

Area Applications GCSE Maths EDEXCEL Past Papers Answers

1.

$6 \times 2 + 3 \times 2 = 12 + 6 = 18$ or $2 \times 5 + 4 \times 2 = 18$ $18 \div 2.5 = 7.2$ or $2.5 \times 7 = 17.5$ or $2.5 \times 8 = 20$ OR $6 \times 5 - 4 \times 3 = 18$ $18 \div 2.5 = 7.2$ or $2.5 \times 7 = 17.5$ or $2.5 \times 8 = 20$	8 packs	4	M2 for a complete method for finding the total area (can be implied by 18) (M1 for attempt to calculate at least one area, $6 \times 2 (=12)$ or 3×2 or $2 \times 5 (=10)$ or $4 \times 2 (=8)$ or 2×2 or $6 \times 5 (=30)$ or $3 \times 4 (=12)$) M1 for their area $\div 2.5$ or repeated addition of 2.5 to within 2.5 of their area C1 for clear communication that 8 full packs are required supported by their calculations, provided at least one of the first two method marks awarded SC B3 for 8 identified as the answer to the problem.
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2.

Question	Working	Answer	Mark	Notes
	$\frac{1}{2} (6 + 4) \times 3$ OR $6 \times 3 - \frac{1}{2} \times 2 \times 3$ OR $4 \times 3 + \frac{1}{2} \times 2 \times 3$	15 cm ²	4	M2 for $\frac{1}{2} (6 + 4) \times 3$ oe A1 for 15 cao B1 for cm ² OR M1 for $6 \times 3 (=18)$ or $\frac{1}{2} \times 2 \times 3 (=3)$ M1 (dep on "6 x 3" and " $\frac{1}{2} \times 2 \times 3$ ") for "18" – "3" from correct methods A1 for 15 cao B1 for cm ² OR M1 for $4 \times 3 (=12)$ or $\frac{1}{2} \times 2 \times 3 (=3)$ M1 (dep on "4 x 3" and " $\frac{1}{2} \times 2 \times 3$ ") for "12" + "3" from correct methods A1 for 15 cao B1 for cm ²

3.

$4.5 \times 2 + 3 \times 2 = 15$ or $4 \times 3 + 2 \times 1.5 = 15$ or $4 \times 4.5 - 2 \times 1.5 = 15$	7	4	M1 for a correct method to calculate at least one area using correct dimensions M1 for a complete method to find the total area (can be implied by 15) M1 for "15" $\div 2.25 (=6.66\dots)$ or $2.25 \times 6 (=13.5)$ or $2.25 \times 7 (=15.75)$ or repeated addition to within 2.25 of "15" C1 (dep on at least 1 method mark) for 7 packs clearly identified and supported by their calculations
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4.

Question	Working	Answer	Mark	Notes
		270	3	M1 for $9 \div 0.1 (=90)$ or $4.5 \div 1.5 (=3)$ oe M1 for "3" \times "90" oe (=270) A1 cao OR M1 for $4.5 \div 0.1 (=45)$ or $9 \div 1.5 (=6)$ oe M1 for "6" \times "45" oe (=270) A1 cao OR M1 for $9 \times 4.5 (=40.5)$ or $1.5 \times 0.1 (=0.15)$ oe M1 for "40.5" \div "0.15" (=270) oe A1 cao

5.

Question	Working	Answer	Mark	Notes
	$12 \times 7 = 84$ $84 - \frac{1}{2}(3 \times 6)$ $75 \div 32$	3	4	M1 for $12 \times 7 (=84)$ M1 for "84" $- \frac{1}{2}(3 \times 6) (=75)$ M1 for "area" $\div 32$ or (32, 64,) 96 seen with "area" calculated. A1 cao (dep on all M marks) or M1 for $12 \times 4 (=48)$ M1 for "48" $+ \frac{1}{2}(12 + 6) \times 3$ M1 for "area" $\div 32$ or (32, 64,) 96 seen with "area" calculated. A1 cao (dep on all M marks) M1 for $6 \times 3 + \frac{1}{2}(3 \times 6) (=27)$ M1 for "27" $+ 12 \times 4$ M1 for "area" $\div 32$ or (32, 64,) 96 seen with "area" calculated. A1 cao (dep on all M marks)

6.

Question	Working	Answer	Mark	Notes
		120	4	M1 for method to find remaining area of wall eg $(3 \times 2.4) - (2 \times 0.9)$ or $7.2 - 1.8 (=5.4)$ oe M1 for remaining area of wall \div area of tile using changed units, eg, "5.4" \div "0.12" (=45) or $(7.2 \div 0.12) - (1.8 \div 0.12)$ oe or 60 - 15 or 45 seen M1 (dep on at least M1) finding the number of boxes (eg $\div 6$ and round up oe) A1 for 120 cao OR M1 for attempt to find how many rows of tiles eg $300 \div 30$ and $240 \div 40$ or $200 \div 40$ and $90 \div 30$ using changed units or 10 & 6 or 5 & 3 seen. M1 for complete method to find the number of tiles needed by tessellation method eg ("10" \times "6") - ("5" \times "3") or 60-15 or 45 seen M1 (dep on at least M1) finding the number of boxes (eg $\div 6$ and round up oe) A1 for 120 cao

7.

Question	Working	Answer	Mark	Notes
		68	5	<p>B1 for correct conversion of units M1 for $250 \div 25 (= 10)$ or $300 \div 20 (= 15)$ M1 for "10" \times "15" M1 (dep on M2) for number of tiles $\div 20$, round up, $\times 8.5(0)$ A1 for 68</p> <p>OR</p> <p>B1 for correct conversion of units M1 for $250 \div 20 (= 12.5)$ or $300 \div 25 (= 12)$ M1 for "12.5" \times "12" M1 (dep on M2) for number of tiles $\div 20$, round up, $\times 8.5(0)$ A1 for 68</p> <p>OR</p> <p>B1 for correct conversion of units M1 for $3 \times 2.5 (= 7.5)$ or $20 \times 25 (= 500)$ M1 for "3 \times 2.5" \div "0.2 \times 0.25" or "300 \times 250" \div "20 \times 25" M1 (dep on M2) for number of tiles $\div 20$, round up, $\times 8.5(0)$ A1 for 68</p>