Exercise 4.2 Inconsistent free indices

```
\{a,b,c,d,e,f,g,h,i,j,k,l,m,n,o,p,q,r,s,t,u,v,w\#\}::Indices(position=independent).
     def deriv (poly):
         \delta^{a}::Weight(label=\epsilon).
         bah := @(poly).
                        (bah, x^{a} -> x^{a} + \det^{a})
         substitute
                        (bah)
         distribute
10
11
         foo := @(bah) - @(poly).
12
13
         keep_weight (foo, $\epsilon = 1$)
14
                      (foo, $\delta^{a} -> 1$)
         substitute
15
16
         return foo
17
18
19
20
     poly := c^{a}
21
           + c^{a}{}_{b} x^b
22
           + c^{a}_{b} = c x x c. # cdb (ex-0402.100,poly)
23
     dpoly = deriv (poly)
                                       # cdb (ex-0402.101,dpoly)
```

$$p = c^{a} + c^{a}{}_{b}x^{b} + c^{a}{}_{bc}x^{b}x^{c}$$
 (ex-0402.100)
$$dp = c^{a}{}_{b} + c^{a}{}_{bc}x^{b} + c^{a}{}_{bc}x^{c}$$
 (ex-0402.101)

$$dp = c^a{}_b + c^a{}_{bc}x^b + c^a{}_{bc}x^c (ex-0402.101)$$