

Area and Perimeter

June 2023 Paper 3

Question	Answer	Mark	Mark scheme	Additional guidance
6 (a)	14	B1	cao	
6 (b)	18	B1	cao	

November 2024 Paper 2

Question	Answer	Mark	Mark scheme	Additional guidance
10	120	P1 P1 A1	for process to work with length, eg $40 \div 4 (= 10)$ or $40 \times 5 (= 200)$ or $40 \div 4 \times 3 (= 30)$ or $40 \times 4 (= 160)$ for process to work with perimeter, eg “10” \times 12 or [square side length] \times 12 or [square side length] \times 11 or “200” $- 2 \times 40$ or “30” $\times 4$ oe or “160” $- 40$ cao	May be shown on the diagram [square side length] is what they clearly think is the length of one side of the square.

June 2024 Paper 1

Question	Answer	Mark	Mark scheme	Additional guidance
12	6	P1 P1 P1 A1	for process to find perimeter of triangle eg $14 + 30 + 36 (= 80)$ for " $80 \div 4 (= 20)$ " for a complete process eg " $(20 - 4 - 4) \div 2$ or " $20 \div 2 - 4$ " cao	$36 \div 4 + 14 \div 4 + 30 \div 4 (= 20)$ scores P1P1

November 2023 Paper 2

Question	Answer	Mark	Mark scheme	Additional guidance
13 (a)	Explanation	C1	for correct explanation Acceptable response should have multiplied 5 and 4 (once) it should be (just) 5×4 it is $b \times h$ or $l \times w$ she has not used the formula for area it should be $20 \text{ (cm}^2\text{)}$ shouldn't multiply all (four) sides Not acceptable response he has found the area twice he is correct he has worked out volume he has worked out the perimeter or he should have added the 4 sides	Units may be ignored
13 (b)	Explanation	C1	for correct explanation Acceptable response units should be cm^2 or units should be squared it should be 86 cm^2 or 20 cm^2 she didn't use the correct units (for area) cm is wrong Not acceptable response she is correct it is not squared or they should have squared it should be 400 cm or it should be 20 cm she has found the perimeter	Ignore numerical value if given

June 2020 Paper 3

Question	Answer	Mark	Mark scheme	Additional guidance
13	34	M1 A1	for start to method, eg $10 - 4 (= 6)$ or $7 - 5 (= 2)$ or $10 + 7 + 4 + 5 (=26)$ or $(10 + 7) \times 2$ cao	6, 2 may be seen on diagram

November 2021 Paper 3

Question	Answer	Mark	Mark scheme		Additional guidance
19	34 cm ²	P1	for finding one area eg $8 \times 8 (= 64)$ or $0.5 \times 3 \times 5 (=7.5)$	for first stage in working with Pythagoras eg sight of $3^2 + 5^2$ or $9 + 25$	
		P1	for a complete process to find the area eg “64” – $4 \times$ “7.5” (=34)	for full use of Pythagoras eg $\sqrt{3^2 + 5^2}$ or $\sqrt{34}$ or 5.83...	Any figure used must come from a correct process
		A1	for an answer in the range 33.6 to 34		Can be awarded with incorrect units stated
		B1	(indep) for cm ²		Can be awarded with an incorrect or absent numerical answer

November 2024 Paper 2

Question	Answer	Mark	Mark scheme	Additional guidance	
26	240	P1	for forming an appropriate equation, eg $2x + 11 = 4x - 4$ or $2x + 11 + 4x - 4 + 2x + 5 = 72$ or $8x + 12 = 72$		
		P1	(dep P1) for process to correctly isolate terms in x , eg $4x - 2x = 11 + 4$ or $2x + 4x + 2x = 72 - 11 + 4 - 5$ or $x = 7.5$ oe	$8x = 60$ or $2x = 15$ implies P2 A correct length stated or shown on diagram implies P2, eg $AB = 20, AC = 26, CB = 26$	
		P1	for correct application of Pythagoras, eg $(\text{"26"})^2 - \left(\frac{\text{"20"}}{2}\right)^2$ or $[AC]^2 - \left(\frac{[AB]}{2}\right)^2$ or height = 24 or a complete method to find the height	for a correct trig statement to find CAB or CBA or ACB , eg $\cos CAB = \cos CBA = \frac{\text{"20"} \div 2}{\text{"26"}}$ or $\cos CAB = \cos CBA = \frac{20^2 + 26^2 - 26^2}{2 \times 20 \times 26}$ or $\cos ACB = \frac{26^2 + 26^2 - 20^2}{2 \times 26 \times 26}$ or $CAB = 67.3\dots$ or $CBA = 67.3\dots$ or $ACB = 45.2\dots$	$[AC]$ $[BC]$ $[AB]$ $[ACB]$ $[CAB]$ and $[BAC]$ must be clearly identified if incorrect. May be on diagram. $AB = 2 \times \text{"7.5"} + 5 (= 20)$ $AC = 2 \times \text{"7.5"} + 11 (= 26)$ $CB = 4 \times \text{"7.5"} - 4 (= 26)$ Alternative scheme not expected on Foundation tier but may be seen.
		P1	for process to find area of triangle, eg $\text{"20"} \times \text{"24"} \div 2$ or $[AB] \times [\text{height}] \div 2$	for process to find area of triangle, eg $\frac{1}{2} \times \text{"26"} \times \text{"20"} \times \sin 67.3\dots$ or $\frac{1}{2} \times \text{"26"} \times \text{"26"} \times \sin 45.2\dots$ or $\frac{1}{2} \times [AB] \times [AC] \times \sin [BAC]$ or $\frac{1}{2} \times [BC] \times [AC] \times \sin [ACB]$	ft incorrect figures providing at least one previous P1 awarded. [height] is what they clearly think is the height of the triangle but not 26 or 20 or 10
		A1	cao		

June 2020 Paper 3

Question	Answer	Mark	Mark scheme	Additional guidance
26 (a)	Yes (supported)	P1	for start of process, eg $5 \times 9 (= 45)$ or $10 \times 14 (= 140)$ or $5 \times 2 (= 10 \text{ (kg)})$ or $3 \div 2 (= 1.5 \text{ (boxes)})$	Accept values rounded or truncated to 1dp in both (a) and (b). Ignore units
		P1	for process using ratio of areas, eg “140” \div “45” (= 3.1...) or for using ratio of amount of seed eg “10” \div 3 (= 3.3...) or for finding coverage for 1 kg of grass seed, eg “45” \div 3 (=15 (m ²))	
		P1	for process to find amount of seed needed, eg “140” \div “45” \times 3 (= 9.3...kg) or “140” \div “45” \times “1.5” (= 4.6...(boxes)) oe or “15” \times 2 (= 30 (m ² per box)) and “140” \div “30” (= 4.6...(boxes)) or for process to find area that can be seeded, eg “10” \div 3 \times “45” (= 150 (m ²)) or “140” \div “10” (= 14 (m ²)) oe	Accept 9.4 Accept 4.7
		C1	for “Yes” supported by correct figures eg 4.6...(and 5), or 9.3...and 10 or 150 and 140 (or 140 to 148.5) or 15 and 14	
(b)	Yes, (does not have enough) (supported)	C1	for reasoning supported with correct figures, eg does not have enough seed and compares 9 (kg) with 9.3...(kg) or 4.5 (boxes) with 4.6... (boxes) or 135 (m ²) with 140 (m ²) or 14 (m ²) with 15 (m ²) ft from (a)	Values used in (a) do not need repeating in (b) as long as intention is clear

June 2022 Paper 3

Question	Answer	Mark	Mark scheme	Additional guidance
28	Complete chain of reasoning	M1	for (area of trapezium $TQRS = 0.5 \times 4x \times (2x + 3x)$ or for (area of rectangle $TUVS = 4x \times (3x + 5) (= 12x^2 + 20x)$	Evidence for the award of marks may be seen on the diagram Alternative methods may be seen. Accept x for $(3x - 2x)$
		M1	for (area of trapezium $QUVR = 4x(3x + 5) - 0.5 \times 4x \times (2x + 3x)$	
		C1	for correct algebraic processing and simplification to the given form	
		M1	Alternative 1 for ($QU = 3x + 5 - 2x (= x + 5)$	
		M1	for (area of trapezium $QUVR = 0.5 \times 4x \times ((“x + 5”) + 5)$ or $0.5 \times 4x \times (x + 10)$	
		C1	for correct algebraic processing and simplification to the given form	
		M1	Alternative 2 for (area of triangle $= 0.5 \times (3x - 2x) \times 4x$ or for (area of rectangle $= 4x \times 5$	
		M1	for (area of trapezium $QUVR = “0.5 \times (3x - 2x) \times 4x” + “4x \times 5”$	
		C1	for correct algebraic processing and simplification to the given form	