
GCSE Mathematics

Similar Shapes

Mark Scheme - GCSE Maths Practice

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

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Edexcel-style questions

Q1 Grade 6 Edexcel style

Total: 2

Part	Mark scheme	Marks
(a)	scale factor = $15 \div 5 = 3$	M1
(a)	FD = $9 \times 3 = 27$ cm	A1

Q2 Grade 6 Edexcel style

Total: 2

Part	Mark scheme	Marks
(a)	scale factor = $AB \div AD = 6 \div 4 = 1.5$	M1
(a)	BE = $6 \times 1.5 = 9$ cm	A1

Q3 Grade 6 Edexcel style

Total: 2

Part	Mark scheme	Marks
(a)	area scale factor = $3^2 = 9$	M1
(a)	area of DEF = $20 \times 9 = 180$ cm ²	A1

Q4 Grade 7 Edexcel style

Total: 2

Part	Mark scheme	Marks
(a)	volume scale factor = $2^3 = 8$	M1
(a)	volume of larger solid = $30 \times 8 = 240$ cm ³	A1

Q5 Grade 7 Edexcel style

Total: 2

Part	Mark scheme	Marks
(a)	scale factor = $10 \div 2.4$	M1
(a)	tree height = $1.8 \times (10 \div 2.4) = 7.5$ m	A1

AQA-style questions

Q6 Grade 6 AQA style**Total: 2**

Part	Mark scheme	Marks
(a)	scale factor = $15 \div 6 = 2.5$	M1
(a)	CA = $20 \div 2.5 = 8$ cm	A1

Q7 Grade 6 AQA style**Total: 2**

Part	Mark scheme	Marks
(a)	scale factor = $AB \div AD = 9 \div 3 = 3$	M1
(a)	BE = $4 \times 3 = 12$ cm	A1

Q8 Grade 6 AQA style**Total: 2**

Part	Mark scheme	Marks
(a)	area scale factor = $2^2 = 4$	M1
(a)	area of ABC = $100 \div 4 = 25$ cm ²	A1

Q9 Grade 7 AQA style**Total: 2**

Part	Mark scheme	Marks
(a)	volume scale factor = $216 \div 27 = 8$	M1
(a)	linear scale factor = $\sqrt[3]{8} = 2$	A1

Q10 Grade 7 AQA style**Total: 2**

Part	Mark scheme	Marks
(a)	linear ratio = $\sqrt{4} : \sqrt{9} = 2 : 3$	M1
(a)	volume ratio = $2^3 : 3^3 = 8 : 27$	A1

OCR-style questions

Q11 Grade 6 OCR style**Total: 2**

Part	Mark scheme	Marks
(a)	scale factor = $12 \div 4 = 3$	M1
(a)	$BC = 18 \div 3 = 6 \text{ cm}$	A1

Q12 Grade 6 OCR style**Total: 2**

Part	Mark scheme	Marks
(a)	scale factor = $AB \div AD = 8 \div 5 = 1.6$	M1
(a)	$DC = 16 \div 1.6 = 10 \text{ cm}$	A1

Q13 Grade 7 OCR style**Total: 2**

Part	Mark scheme	Marks
(a)	area scale factor = $72 \div 8 = 9$	M1
(a)	linear scale factor = $\sqrt{9} = 3$	A1

Q14 Grade 7 OCR style**Total: 2**

Part	Mark scheme	Marks
(a)	volume scale factor = $3^3 = 27$	M1
(a)	volume of smaller solid = $270 \div 27 = 10 \text{ cm}^3$	A1

Q15 Grade 7 OCR style**Total: 3**

Part	Mark scheme	Marks
(a)	linear scale factor = 20	M1
(a)	area scale factor = $20^2 = 400$	M1
(a)	cost for actual building = $50 \times 400 = \$20,000$	A1

Teachably-style questions

Q16 Grade 6 Teachably style

Total: 2

Part	Mark scheme	Marks
(a)	scale factor = $10 \div 5 = 2$	M1
(a)	DE = $3 \times 2 = 6$ cm	A1

Q17 Grade 7 Teachably style

Total: 2

Part	Mark scheme	Marks
(a)	scale factor = $AB \div AD = 9 \div 6 = 1.5$	M1
(a)	DC = $15 \div 1.5 = 10$ cm	A1

Q18 Grade 7 Teachably style

Total: 3

Part	Mark scheme	Marks
(a)	area scale factor = $144 \div 16 = 9$	M1
(a)	linear scale factor = $\sqrt{9} = 3$	M1
(a)	corresponding side = $5 \times 3 = 15$ cm	A1

Q19 Grade 7 Teachably style

Total: 3

Part	Mark scheme	Marks
(a)	volume scale factor = $135 \div 5 = 27$	M1
(a)	linear scale factor = $\sqrt[3]{27} = 3$	M1
(a)	height of larger solid = $2 \times 3 = 6$ cm	A1

Q20 Grade 7 Teachably style

Total: 4

Part	Mark scheme	Marks
(a)	linear scale factor = $AB \div AD = 10 \div 6 = \frac{5}{3}$	M1
(a)	BE = $9 \times \frac{5}{3} = 15$ cm	A1
(a)	area scale factor = $(\frac{5}{3})^2 = \frac{25}{9}$	M1
(a)	area of ABE = $32.4 \times \frac{25}{9} = 90$ cm ²	A1

END OF PAPER

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