

Question	Answer	Mark	AO	Guidance
3	$\int \frac{1}{x+2} dx = \ln(x+2)$ $[\ln(x+2)]_0^{2.5} = \ln 4.5 - \ln 2 \text{ or } \ln \frac{4.5}{2}$ $= \ln \frac{9}{4} \text{ or } \ln 2.25 \text{ or } 2 \ln \left(\frac{3}{2}\right) \text{ etc}$	<p><b>M1</b></p> <p><b>M1</b></p> <p><b>A1</b></p> <p><b>[3]</b></p>	<p><b>1.1</b></p> <p><b>1.1</b></p> <p><b>1.1</b></p>	<p><b>DR</b></p> <p>Integrate and obtain expression involving ln. This may be combined with the next step. Ignore limits. Brackets (x+2) soi  If a substitution is used then only award this mark when ln(x + 2) reached or an equivalent integral with appropriate limits (typically ln x with limits 2 and 4.5).</p> <p>Substitute and use limits 0 &amp; 2.5 (or appropriately changed limits in the case of a substitution) in their ln integral. Must see this step.</p> <p>www, any equivalent exact form, but must be a single term expression. Do not accept <math>\ln \frac{4.5}{2}</math> for this mark.</p> <p>Correct answer with no working <b>SCB1</b> [1/3]  Ignore use of modulus signs throughout.</p>