

Q1. 2017

11	Alternative method 1		
	$40 \div 4$ or 10 or 30	M1	Accept evidence on diagram
	$32 - \text{their } 10$ or 22	M1dep	Accept evidence on diagram
	$3 \times \text{their } 10 + \text{their } 22$	M1dep	dep on M2
	52	A1	
	Alternative method 2		
	$40 \div 4$ or 10 or 30	M1	Accept evidence on diagram
	$2 \times \text{their } 10$ or 20	M1dep	
	$32 + 40 - \text{their } 20$	M1dep	dep on M2
	52	A1	
Additional Guidance			
The two top sides on the triangle given values adding to 22 can be accepted as evidence of 22			
Beware of appearance of 20 for reasons that are not worth the second mark eg 10, 20, 30, 40			M1 earned at that point
Beware - wrong working can lead to the appearance of 52 (after rounding)			

Q2. (2018)

31	Alternative method 1 – width of small rectangle is x (any letter)		
	x and $2x$ or $x + 2x + x + 2x$ or $6x$	M1	oe
	$x + 2x + x + 2x = 15$ or $6x = 15$	M1dep	oe
	$(x =) 2.5$	A1	from correct working or with 5 as the other dimension or with 7.5 as the length of the large rectangle
	25	A1ft	ft $10 \times \text{their } 2.5$ with M1M1 awarded
	Alternative method 2 – length of small rectangle is x (any letter)		
	x and $\frac{x}{2}$ or $x + \frac{x}{2} + x + \frac{x}{2}$ or $3x$	M1	oe
	$x + \frac{x}{2} + x + \frac{x}{2} = 15$ or $3x = 15$	M1dep	oe
	$(x =) 5$	A1	from correct working or with 2.5 as the other dimension or with 7.5 as the length of the large rectangle
	25	A1ft	ft $5 \times \text{their } 5$ with M1M1 awarded
Alternative method 3 – a = width of small rectangle and b = length of small rectangle (any letters)			
	$b = 2a$ or $10a$ or $5b$	M1	correct expression for perimeter of the large rectangle in one variable
	$6a = 15$ or $3b = 15$	M1dep	correct equation in one variable
	$(a =) 2.5$ or $(b =) 5$	A1	from correct working or with both values correct or with one value correct and 7.5 as the length of the large rectangle
	25	A1ft	ft $10 \times \text{their } a$ or $5 \times \text{their } b$ with M1M1 awarded

31(cont)	Alternative method 4 – trial and improvement using ratio of sides		
	length = $2 \times$ width seen or implied	M1	
	Two correctly evaluated trials for perimeter of small rectangle with length = $2 \times$ width	M1dep	eg $8 + 4 + 8 + 4 = 24$ and $10 + 5 + 10 + 5 = 30$
	2.5 and 5	A1	implied by $2.5 + 5 + 2.5 + 5 = 15$
	25	A1	
	Additional Guidance		
	Note that there is no ft in method 4		
	In all methods, marks can be awarded for annotation of the diagram, with lengths clearly identified, or working inside or alongside the diagram eg 2.5 and 5 marked correctly as the dimensions of the small rectangle 2.5 marked as the width of the small rectangle and 7.5 marked as the length of the large rectangle		M1M1A1 M1M1A1
	If full marks not awarded, mark both the diagram and working then award the better mark		
	In alt 4, one or more trials may be crossed out to indicate that they do not give the correct perimeter. Do not treat this as the usual crossed out work not to be marked if replaced.		

Q3. (2023)

Subtopic: Perimeter

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Q	Answer	Mark	Comments
2(d)	7 cm by 3 cm rectangle drawn	B1	
	Additional Guidance		
	Mark intention		
	Allow a 7 cm by 3 cm rectangle drawn that does not use the given side		