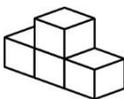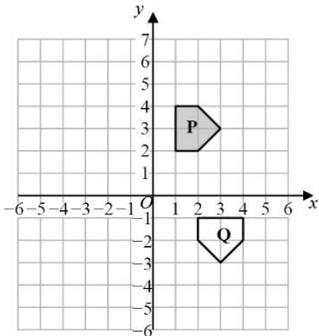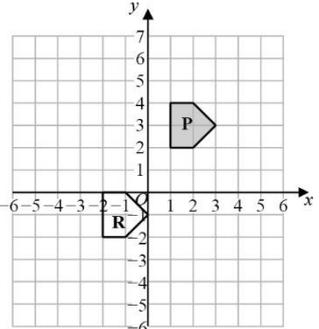# Mark scheme   H   UNIT 8

This test is non-calculator (50 minutes)

The following marks are awarded for each question.
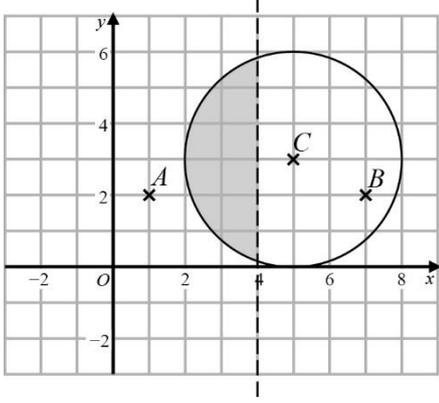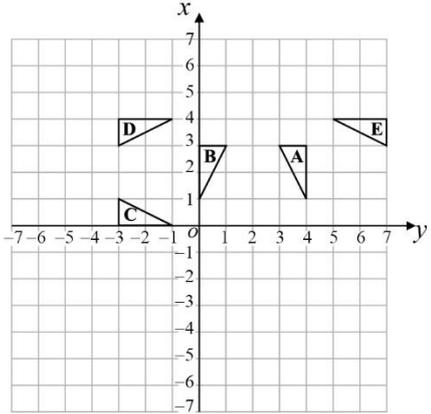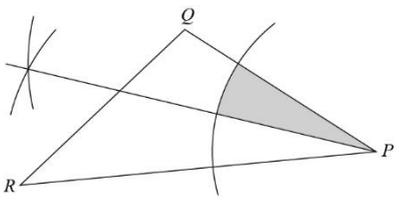
B	Unconditional accuracy mark
M	Method mark – the correct method must be shown but there may be an arithmetic error; the sight of the value given in brackets implies the award of the method mark
A	Accuracy mark – unless the question specifies that working **must** be shown then the sight of the correct 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

This Higher assessment may include a low step question that may not appear in the text books as it is assumed knowledge. It is included here to reflect the content of GCSE assessments

Q	Answer	Mark	Comment
1		B2	B1 for a correct sketch with other incorrect sketch(es) or for attempt to draw prism with correct cross section or with correct plan and side elevation
3a	correct triangle with arcs	B2	B1 for correct triangle, no arcs
3b	correct perpendicular bisector with two pairs of correct intersecting arcs	B2	B1 for correct perpendicular bisector, without two pairs of intersecting arcs

Q	Answer	Mark	Comment
5a		B2	B1 for correct orientation or rotation 90° anticlockwise, centre O

5b		B2	B1 for translation $\begin{pmatrix} -3 \\ k \end{pmatrix}$ or $\begin{pmatrix} k \\ -4 \end{pmatrix}$
7	$(-9, 13)$	B2	B1 for $(-9, c)$ or for $(k, 13)$

9a		B1	for line $x = 4$ with line $9\,cm$
9b		B1	for circle, centre C, radius $3\,cm \pm 2\,mm$
9c	correct region	B1	for "correct region" shaded (i.e. minor segment between circle and line) FT vertical line in part **a** and circle centre *C* in part **b**
11	No with correct supporting evidence	M1	for the correct position of **B** or **D**
		M1	for the correct position of **C** or **E**
		A1	e.g. showing **C** and **E** in the correct position and labelled
13		B1	for bisector of $< QPR$ with arcs from *P*
		B1	for circle, centre *P*, radius $4\,cm \pm 2\,mm$
		B1	for "correct region" shaded FT angle bisector in **a** and circle centre *P* in **b**. (Ignore shading outside triangle)
15	line from *P* perpendicular to the line *AB* with relevant pair of intersecting arcs $(\pm 2°)$	B2	B1 for a line from *P* perpendicular to the line *AB* with no arcs)

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Question	Topic	Step	Mark
1	Analyse 3D shapes through cross-sections, plans and elevations	6th	2
3a	Use straight edge and compasses to construct a triangle given three sides (SSS)	6th	2
3b	Use straight edge and compasses to construct the perpendicular bisector of a line	6th	2
5a	Rotate shapes about (0,0) given an angle of 90º ,180º or 270º and direction of turn	5th	2
5b	Translate a shape using a vector	7th	2
7	Know the coordinates of points after they have been reflected in the x axis, y axis and line y = -x without a diagram	8th	2
9a	Draw the locus equidistant between two points or from a point	7th	1
9b	Draw the locus equidistant between two points or from a point	7th	1
9c	Shade regions given two or more loci rules	9th	1
11	Transform 2D shapes by a more complex combinations of rotations, reflections and translations, e.g. a reflection, followed by a rotation etc.	8th	3
12c	Mark on a diagram the position of point B given its bearing from the point A	7th	2
13	Shade regions given two or more loci rules	9th	3
15	Use straight edge and compass to construct the perpendicular from or to a point on a line segment	7th	2