

The following marks are awarded for each question.

B	Unconditional accuracy mark
M	Method mark – the correct method must be shown but there may be an arithmetic error; the sight of the value given in brackets implies the award of the method mark
A	Accuracy mark – unless the question specifies that working must be shown then the sight of the correct answer implies the award of full marks (unless the answer clearly comes from incorrect working)
C	Communication mark
P	Process mark to show correct process for problem solving. Any other process of a similar standard to achieve an accurate result is acceptable to achieve this mark
FT	Incorrect values may be followed through from one step to the next provided that the correct method is seen in each step and the only errors are arithmetic. This is shown in mark schemes by putting a number in inverted commas
OE	Or equivalent answer mark

Q	Answer	Mark	Comment
1a	B and G	B1	any order
1b	H	B1	
3a	Shape R drawn	B1	accept any orientation
3b	Shape V drawn	B1	for at least five sides correctly enlarged
		B1	accept any scale factor other than 1, any orientation

5a	9	M1	for $15 \div 5 \times 3$ OE
		A1	accept 9 cm
5b	1 : 9	M1	for 3^2 or for 3×5 : "9" $\times 15$ OE, e.g. 15:135 or 9:1 or $\frac{1}{9}$, 1 in 9, etc.
		A1	
7a	10 (cm)	M1	for $\frac{x}{2.5} = \frac{12}{3}$ OE
		A1	
7b	2 (cm)	M1	for $\frac{y}{8} = \frac{3}{12}$ OE
		A1	
9a	Full explanation	C1	for two angles equal with reason, e.g. $\angle ACB = \angle BDE$ <i>alternate angles equal</i>
		C1	for another two angles equal with reason, e.g. $\angle ABC = \angle EBD$ <i>vertically opposite angles equal</i> and statement for similarity, e.g. if two angles are the same the third angle must also be the same so triangles are similar
9b	21 (cm)	M1	for, e.g. $\frac{BD}{7} = \frac{18}{6}$ OE
		A1	
9c	8 (cm)	M1	for, e.g. $\frac{AC}{24} = \frac{6}{18}$ OE
		A1	

11a	$\begin{pmatrix} 7 \\ 4 \end{pmatrix}$	B2	B1 for $\begin{pmatrix} 7 \\ k \end{pmatrix}$ or $\begin{pmatrix} k \\ 4 \end{pmatrix}$
11b	$\begin{pmatrix} 2 \\ -5 \end{pmatrix}$	B2	B1 for $\begin{pmatrix} 2 \\ k \end{pmatrix}$ or $\begin{pmatrix} k \\ -5 \end{pmatrix}$
13a	3p drawn	B1	Must be 3 times the length with direction shown
13b	p + q drawn	M1	for p and q drawn, touching at one point
		A1	for vector $\begin{pmatrix} 6 \\ -1 \end{pmatrix}$ drawn with direction shown

15a		B2	B1 for a translation of $\begin{pmatrix} 4 \\ k \end{pmatrix}$ or $\begin{pmatrix} k \\ -2 \end{pmatrix}$
15b		B2	B1 for a translation of $\begin{pmatrix} -2 \\ k \end{pmatrix}$ or $\begin{pmatrix} k \\ 3 \end{pmatrix}$

Question	Topic	Step	Mark
1a	Use the basic congruence criteria for triangles (SSS, SAS, ASA, RHS)	4th	1
1b	Use the basic congruence criteria for triangles (SSS, SAS, ASA, RHS)	4th	1
3a	Use the basic congruence criteria for triangles (SSS, SAS, ASA, RHS)	4th	1
3b	Enlarge a given shape using a whole number scale factor (without a centre of enlargement)	4th	2
5a	Enlarge a given shape using a whole number scale factor (without a centre of enlargement)	4th	2
5b	Use ratio notation	4th	2
7a	Know that enlargements of 2D shapes produce similar shapes	7th	2
7b	Know that enlargements of 2D shapes produce similar shapes	7th	2
9a	Derive the fact that base angles of isosceles triangles are equal	8th	2
9b	Derive the fact that base angles of isosceles triangles are equal	8th	2
9c	Derive the fact that base angles of isosceles triangles are equal	8th	2
11a	Add and subtract column vectors	8th	2
11b	Add and subtract column vectors	8th	2
13a	Understand and use vector notation	7th	1
13b	Understand and use vector notation	7th	2
15a	Use 2D Vector notation for translation	7th	2
15b	Use 2D Vector notation for translation	7th	2

Marks to Steps conversion table