Substitution

November 2022 Paper 2

Question	Answer	Mark	Mark scheme	Additional guidance
8	315	M1 A1	for 45 × 7 cao	

Question	Answer	Mark	Mark scheme	Additional guidance
12 (a)(i)	26	M1	for substitution eg $2 \times 3 + 4 \times 5$ or $6 + 20$	
		A1	cao	
(ii)	13	M1	for substitution eg $38 = 2g + 4 \times 3$ **or** a complete numerical method eg $(38 - 4 \times 3) \div 2$ **or** for a correct first step to rearrange eg $P - 4h = 2g$ or $\frac{P}{2} = g + \frac{4h}{2}$ oe	
		A1	cao	
(b)	–11	M1	for $3 \times -3 = -9$ oe **or** a full substitution eg $(3 \times -3) - 2$	Condone absence of brackets
		A1	cao	

Question	Answer	Mark	Mark scheme	Additional guidance
13 (a)	6*cd*	B1	for 6*cd* or 6*dc* or *cd*6 oe	Inclusion of × scores B0, eg 6 × *cd* oe
(b)	– 5	M1	for 3 + 2 × – 4 (= 3 – 8)	
		A1	cao	

June 2022 Paper 1

Question	Answer	Mark	Mark scheme	Additional guidance
14	19	M1 A1	for a correct substitution, eg (y =) $6 \times 4 - 5$ cao	

June 2020 Paper 2

Question	Answer	Mark	Mark scheme	Additional guidance
15 (a)	–13	M1	for substitution eg 3×5 and 4×-7 **or** 15 and –28	3×5 (= 15) and 4×-7 (= –28) may be seen separately but both must be seen for the award of M1
		A1	cao	35 and 4–7 do not get the mark unless multiplication is shown eg 35 = 15 is evidence of multiplication and should not be seen as choice
(b)	5	M1	for $38 = 3 \times 6 + 4y$ **or** $38 - 18$ (=20) **or** for a complete method to make y the subject eg $y = \frac{T - 3x}{4}$	eg $y = (T - 3x) \div 4$
		A1	cao	

Question	Answer	Mark	Mark scheme	Additional guidance
22	4	M1 A1	for method to use formula, eg 72 ÷ 6 (= 12) or 72 ÷ 9 (= 8) cao	Can be implied by $\frac{72}{6}$ or $\frac{72}{9}$

Question	Answer	Mark	Mark scheme	Additional guidance
23 (a)	25	M1	for $(T =) 4 \times (-3)^2 - 11$ or $4 \times (-3)^2 = 36$	Can accept missing brackets
		A1	cao	
(b)	$p = \frac{d-4}{3}$ oe	M1	for a correct first step, eg. $d - 4 = 3p$ or $\frac{d}{3} = p + \frac{4}{3}$ or for $\frac{d-4}{3}$ as answer	May be in unsimplified form, eg $d - 4 = 3p + 4 - 4$
		A1	for $p = \frac{d-4}{3}$ oe	

Question	Answer	Mark	Mark scheme	Additional guidance
29 (a)	15	M1	for correct substitution, eg $40 - (-5)^2$	Condone missing brackets
		A1	cao	
(b)	$h = 3p + 5$	M1	for a correct first step, eg $3p = h - 5$ **or** for isolating the $\frac{h}{3}$ term, eg $p + \frac{5}{3} = \frac{h}{3}$	Award M1 for $3p + 5$ without seeing $h = 3p + 5$
		A1	for $h = 3p + 5$ oe eg $h = 3\left(p + \frac{5}{3}\right)$	