
GCSE Mathematics

Volume & Surface Area of Prisms

Mark Scheme - Foundation | Grades 4-5

M = method mark, A = accuracy mark (dependent on the preceding M mark), B = independent mark.

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Edexcel-style questions

Q1 Grade 4 Edexcel style

Total: 2

Part	Mark scheme	Marks
(a)	$8 \times 5 \times 4$	M1
(a)	160 cm^3	A1

Q2 Grade 4 Edexcel style

Total: 3

Part	Mark scheme	Marks
(a)	$8 \times 5 = 40, 8 \times 4 = 32, 5 \times 4 = 20$	M1
(a)	$2 \times (40 + 32 + 20)$	M1
(a)	184 cm^2	A1

Q3 Grade 4 Edexcel style

Total: 3

Part	Mark scheme	Marks
(a)	cross-section area = $\frac{1}{2} \times 6 \times 4 = 12 \text{ cm}^2$	M1
(a)	volume = 12×10	M1
(a)	120 cm^3	A1

Q4 Grade 5 Edexcel style

Total: 4

Part	Mark scheme	Marks
(a)	triangle area = $\frac{1}{2} \times 3 \times 4 = 6 \text{ cm}^2$	M1
(a)	triangle perimeter = $3 + 4 + 5 = 12 \text{ cm}$	M1
(a)	$2 \times 6 + 12 \times 10$	M1
(a)	132 cm^2	A1

Q5 Grade 5 Edexcel style

Total: 3

Part	Mark scheme	Marks
(a)	cross-section area = $(6 \times 10) + (4 \times 6) = 84 \text{ cm}^2$	M1
(a)	volume = 84×5	M1
(a)	420 cm^3	A1

AQA-style questions

Q6 Grade 4 AQA style

Total: 2

Part	Mark scheme	Marks
(a)	$10 \times 6 \times 3$	M1
(a)	180 cm^3	A1

Q7 Grade 4 AQA style

Total: 3

Part	Mark scheme	Marks
(a)	$10 \times 6 = 60$, $10 \times 3 = 30$, $6 \times 3 = 18$	M1
(a)	$2 \times (60 + 30 + 18)$	M1
(a)	216 cm^2	A1

Q8 Grade 5 AQA style

Total: 3

Part	Mark scheme	Marks
(a)	cross-section area = $\frac{1}{2} \times 8 \times 5 = 20 \text{ cm}^2$	M1
(a)	volume = 20×12	M1
(a)	240 cm^3	A1

Q9 Grade 5 AQA style

Total: 4

Part	Mark scheme	Marks
(a)	triangle area = $\frac{1}{2} \times 6 \times 8 = 24 \text{ cm}^2$	M1
(a)	triangle perimeter = $6 + 8 + 10 = 24 \text{ cm}$	M1
(a)	$2 \times 24 + 24 \times 15$	M1
(a)	408 cm^2	A1

Q10 Grade 5 AQA style

Total: 3

Part	Mark scheme	Marks
(a)	cross-section area = $\frac{1}{2} \times (8 + 2) \times 5 = 25 \text{ cm}^2$	M1
(a)	volume = 25×12	M1
(a)	300 cm^3	A1

OCR-style questions

Q11 Grade 4 OCR style**Total: 2**

Part	Mark scheme	Marks
(a)	$7 \times 4 \times 6$	M1
(a)	168 cm^3	A1

Q12 Grade 4 OCR style**Total: 3**

Part	Mark scheme	Marks
(a)	$7 \times 4 = 28, 7 \times 6 = 42, 4 \times 6 = 24$	M1
(a)	$2 \times (28 + 42 + 24)$	M1
(a)	188 cm^2	A1

Q13 Grade 5 OCR style**Total: 3**

Part	Mark scheme	Marks
(a)	cross-section area = $\frac{1}{2} \times 9 \times 4 = 18 \text{ cm}^2$	M1
(a)	volume = 18×8	M1
(a)	144 cm^3	A1

Q14 Grade 5 OCR style**Total: 3**

Part	Mark scheme	Marks
(a)	$10 \times 5 = 50$	M1
(a)	$h = 150 \div 50$	M1
(a)	$h = 3 \text{ cm}$	A1

Q15 Grade 5 OCR style**Total: 2**

Part	Mark scheme	Marks
(a)	$50 \times 40 \times 30 = 60000 \text{ cm}^3$	M1
(a)	$60000 \div 1000 = 60 \text{ litres}$	A1

Teachably-style questions

Q16 Grade 4 Teachably style

Total: 2

Part	Mark scheme	Marks
(a)	$9 \times 6 \times 4$	M1
(a)	216 cm^3	A1

Q17 Grade 4 Teachably style

Total: 3

Part	Mark scheme	Marks
(a)	$9 \times 6 = 54$, $9 \times 4 = 36$, $6 \times 4 = 24$	M1
(a)	$2 \times (54 + 36 + 24)$	M1
(a)	228 cm^2	A1

Q18 Grade 5 Teachably style

Total: 3

Part	Mark scheme	Marks
(a)	cross-section area = $\frac{1}{2} \times 7 \times 6 = 21 \text{ cm}^2$	M1
(a)	volume = 21×9	M1
(a)	189 cm^3	A1

Q19 Grade 5 Teachably style

Total: 3

Part	Mark scheme	Marks
(a)	$7 \times 5 = 35$	M1
(a)	$w = 210 \div 35$	M1
(a)	$w = 6 \text{ cm}$	A1

Q20 Grade 5 Teachably style

Total: 3

Part	Mark scheme	Marks
(a)	cross-section area = $\frac{1}{2} \times 6 \times 5 = 15 \text{ cm}^2$	M1
(a)	length = $180 \div 15$	M1
(a)	12 cm	A1

END OF PAPER

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