TCE Mathematics Methods Information Sheet

Original worked revision examples with notes on units and assumptions.

Use the board PDF below for the official sheet. Coverage of examples varies by subject.

Official reference material

TASC MTM415117 information sheet, September 2026 update

What to work out beyond the sheet

Check the domain of a logarithm before finding stationary points or interpreting the result.

Formulas and worked examples

Calculus · derivative of a logarithm

Formula or reference: $d(\ln x)/dx = 1/x$ for $x > 0$.

Units and conditions: When the logarithm has an inner function, apply the chain rule.

Worked example: For $y = \ln(4x + 1)$, $y' = 4/(4x + 1)$. At $x = 1$ the gradient is 0.8.

Statistics · standardising a score

Formula or reference: $z = (x - \mu)/\sigma$

Units and conditions: σ must be positive. x, μ and σ use the same units.

Worked example: A score of 74 in a population with mean 62 and standard deviation 8 gives $z = 1.5$.