Edexcel A-Level Maths formulae to memorise

Every formula below is on the Pearson Edexcel A-Level Mathematics (9MA0) specification's list of formulae you are expected to know. None of them is printed in the formula booklet. Tick each one when you can write it from memory on a blank page, then test yourself again a few days later.

Source: Pearson Edexcel A-Level Mathematics specification, Issue 4, Appendix 1. Checked 17 November 2026.

Pure: algebra, coordinate geometry and sequences

Formula	Learnt	Retested
Quadratic formula: x = (b ± (b² 4ac)) ÷ 2a	[ ]	[ ]
a^x × a^y = a^(x + y), a^x ÷ a^y = a^(x y), (a^x)^y = a^(xy)	[ ]	[ ]
log_a x + log_a y = log_a(xy)	[ ]	[ ]
log_a x log_a y = log_a(x ÷ y)	[ ]	[ ]
k log_a x = log_a(x^k)	[ ]	[ ]
Straight line: y y = m(x x)	[ ]	[ ]
Perpendicular gradients: mm = 1	[ ]	[ ]
Arithmetic nth term: a + (n 1)d	[ ]	[ ]
Geometric nth term: ar^(n 1)	[ ]	[ ]

Pure: trigonometry and radians

Formula	Learnt	Retested
Sine rule and cosine rule	[ ]	[ ]
Area of a triangle = ½absin C	[ ]	[ ]
sin²A + cos²A 1	[ ]	[ ]
sec²A 1 + tan²A	[ ]	[ ]
cosec²A 1 + cot²A	[ ]	[ ]
sin 2A 2 sin A cos A	[ ]	[ ]
cos 2A cos²A sin²A	[ ]	[ ]
tan 2A 2 tan A ÷ (1 tan²A)	[ ]	[ ]
Arc length s = r, sector area ½r²	[ ]	[ ]

Pure: calculus and vectors

Formula	Learnt	Retested
d/dx(x^n) = nx^(n 1)	[ ]	[ ]
d/dx(sin kx) = k cos kx, d/dx(cos kx) = k sin kx	[ ]	[ ]
d/dx(e^(kx)) = ke^(kx), d/dx(ln x) = 1/x	[ ]	[ ]
Product rule: d/dx(uv) = u(dv/dx) + v(du/dx)	[ ]	[ ]
Chain rule: dy/dx = (dy/du) × (du/dx)	[ ]	[ ]
Integrals of x^n (n 1), sin kx, cos kx, e^(kx), 1/x	[ ]	[ ]
Vector magnitude: (x^2 + y^2 + z^2)	[ ]	[ ]

Statistics and Mechanics

Formula	Learnt	Retested
Mean = x ÷ n or fx ÷ f	[ ]	[ ]
Standard deviation = variance	[ ]	[ ]
Z = (X) ÷	[ ]	[ ]
Weight W = mg (g = 9.8 m s^2 unless told otherwise)	[ ]	[ ]
Newton's second law F = ma	[ ]	[ ]
Friction F R	[ ]	[ ]
Variable acceleration: v = dr/dt, a = dv/dt, r = v dt, v = a dt	[ ]	[ ]

Printed in the booklet, but worth knowing by heart

- The quotient rule, and the derivatives of tan kx, sec kx, cot kx and cosec kx (cot and cosec are negative)
- Arithmetic and geometric series sums
- sin(A ± B) and cos(A ± B), which give you the double angle formulae if you forget them
- The suvat equations