

Substitution into Formulae

Mark Scheme

1. (6).....6
(12).....9
20.....(13) 4
(13-3) × 2
- BI for output 6*
BI for output 9
MI for (13 - 3) × 2
AI for input 20
- [4]
2. 5
9
8 3
- BI cao*
BI cao
BI cao
- [3]
3. (a) -5 2
 $2 \times 5 + 5 \times -3 = 10 - 15 =$
MI substitute e.g 2×5 and 5×-3 or 10 and -15
AI cao
- (b) 73 3
 $5 \times 4^2 - 7$
 $5 \times 16 - 7$
MI substitution e.g $5 \times 4^2 - 7$; do not accept $54^2 - 7$
MI $5 \times 16 - 7$ or $5 \times 4 \times 4 - 7$ or $80 - 7$ (NB 4^2 as 4×4)
AI cao
- [5]
4. (a) $2 \times -5 + 3 \times 5$
7 2
MI for 2×-4 or $-4 - 4$ or 3×5
or $5+5+5$ or -8 or 15
AI cao
- (b) $40 = 2m + 30$
5 2
MI for $40 = 2m + 30$ or $40 = 2 \times 5 + 30$
or $40 = 10 + 30$ or $2m = 10$
AI cao
- [4]

5.	$10 + 10 \times 7$ 80	<i>M1 for $10 + 10 \times 7$</i> <i>A1 for 80 cao</i>	2	[2]
6.	(a) 30 (b) 65 $20 \times 3 + 5$	<i>B1 for 30</i> <i>M1 for $20 \times 3 + 5$ oe</i> <i>A1 for 65</i>	1 2	[3]
7.	9 $5 \times 3 - 3 \times 2$	<i>M1 $5 \times 3 - 3 \times 2$</i> <i>A1 cao</i>	2	[2]
8.	£3.15 35×9	<i>M1 for 35×9 OR 0.35×9 or digits 315</i> <i>A1 cao</i>	2	[2]
9.	39 $15 + (12 \times 2)$	<i>M1 for valid method that leads to correct answer</i> <i>A1</i>	2	[2]
10.	(a) $21 + 6 \times 5$ 51	<i>M1 for 6×5 or 30 seen</i> <i>A1</i>	2	
	(b) $32 + 4 \times 7$ 60	<i>M1 for 4×7 or 28 seen</i> <i>A1</i>	2	[4]