

Forming and Solving Equations

November 2022 Paper 1

Question	Answer	Mark	Mark scheme	Additional guidance
16	19	P1	for process of finding perimeter in terms of x , eg $2x - 5 + x + 1 + x - 1 + 2x$ oe	<p>This mark may be awarded for a correct but unsimplified equation, eg. $2x - 5 + x + 1 + x - 1 + 2x = 52$ oe</p> <p>Trial & Improvement attempts must be fully correct giving $x = 9.5$ before any credit given</p> <p>a, b and c must be clearly stated but need not be correct</p>
		P1	for process to form equation, eg " $6x - 5$ " = 52	
		P1	(dep on P2) for a correct process to find x , eg $(52 + 5) \div 6 (= 9.5)$ or for a correct process to find $2x$, eg $(52 + 5) \div 3$	
		A1	or fit an equation of the form $ax + b = c$, cao	

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24	2400	P1	for setting up an equation in x eg $x + (3x + 1) + (2x - 5) = 44$ or $6x - 4 = 44$ or $x = 48 \div 6 (= 8)$	
		P1	for substituting “8” into either $(3x + 1)$ or $(2x - 5)$ eg $3 \times “8” + 1 (= 25)$ or $2 \times “8” - 5 (= 11)$	
		P1	for finding the mass of one book eg $7500 \div “25” (= 300)$	
		P1	for finding the mass of the books on shelf A eg “300” \times “8”	
		A1	cao	

June 2023 Paper 2

Question	Answer	Mark	Mark scheme	Additional guidance
24	1.25	<p>P1</p> <p>P1</p> <p>P1</p> <p>A1</p>	<p>for finding an expression for the area of one shape, eg $\frac{1}{2} \times 8 \times 6x (= 24x)$ or $5(4x - 1) (= 20x - 5)$ oe</p> <p>for finding an expression for the area of both shapes, eg $\frac{1}{2} \times 8 \times 6x$ and $5(4x - 1)$ oe or [area of triangle] – 10 or [area of rectangle] + 10 oe or [area of triangle] – [area of rectangle]</p> <p>for writing a correct equation, eg $\frac{1}{2} \times 8 \times 6x = 5(4x - 1) + 10$ oe or (dep on 1st P1) eg [area of triangle] – 10 = [area of rectangle] or [area of triangle] = [area of rectangle] + 10 or [area of triangle] – [area of rectangle] = 10</p> <p>for 1.25 oe</p>	<p>Condone missing brackets for area of rectangle for all process marks</p>

June 2022 Paper 3

Question	Answer	Mark	Mark scheme	Additional guidance
24	1.5	<p>P1</p> <p>P1</p> <p>P1</p> <p>P1</p> <p>A1</p>	<p>for process to develop 3 algebraic expressions, eg. (R =) n, (S =) $2n$, (T =) $2n - 6$, oe, at least two must be correct. or for selecting 3 values satisfying the given criteria, eg. (R =) 10, (S =) 20, (T =) 14</p> <p>for process to sum 3 algebraic expressions and equating to 54, eg. $n + "2n" + "2n - 6" = 54$ or for finding the correct sum of their values eg. $"10" + "20" + "14" = 44$</p> <p>for start of process to solve the correct linear equation, eg. $5n = 54 + 6$ ($n = 12$) or for 12, 24, 18</p> <p>for "12" : $2 \times "12" - 6$ oe eg 12 : 18 oe or 18 : 12 linked to T, R</p> <p>for 1.5 or $\frac{3}{2}$ or $1\frac{1}{2}$</p>	<p>Accept 1 : 1.5 etc as answer</p>

November 2021 Paper 3

Question	Answer	Mark	Mark scheme	Additional guidance
25	12	P1 P1 A1	for a process to find the fifth term eg $3a + 5a (=8a)$ for setting up the equation eg $a + 2a + 3a + 5a + [8a] = 228$ cao	[8a] allow use of what is clearly indicated as the missing term $\frac{228}{19}$ or $\frac{228}{1+2+3+5+8}$ scores P1 P1 $\frac{228}{1+2+3+5+[8]}$ scores P0 P1