
GCSE Mathematics

Algebraic Fractions

Mark Scheme - Higher | Grades 7-9

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

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Edexcel-style questions

Q1 Grade 7 Edexcel style

Total: 2

Part	Mark scheme	Marks
(a)	$(x + 3)(x - 3) \div (x + 3)$	M1
(a)	$x - 3$	A1

Q2 Grade 7 Edexcel style

Total: 2

Part	Mark scheme	Marks
(a)	$6x/(3x^2)$	M1
(a)	$\frac{2}{x}$	A1

Q3 Grade 8 Edexcel style

Total: 2

Part	Mark scheme	Marks
(a)	$(\frac{x}{4}) \times (8 \div x^2) = 8x \div (4x^2)$	M1
(a)	$\frac{2}{x}$	A1

Q4 Grade 8 Edexcel style

Total: 3

Part	Mark scheme	Marks
(a)	common denominator $x(x + 1)$	M1
(a)	$[3(x + 1) + 2x]/[x(x + 1)]$	M1
(a)	$(5x + 3)/[x(x + 1)]$	A1

Q5 Grade 9 Edexcel style

Total: 4

Part	Mark scheme	Marks
(a)	$(x + 3) + 4x = x(x + 3)$	M1
(a)	$5x + 3 = x^2 + 3x$	M1
(a)	$x^2 - 2x - 3 = 0 \Rightarrow (x - 3)(x + 1) = 0$	M1
(a)	$x = 3$ or $x = -1$	A1

AQA-style questions

Q6 Grade 7 AQA style**Total: 2**

Part	Mark scheme	Marks
(a)	$(x + 4)(x - 4) \div (x - 4)$	M1
(a)	$x + 4$	A1

Q7 Grade 7 AQA style**Total: 2**

Part	Mark scheme	Marks
(a)	$20x/(5x^2)$	M1
(a)	$\frac{4}{x}$	A1

Q8 Grade 8 AQA style**Total: 2**

Part	Mark scheme	Marks
(a)	$(\frac{3x}{5}) \times (\frac{10}{9x^2}) = 30x/(45x^2)$	M1
(a)	$\frac{2}{3x}$	A1

Q9 Grade 8 AQA style**Total: 3**

Part	Mark scheme	Marks
(a)	common denominator $x(x + 2)$	M1
(a)	$[4(x + 2) - x]/[x(x + 2)]$	M1
(a)	$(3x + 8)/[x(x + 2)]$	A1

Q10 Grade 9 AQA style**Total: 4**

Part	Mark scheme	Marks
(a)	$2(x + 2) + 3x = x(x + 2)$	M1
(a)	$5x + 4 = x^2 + 2x$	M1
(a)	$x^2 - 3x - 4 = 0 \Rightarrow (x - 4)(x + 1) = 0$	M1
(a)	$x = 4$ or $x = -1$	A1

OCR-style questions

Q11 Grade 7 OCR style**Total: 2**

Part	Mark scheme	Marks
(a)	$x \frac{x+5}{x+5}$	M1
(a)	x	A1

Q12 Grade 7 OCR style**Total: 2**

Part	Mark scheme	Marks
(a)	$3x^2/(9x)$	M1
(a)	$\frac{x}{3}$	A1

Q13 Grade 8 OCR style**Total: 2**

Part	Mark scheme	Marks
(a)	$(\frac{x^2}{6}) \times (\frac{12}{x}) = 12x^2/(6x)$	M1
(a)	2x	A1

Q14 Grade 8 OCR style**Total: 3**

Part	Mark scheme	Marks
(a)	common denominator $x(x - 1)$	M1
(a)	$[2x + 3(x - 1)]/[x(x - 1)]$	M1
(a)	$(5x - 3)/[x(x - 1)]$	A1

Q15 Grade 9 OCR style**Total: 4**

Part	Mark scheme	Marks
(a)	$(x + 4) + 3x = x(x + 4)$	M1
(a)	$4x + 4 = x^2 + 4x$	M1
(a)	$x^2 - 4 = 0 \Rightarrow (x - 2)(x + 2) = 0$	M1
(a)	$x = 2$ or $x = -2$	A1

Teachably-style questions

Q16 Grade 7 Teachably style

Total: 2

Part	Mark scheme	Marks
(a)	$2x \frac{x-4}{x-4}$	M1
(a)	$2x$	A1

Q17 Grade 7 Teachably style

Total: 2

Part	Mark scheme	Marks
(a)	$56x/(7x^2)$	M1
(a)	$\frac{8}{x}$	A1

Q18 Grade 8 Teachably style

Total: 2

Part	Mark scheme	Marks
(a)	$(\frac{5x}{8}) \times (\frac{4}{15x^2}) = 20x/(120x^2)$	M1
(a)	$\frac{1}{6x}$	A1

Q19 Grade 8 Teachably style

Total: 3

Part	Mark scheme	Marks
(a)	common denominator $x(x+3)$	M1
(a)	$[5x - 2(x+3)]/[x(x+3)]$	M1
(a)	$(3x-6)/[x(x+3)]$	A1

Q20 Grade 9 Teachably style

Total: 4

Part	Mark scheme	Marks
(a)	$(x+6) + 6x = x(x+6)$	M1
(a)	$7x+6 = x^2+6x$	M1
(a)	$x^2 - x - 6 = 0 \Rightarrow (x-3)(x+2) = 0$	M1
(a)	$x = 3$ or $x = -2$	A1

END OF PAPER

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