Algebra answers

Q1.

Award **ONE** mark for any pair of whole numbers less than 10 that satisfy the equation, i.e.

$x = 8$ **AND** $y = 6$

OR

$x = 6$ **AND** $y = 7$

OR

$x = 4$ **AND** $y = 8$

OR

$x = 2$ **AND** $y = 9$

Q2.

27

Q3.

$y = 8$

$x = 9$

Q4.

Award **TWO** marks for the correct answer of 7, even if the working is incorrect.

If answer is incorrect, award **ONE** mark for working that shows evidence of attempt to solve by collecting like terms, eg:

- 2N = 10
- 8N = 14

Q5.

Award **TWO** marks for the correct answer of 1/2 OR 0.5

If answer is incorrect, award **ONE** mark for evidence of appropriate method which results in:

- $8t = 4$, or equivalent.

Q6. 16

Q7.

Award **TWO** marks for the correct answer of 4.5
OR 4½ **OR** $^{9}/_{2}$ **OR** $^{27}/_{6}$.

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, eg:

***x* = 27 ÷ 6**

Accept any equivalent to $^{9}/_{2}$

*Calculation need not be performed for the award of **ONE** mark, but the method shown must be capable of producing the correct answer.*

*Accept for the award of **ONE** mark evidence of trial and improvement leading to an incorrect answer, even though this is an inappropriate method of solving linear equations, eg:*

6 × 5 – 27 = 3

6 × 4 – 27 = –3

***x** = incorrect answer between 4 and 5*

Q8.

Award **TWO** marks for all three boxes correct as shown below.

	$4n + 6$	
$n + 3$		
		$7n$

If only two boxes are correct, award **ONE** mark.

***No marks** are awarded for only one correct box.*

Accept '1n' for 'n'.
Accept '7n + 0' for '7n' and similar alternatives.
Accept '3 + n' for 'n + 3' and similar alternatives.

Extension

Q9.

Award **TWO** marks for the correct answer of 1½ **OR** 1.5

Accept equivalent fractions, eg $\frac{3}{2}$

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method,
eg algebraic manipulation to reach

$2t = 3$

OR trial and improvement showing at least two convergent attempts or two attempts which straddle the correct value.

Calculation need not be completed for the award of the mark.

Q10.

Award **TWO** marks for the correct answer of 0.25 OR ¼

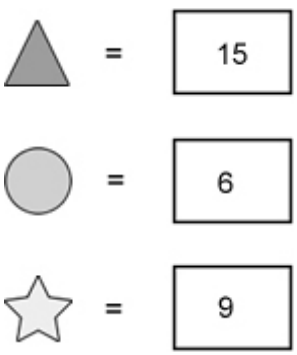
If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, eg algebraic manipulation to reach

$4y = 1$ **OR** $-4y = -1$

OR trial and improvement showing at least two convergent attempts **OR** trials with two values that differ by less than1 and which straddle the correct value.

Q11.

Award **ONE** mark for three correct numbers, as shown.



Q12.

Second box only ticked correctly, as shown:

number of tickets × 3 + 24	☐
number of tickets × 24 + 3	✓
number of tickets + 3 × 24	☐
number of tickets + 24 × 3	☐

Accept alternative unambiguous positive indication of the correct answer, e.g. Y.