This file describes the Borcherds products Borch(pq) that were used to help span E_8(8)(3)^+. For each such pq, the list below gives information

(singularities, pb, cusps)

that describes pq and lets us confirm that pq: gives rise to a reflective, 26-dimensional lattice in the orthogonal part of pq, from which it can be deduced that Borch(pq) is a weight 4, level 13 Fricke modular form, with pb: the Heisenberg vector Delta(z) in the Fourier expansion in the leading Fourier Jacobi coefficient of Borch(pq), as can be seen from the singular part of pq. And pq: lies in E_8(8)(3)^+, as can be defined by

pq : phi(z,2) / phi : combo.Weight2Basis(Delta2).

Here V_2 is an index raising operator, and combo is a vector of coefficients.

The basis Weight2Basis of Z_{12,8}^{cusp} is given following the list of pq:

Number of pq:5: 1,

```
pq: H(1)
+ 4*x+ 4*y^2 + y^3/3 + z^2/8 + z^3/6 + 4*z^2*x + 4*z^2*y + 4*z^2 + 4*z
+ 4*xx + 4*xy^2 + 4*xy^3 + 4*z^2*x + z^3*x + 4*z^2*y + z^3*y + (-24) + z^2*
+ 4*z^2*xx + 4*z^2*xy + 4*z^2*xy^2 + 4*z^2*xy^3 + 4*z^2*y^2 + z^3*y^2 + 4*z^2
+ g^2(z,x)*(-3) + g^2(z,x)*(-3)*y + g^2(z,x)*(-3)*y^2 + g^2(z,x)*(-3)*y^3
+ g^2(z,x)*(-3)*z + g^2(z,x)*(-3)*z^2 + g^2(z,x)*(-3)*z^3 + 4*z^2*xx^2
+ 4*z^2*xx^3 + 4*z^2*xy^4 + 4*z^2*xy^5 + 4*z^2*y^3 + z^3*y^3 + 4*z^2*y^4
(singularities, pb, cusps)
[[0,0],[1,1],[2,2],[3,3],[4,4],[5,5],[6,6],[7,7]]
[[0,0,0,
```