Pensieve header: A full implementation of gl_n^ϵ.

In[•]:=
```
SetDirectory["C:/drorbn/AcademicPensieve/Projects/glneps"];
Once[
 << "KnotTheory`";
 << "Rot.m";
 << "PolyPlot.m";
]
```

```
Loading KnotTheory` version of October 29, 2024, 10:29:52.1301.
Read more at http://katlas.org/wiki/KnotTheory.

Loading Rot.m to compute rotation numbers.

Loading PolyPlot.m to plot 2-variable polynomials.
```

utm for “upper triangular multiply”
lcm for “last column multiply”.

In[•]:=
```
utm_1[i_, j_, , k_] := 𝔼[i, j, , k][(ξ_{1,1}[i] + ξ_{1,1}[j]) x_{1,1}[k]];
lcm_n_[i_, j_, , k_] :=
  𝔼[i, j, , k][(ξ_{n,n}[i] + ξ_{n,n}[j]) x_{n,n}[k] + Sum_{v=1}^{n-1} (Ξ_{n,n}[j]^-1 ξ_{v,n}[i] + ξ_{v,n}[j]) x_{v,n}[k]];
```

In[•]:=
```
lcm_3[i, j, , k]
```

Out[•]=

$$\mathbb{E}[i, j, \text{Null}, k]\left[x_{3,3}[k]\,(\xi_{3,3}[i] + \xi_{3,3}[j]) + x_{1,3}[k]\left(\xi_{1,3}[j] + \frac{\xi_{1,3}[i]}{\Xi_{3,3}[j]}\right) + x_{2,3}[k]\left(\xi_{2,3}[j] + \frac{\xi_{2,3}[i]}{\Xi_{3,3}[j]}\right)\right]$$