>(b) Simplify</p> $5(a + 1) + 2(5 - 2a).$	2
9	<p>3. Multiply out the brackets and simplify</p> $4(2 - 3x) + 5(4x + 1).$	3
10	<p>4. Factorise</p> $15a + 12.$	2
11	<p>2. (a) Multiply out the brackets and simplify</p> $6(2n - 3) + 11.$	2
	<p>(b) Factorise</p> $20s + 45.$	2
12	<p>10. Use the formula below to find the value of S when $n = 25$, $a = 1.5$, and $L = 6.3$.</p> $S = \frac{n(a + L)}{2}$	3

Section B

MARKING

SCHEME

Section B – Paper 1 – Marking Scheme

Q		Marks																		
1	<p>3 (a) Ans:</p> <table border="1" style="margin-left: 20px; border-collapse: collapse; text-align: center;"> <tr> <td style="padding: 2px;">Number of sections (s)</td> <td style="padding: 2px;">1</td> <td style="padding: 2px;">2</td> <td style="padding: 2px;">3</td> <td style="padding: 2px;">4</td> <td style="padding: 2px;">5</td> <td style="padding: 2px;">11</td> </tr> <tr> <td style="padding: 2px;">Number of metal rings (r)</td> <td style="padding: 2px;">4</td> <td style="padding: 2px;">9</td> <td style="padding: 2px;">14</td> <td style="padding: 2px;">19</td> <td style="padding: 2px;">24</td> <td style="padding: 2px;">54</td> </tr> </table> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; border-right: 1px solid black; padding: 5px;"> <ul style="list-style-type: none"> •¹ any two correct number of rings •² two further correct number of rings </td> <td style="width: 50%; padding: 5px;"> <ul style="list-style-type: none"> •¹ any two from 14, 19, 24, 54 •² remaining two from 14, 19, 24, 54 </td> </tr> <tr> <td style="text-align: right; padding: 5px;">2R</td> <td style="text-align: right; padding: 5px;">2</td> </tr> </table>	Number of sections (s)	1	2	3	4	5	11	Number of metal rings (r)	4	9	14	19	24	54	<ul style="list-style-type: none"> •¹ any two correct number of rings •² two further correct number of rings 	<ul style="list-style-type: none"> •¹ any two from 14, 19, 24, 54 •² remaining two from 14, 19, 24, 54 	2R	2	2
	Number of sections (s)	1	2	3	4	5	11													
	Number of metal rings (r)	4	9	14	19	24	54													
	<ul style="list-style-type: none"> •¹ any two correct number of rings •² two further correct number of rings 	<ul style="list-style-type: none"> •¹ any two from 14, 19, 24, 54 •² remaining two from 14, 19, 24, 54 																		
2R	2																			
<p>(b) Ans: $r = 5s - 1$</p> <ul style="list-style-type: none"> •¹⁺² correct formula 	<ul style="list-style-type: none"> •¹⁺² $r = 5s - 1$ 	2R 2																		
<p>(c) Ans: 16</p> <ul style="list-style-type: none"> •¹ correct strategy to find s •² correct solution 	<ul style="list-style-type: none"> •¹ $79 = 5s - 1$ •² $s = 16$ 	2R 2																		
<p>NOTES:</p> <p>(b) for (:) $5s-1$ award 1/2</p> <p>(c) solution may be obtained by extending table</p>																				

2 $9t + 3s$

1

3 $-n + 9m$

OR

$9m - n$

1

4 $11a + 6b$

1

Section B – Paper 2 – Marking Scheme

Q			Marks
5	4 (a)	<p>Ans: 10, 13, 46</p> <p>•¹ Two entries correct</p> <p>•² A further entry correct</p>	<p>•¹ e.g. 10, 13</p> <p>•² e.g. 46</p> <p style="text-align: right; font-size: 2em;">2</p>
	(b)	<p>Ans: $b = 3m + 1$</p> <p>•¹&•² Correct formula</p>	<p>•¹&•² $b = 3m + 1$</p> <p style="text-align: right; font-size: 2em;">2</p>
	(c)	<p>Ans: 25</p> <p>•¹ Correct strategy to find b</p> <p>•² Correct solution</p>	<p>•¹ $3m + 1 = 76$</p> <p>•² 25</p> <p style="text-align: right; font-size: 2em;">2</p>
<p>Notes:</p> <p>In part (b)</p> <p>(i) For an answer of $(=) 3m + 1$ – award 1/2</p> <p>(ii) Do not penalise bad form e.g. $b = 4m - (m - 1)$</p> <p>(iii) A formula in words is not acceptable</p> <p>(iv) For $m = 3b + 1$ – award 0/2</p> <p>In part (c)</p> <p>(i) Solution may be obtained by extending the table</p> <p>(ii) For a final answer of 25 without working – award 2/2</p> <p>(iii) For $76 \div 3 = 25(.3)$ – award 1/2</p> <p>(iv) For $76 \times 3 + 1 = 229$ – award 0/2</p>			

<p>6</p>	<p>6 (a) Ans: $13c - 14$</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;"> <p>•¹ correct expansion of 1st bracket</p> </td> <td style="width: 50%; padding: 5px;"> <p>•¹ $8c - 24$</p> </td> </tr> <tr> <td style="padding: 5px;"> <p>•² correct expansion of 2nd bracket</p> </td> <td style="padding: 5px;"> <p>•² $5c + 10$</p> </td> </tr> <tr> <td style="padding: 5px;"> <p>•³ correct simplification</p> </td> <td style="padding: 5px;"> <p>•³ $13c - 14$</p> </td> </tr> </table>	<p>•¹ correct expansion of 1st bracket</p>	<p>•¹ $8c - 24$</p>	<p>•² correct expansion of 2nd bracket</p>	<p>•² $5c + 10$</p>	<p>•³ correct simplification</p>	<p>•³ $13c - 14$</p>	<p>3</p>
<p>•¹ correct expansion of 1st bracket</p>	<p>•¹ $8c - 24$</p>							
<p>•² correct expansion of 2nd bracket</p>	<p>•² $5c + 10$</p>							
<p>•³ correct simplification</p>	<p>•³ $13c - 14$</p>							
<p>7</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;"> <p>5 (a) Ans: $3(2c - 5d)$</p> <p>•¹ correct common factor</p> <p>•² correct factorisation</p> </td> <td style="width: 50%; padding: 5px;"> <p>•¹ $3 (\dots)$</p> <p>•² $(2c - 5d)$</p> </td> </tr> <tr> <td style="padding: 5px;"> <p>(b) Ans: $a + 15$</p> <p>•¹ correct multiplication of 1st bracket</p> <p>•² correct multiplication of 2nd bracket</p> <p>•³ correct solution</p> </td> <td style="padding: 5px;"> <p>•¹ $5a + 5$</p> <p>•² $10 - 4a$</p> <p>•³ $a + 15$</p> </td> </tr> </table>	<p>5 (a) Ans: $3(2c - 5d)$</p> <p>•¹ correct common factor</p> <p>•² correct factorisation</p>	<p>•¹ $3 (\dots)$</p> <p>•² $(2c - 5d)$</p>	<p>(b) Ans: $a + 15$</p> <p>•¹ correct multiplication of 1st bracket</p> <p>•² correct multiplication of 2nd bracket</p> <p>•³ correct solution</p>	<p>•¹ $5a + 5$</p> <p>•² $10 - 4a$</p> <p>•³ $a + 15$</p>	<p>2</p> <p>3</p>		
<p>5 (a) Ans: $3(2c - 5d)$</p> <p>•¹ correct common factor</p> <p>•² correct factorisation</p>	<p>•¹ $3 (\dots)$</p> <p>•² $(2c - 5d)$</p>							
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11	2	a	<p>Ans: $12n - 7$</p> <ul style="list-style-type: none"> •¹ multiply out bracket: $12n - 18$ •² collect like terms: $12n - 7$ 	2	<ol style="list-style-type: none"> 1. Correct answer without working award 2/2 2. 2nd mark is not available if there is invalid subsequent working eg $12n - 7 \rightarrow 5n$ award 1/2 $12n - 7 \rightarrow 7/12$ award 1/2 	2
	2	b	<p>Ans: $5(4s + 9)$</p> <ul style="list-style-type: none"> •¹ identify common factor: 5 or $4s + 9$ •² factorise: $5(4s + 9)$ 	2	<ol style="list-style-type: none"> 1. $20(s + 2 \cdot 25), 10(2s + 4 \cdot 5)$ award 1/2 	2
12	10		<p>Ans: $97 \cdot 5$</p> <ul style="list-style-type: none"> •¹ know how to evaluate numerator: $25 \times (1 \cdot 5 + 6 \cdot 3)$ or $25 \times 1 \cdot 5 + 25 \times 6 \cdot 3$ •² evaluate numerator: 195 •³ divide numerator by 2 correctly: $195 \div 2 = 97 \cdot 5$ 	3	<ol style="list-style-type: none"> 1. Correct answer without working award 3/3 2. Some common answers (working must be shown) <ul style="list-style-type: none"> (a) $116 \cdot 25 [(25 \times 1 \cdot 5) + (25 \times 6 \cdot 3) \div 2]$ $= 37 \cdot 5 + 157 \cdot 5 \div 2$ $= 37 \cdot 5 + 78 \cdot 75$ award 2/3 ✓✓× (b) $48 \cdot 75 [(25 \times 7 \cdot 8) \div 2 = 12 \cdot 5 \times 3 \cdot 9]$ award 2/3 ✓✓× (c) $21 \cdot 9 [(25 \times 1 \cdot 5 + 6 \cdot 3) \div 2]$ award 2/3 ×✓✓ (d) $40 \cdot 65 [25 \times 1 \cdot 5 + 6 \cdot 3 \div 2]$ award 1/3 ×✓× (e) $16 \cdot 4 [(25 + 1 \cdot 5 + 6 \cdot 3) \div 2]$ award 1/3 ××✓ (f) $118 \cdot 125 [25 \times 1 \cdot 5 \times 6 \cdot 3 \div 2]$ award 0/3 (g) $29 \cdot 65 [25 + 1 \cdot 5 + 6 \cdot 3 \div 2]$ award 0/3 	3