 Changing integrals to standard form

This resource has been developed to support teachers understand the technique of changing integrals to a standard form through worked examples

1. Find

Let

balance the integral to match the LHS of the standard integral

1. Evaluate given

Step 1: Find the derivative using , ie)

Step 2: Rearrange to find and expression for , ie)

Step 3: Rearrange the substitution equation and use it to recalculate the limits in term of ,

ie) and when , and when ,

Step 4: Use the equations above to substitute into the integrand and integrate

ie) Let