

In[]:= **DeclareGroup**[S₃]

In[]:= **\$CIS = Range**[6]

Out[]:= {1, 2, 3, 4, 5, 6}

In[]:= **R_{1,3}**

Out[]:= W₁[1, 1] W₃[1, 1] + W₁[2, 1] W₃[1, 2] + W₁[3, 1] W₃[1, 3] + W₁[4, 1] W₃[1, 4] + W₁[5, 1] W₃[1, 5] +
 W₁[6, 1] W₃[1, 6] + W₁[1, 1] W₃[2, 1] + W₁[2, 1] W₃[2, 2] + W₁[3, 1] W₃[2, 3] + W₁[4, 1] W₃[2, 4] +
 W₁[5, 1] W₃[2, 5] + W₁[6, 1] W₃[2, 6] + W₁[1, 1] W₃[3, 1] + W₁[2, 1] W₃[3, 2] + W₁[3, 1] W₃[3, 3] +
 W₁[4, 1] W₃[3, 4] + W₁[5, 1] W₃[3, 5] + W₁[6, 1] W₃[3, 6] + W₁[1, 1] W₃[4, 1] +
 W₁[2, 1] W₃[4, 2] + W₁[3, 1] W₃[4, 3] + W₁[4, 1] W₃[4, 4] + W₁[5, 1] W₃[4, 5] +
 W₁[6, 1] W₃[4, 6] + W₁[1, 1] W₃[5, 1] + W₁[2, 1] W₃[5, 2] + W₁[3, 1] W₃[5, 3] +
 W₁[4, 1] W₃[5, 4] + W₁[5, 1] W₃[5, 5] + W₁[6, 1] W₃[5, 6] + W₁[1, 1] W₃[6, 1] +
 W₁[2, 1] W₃[6, 2] + W₁[3, 1] W₃[6, 3] + W₁[4, 1] W₃[6, 4] + W₁[5, 1] W₃[6, 5] + W₁[6, 1] W₃[6, 6]

In[]:= **R_{1,3} // Δ_{1→1,2} // Short**

Out[]//Short= W₁[1, 1] W₂[1, 1] W₃[1, 1] + W₁[2, 1] W₂[2, 1] W₃[1, 1] +
 <<212>> + W₁[2, 1] W₂[5, 1] W₃[6, 6] + W₁[1, 1] W₂[6, 1] W₃[6, 6]

In[]:= **R_{2,3} R_{1,4} // m_{3,4→3} // Short**

Out[]//Short= W₁[1, 1] W₂[1, 1] W₃[1, 1] + W₁[2, 1] W₂[2, 1] W₃[1, 1] +
 <<212>> + W₁[3, 1] W₂[5, 1] W₃[6, 6] + W₁[1, 1] W₂[6, 1] W₃[6, 6]

In[]:= **(R_{1,3} // Δ_{1→1,2}) - (R_{2,3} R_{1,4} // m_{3,4→3})**

Out[]:= 0

In[]:= **HL**[(R_{1,3} // Δ_{1→1,2}) == (R_{2,3} R_{1,4} // m_{3,4→3})]

Out[]:= **True**