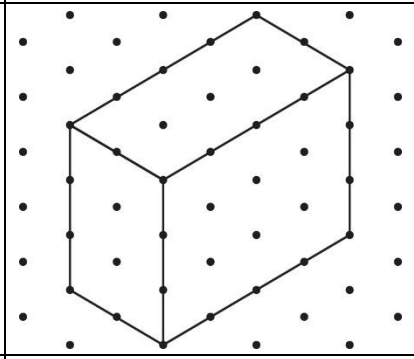
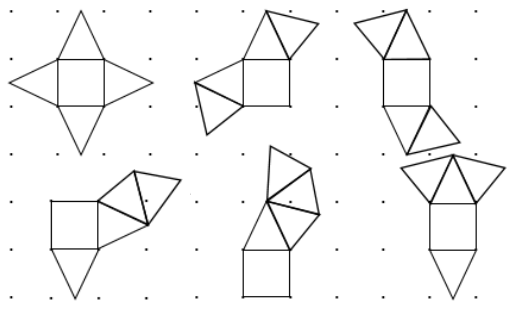
Mark scheme

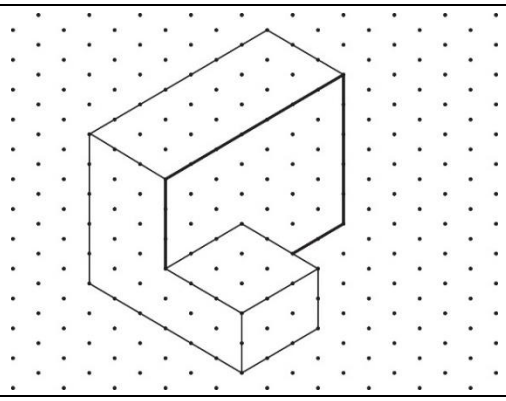
End of Unit assessments are 30 marks, so you should allow 35 minutes.

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
cao	Correct answer only
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

Non-calculator

Q	Answer	Mark	Comment
1a		B1	cao
1b	B	B1	cao
2a	<	B1	cao
2b	=	B1	cao
3		M1 A1	Draw a square or rectangle and 4 triangles

4	96	M1	4 × 4 × 6 oe
		A1	
5	e.g. 10 × 12 = 120 (area of entire rectangle) $\frac{1}{2}$ × 5 × 10 = 25 (area of missing triangle) 120 − 25 = 95 cm^2	C1	for one correct area shown
		C1	
6		B1	for 2 or 3 lines correct and none incorrect or correct drawing with extra lines drawn
		B1	for accurate drawing
7a	132	M1	area of L shape e.g. (9 × 2) + (3 × 5) e.g. (7 × 3) + (2 × 6) = 33 or volume of one cuboid e.g. 7 × 4 × 3 or 84 e.g. 6 × 2 × 4 or 48
		M1	ft '33' × 4 or 84 + 48
		A1	cao
7b	194	M1	method to find surface area of at least 4 faces
		M1	method to find surface area of at least 6 faces
		M1	method to find total surface area of all 8 faces i.e. 33 + 33 + 12 + 20 + 24 + 8 + 36 + 28
		A1	cao

Calculator

Q	Answer	Mark	Comment
8	75	B1	
9a	30.24	M1	(5.6 × 10.8) ÷ 2 oe
		A1	cao

9b	e.g. the two triangles have the same base and the same height so they must have the same area e.g. area of parallelogram = 10.8 × 5.6 area of A = $\frac{1}{2}$ × 10.8 × 5.6 Therefore area of B = $\frac{1}{2}$ × 10.8 × 5.6 = area of A	C1	
10	343	B1	
11	46.512 Accept 46.51 or 46.5	M1 A1	(8.26 + 5.42) ÷ 2 × 6.8 oe e.g. (8.26 × 6.8) − 6.8 × (8.26 − 5.42) ÷ 2 or 56.168 − 9.656 e.g. (5.42 × 6.8) + 6.8 × (8.26 − 5.42) ÷ 2 or 36.856 + 9.656
12a	9.61	B1	57.66 ÷ 6
12b	3.1	B1	ft $\sqrt{'9.61'}$
13	3.84	M1 A1	(0.8 × 0.8) × 6

Non-calculator

Question	Topic	Step	Marks
1a	Draw plans and elevations of 3D shapes.	6th	1
1b	Draw plans and elevations of 3D shapes	6th	1
2a	Convert between metric units of length.	4th	1
2b	Convert between metric units of length.	4th	1
3	Recognise and sketch the nets of prisms including cuboids, triangular prisms, right prisms, cylinders.	4th	2
4	Calculate the surface areas of simple cuboids (without use of nets).	4th	2
5	Draw 3D shapes on isometric paper given their plans and elevations.	5th	2
6	Analyse 3D shapes through cross-sections, plans and elevations	6th	2
7a	Calculate volumes of shapes made from cuboids, for lengths given as whole numbers	7th	3
7b	Calculate surface areas of shapes made from cuboids, for lengths given as whole numbers	7th	4

Calculator

Question	Topic	Step	Marks
8	Solve problems involving converting between imperial and metric units	5th	1

9a	Use a formula to calculate the areas of triangles	5th	2
9b	Use a formula to calculate the areas of parallelograms	5th	1
10	Calculate the volume of cuboids	6th	1
11	Use a formula to calculate the areas of trapezia	6th	2
12a	Calculate the surface areas of simple cuboids (without use of nets)	4th	1
12b	Calculate the surface areas of simple cuboids (without use of nets)	4th	1
13	Calculate the surface areas of simple cuboids (without use of nets)	6th	2

Marks to Steps conversion table

The table below converts marks to a step on the Pearson progression scale. For more information on Progress & Assess please see the progression website.

Mark boundary	Step
0	U
1–2	2nd
3–5	3rd
6–11	4th
12–16	5th
17–22	6th
23–30	7th