```
N = 123 = 3*41

By the Ibukiyama-Kitayama dimension formula,
 dim(S_4(K(123))) = 37

By the Skoruppa-Zagier dimension formula and Jacobi restriction,
 the lift dimension of S_4(K(123))^+ is 21
 the nonlift dimension of S_4(K(123))^+ is heuristically 13
 dim(S_4(K(123))^+) thus is heuristically 34
 dim(S_4(K(123))^-) is heuristically 3

The heuristic dimensions are correct by the spanning results to follow

dim(J_{2,123}^{cusp}) = 2 (Skoruppa-Zagier), so need to span to within 1 dimension

q = 5 for TraceDown
After TD(Grit(J_{4,615}^{cusp})) and (Grit(J_{2,123}^{cusp}))^2,
 spanned rank in S_4(K(123))^+ is 34
 spanned rank in S_4(K(123))^- is 0

Hecke operators applied: {{{3, 2}}}
After Hecke spreading,
 spanned rank in S_4(K(123))^- is 1

After Borcherds products,
 spanned rank in S_4(K(123))^- is 3

Final spanned rank in S_4(K(123))^+ is 34
Final spanned rank in S_4(K(123))^- is 3

--------------------------------------------------------------------------------

S_2(K(123)) is determined by Jacobi restriction and the H4Ndd(2,+) test
 (H_4(123,2,2)^+ = 0)

So S_2(K(123)) = Grit(J_{2,123}^{cusp}) (dimension 2)
```