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# Sage code to compute the desired coefficient

P,(x1,x2,x3,x4,x5,x6,x7,y1,y2,y3,y4,y5,y6,y7,y8)=PolynomialRing(ZZ, 15,
   ['x1','x2','x3','x4','x5','x6','x7','y1','y2','y3','y4','y5','y6','y7','y8']).objgens
()

fx1=(x1-x2)*(x1-x3)*(y1-x1)*(y2-x1)*(y3-x1)*(x4-x5)*(x6-x7)*(y4-y5)*(y6-y7)*(y7-y8)
C1 =fx1.coefficient(x1)
fx2=x1*C1*(x2-x3)*(x2-x4)*(y1-x2)*(y2-x2)*(y3-x2)*(y4-x2)
C2 =fx2.coefficient(x2^3);
fx3=x2^3*C2*(x3-x4)*(x3-x5)*(y2-x3)*(y3-x3)*(y4-x3)*(y5-x3)
C3 =fx3.coefficient(x3^4)
fx4=x3^4*C3*(x4-x6)*(y4-x4)*(y5-x4)*(y6-x4)*(y3-x4)
C4 =fx4.coefficient(x4^4)
fx5=x4^4*C4*(x5-x6)*(x5-x7)*(y4-x5)*(y5-x5)*(y6-x5)*(y7-x5)
C5 =fx5.coefficient(x5^4)
fx6=x5^4*C5*(y5-x6)*(y6-x6)*(y7-x6)*(y8-x6)
C6 =fx6.coefficient(x6^3)
fx7=x6^3*C6*(y6-x7)*(y7-x7)*(y8-x7)
C7 =fx7.coefficient(x7)

# We have now reduced far enough so that we can take the rest of the terms
f = x7*C7*(y1-y2)*(y2-y3)*(y3-y4)*(y5-y6)
M=f.coefficient(x1*x2^3*(x3*x4*x5)^4*x6^3*x7*y1*y2^3*(y3*y4*y5*y6)^4*y7^3*y8)
print M
```