Mark scheme   UNIT 8

This test comprises of calculator questions only (50 marks/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 the 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

▦ Calculator

Q	Answer	Mark	Comment
1	15	M1	for 5×3 or an answer of 13
		A1	
3	$x = 4$ (cm)	B1	could be on the diagram
	$y = 11$ (cm)	B1	could be on the diagram
5	9.5 (cm)	B1	accept 9.4 to 9.5
7	should be (12) not (13) oe	B1	e.g. height is 12
	should halve 20 and 30 oe	B1	e.g. should be $(10 + 15)(13)$
9	No, smallest area is **R** Largest area = **Q**	B1	for area **P** = $8 \times 3 \div 2$ (= 12)
		B1	for area **Q** = $5 \times 5 \div 2$ (= 12.5)
		B1	for area **R** = 5.8×2 (= 11.6)
		C1	for no, and all three areas correct with smallest area is **R** and largest area is **Q** OE

11	6 (cm)	M1	for 240 ÷ (8 × 5) OE
		A1	
13	75.2 (cm^3)	M1	for 16 × 4.7
		A1	

15	250	M1	for 30 ÷ 6 (= 5) or 80 ÷ 8 (= 10) or 30 × 80 × 30 (= 72 000) or 6 × 6 × 8 (= 288) OE
		M1	M1 for "5" × "10" × "5" or "72 000" ÷ "288"
		A1	
17a	30 (cm^2)	M1	for 5 × 12 ÷ 2
		A1	
17b	$\dfrac{169}{289}$	M1	M1 for area $PQRS$ = 13 × 13 (= 169) or (17 × 17 - 4 × "30")
		M1	M1 for area $ABCD$ = (5 + 12) × (5 + 12) (=289)
		A1	

Question	Topic	Step	Mark
1	Work out the volume of a prism by counting	4th	2
3	Work out the missing lengths in a compound shape made from two rectangles	4th	2
4	Calculate perimeter and area of compound shapes made from triangles, rectangles and other shapes	5th	2
5	Work out the length of a square given its area	6th	1
7	Deduce and use the formula for the area of a trapezium	6th	2
9	Use the formula for the area of a rectangle/square and deduce and use formulae for the area of a triangle	5th	4
11	Calculate the lengths and areas given the volumes in right prisms	7th	2
13	Calculate the volume of right prisms	7th	2
15	Solve problems involving the volume of cuboids	7th	3
17a	Use a formula to calculate the areas of triangles	5th	2
17b	Solve problems involving areas of rectangles and triangles	6th	3