

Pensieve Header: A quick implementation of the BCH formula, only up to degree 8.

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BCH[b_, x_, y_] := Module[
  {BCH8, B, X, Y, Ev},
  BCH8 = B[X, Y] / 2 + B[X, B[X, Y]] / 12 -
    B[X, B[X, B[X, B[X, Y]]]] / 720 + B[X, B[X, B[X, B[X, B[X, B[X, Y]]]]]] / 30240 -
    B[X, B[X, B[X, B[X, B[X, B[Y, B[X, Y]]]]]]] / 20160 -
    B[X, B[X, B[X, B[X, B[Y, B[X, Y]]]]]] / 10080 +
    B[X, B[X, B[X, B[X, B[Y, B[Y, B[X, Y]]]]]]] / 20160 -
    B[X, B[X, B[X, B[Y, B[X, Y]]]]] / 1440 + B[X, B[X, B[X, B[Y, B[X, B[X, B[X, Y]]]]]]] /
      12096 - B[X, B[X, B[X, B[Y, B[X, B[Y, B[X, Y]]]]]]] / 5040 -
    B[X, B[X, B[X, B[Y, B[Y, B[X, Y]]]]]] / 7560 -
    (5 * B[X, B[X, B[X, B[Y, B[Y, B[Y, B[X, Y]]]]]]] / 24192 -
    B[X, B[X, B[Y, B[X, Y]]]] / 120 + B[X, B[X, B[Y, B[X, B[X, B[X, Y]]]]]] / 2520 +
    B[X, B[X, B[Y, B[X, B[X, B[Y, B[X, Y]]]]]]] / 3360 +
    B[X, B[X, B[Y, B[X, B[Y, B[X, Y]]]]]] / 3360 +
    B[X, B[X, B[Y, B[X, B[Y, B[Y, B[X, Y]]]]]]] / 2520 -
    B[X, B[X, B[Y, B[Y, B[X, Y]]]]] / 720 - B[X, B[X, B[Y, B[Y, B[Y, B[X, Y]]]]]] / 3360 +
    B[X, B[X, B[Y, B[Y, B[Y, B[Y, B[X, Y]]]]]]] / 20160 -
    B[X, B[Y, B[X, Y]]] / 24 + B[X, B[Y, B[X, B[X, B[X, Y]]]]] / 720 -
    B[X, B[Y, B[X, B[X, B[X, B[X, Y]]]]]]] / 20160 -
    B[X, B[Y, B[X, B[X, B[X, B[Y, B[X, Y]]]]]]] / 6720 +
    B[X, B[Y, B[X, B[X, B[Y, B[X, Y]]]]]]] / 1680 +
    B[X, B[Y, B[X, B[X, B[Y, B[Y, B[X, Y]]]]]]] / 15120 +
    B[X, B[Y, B[X, B[Y, B[X, Y]]]]] / 240 - B[X, B[Y, B[X, B[Y, B[X, B[X, B[X, Y]]]]]]] /
      10080 - B[X, B[Y, B[X, B[Y, B[X, B[Y, B[X, Y]]]]]]] / 2016 +
    B[X, B[Y, B[X, B[Y, B[Y, B[X, Y]]]]]]] / 1260 -
    B[X, B[Y, B[X, B[Y, B[Y, B[Y, B[X, Y]]]]]]] / 20160 -
    B[X, B[Y, B[Y, B[X, Y]]]] / 360 + B[X, B[Y, B[Y, B[X, B[X, B[Y, B[X, Y]]]]]]] / 20160 -
    B[X, B[Y, B[Y, B[X, B[Y, B[Y, B[X, Y]]]]]]] / 10080 +
    B[X, B[Y, B[Y, B[Y, B[X, Y]]]]] / 1440 + B[X, B[Y, B[Y, B[Y, B[Y, B[X, Y]]]]]]] / 10080 -
    B[X, B[Y, B[Y, B[Y, B[Y, B[Y, B[X, Y]]]]]]] / 60480 - B[Y, B[X, Y]] / 12 +
    B[Y, B[X, B[X, B[X, Y]]]] / 360 - B[Y, B[X, B[X, B[X, B[X, B[X, Y]]]]]]] / 10080 -
    B[Y, B[X, B[X, B[X, B[Y, B[X, Y]]]]]]] / 3360 +
    B[Y, B[X, B[X, B[Y, B[Y, B[X, Y]]]]]]] / 7560 +
    B[Y, B[X, B[Y, B[X, Y]]]] / 120 - B[Y, B[X, B[Y, B[X, B[X, B[X, Y]]]]]]] / 5040 -
    B[Y, B[X, B[Y, B[X, B[Y, B[X, Y]]]]]]] / 1008 - B[Y, B[X, B[Y, B[Y, B[Y, B[X, Y]]]]]]] /
      10080 + B[Y, B[Y, B[X, B[X, B[Y, B[X, Y]]]]]]] / 10080 -
    B[Y, B[Y, B[X, B[Y, B[Y, B[X, Y]]]]]]] / 5040 + B[Y, B[Y, B[Y, B[X, Y]]]]] / 720 -
    B[Y, B[Y, B[Y, B[Y, B[Y, B[X, Y]]]]]]] / 30240;
  Ev[X] = x; Ev[Y] = y;
  Ev[B[u_, v_]] := Ev[B[u, v]] = b[Ev[u], Ev[v]];
  Expand[x + y + (BCH8 /. B[u_, v_] => Ev[B[u, v]])]
];

b[s1_String, s2_String] := (s1 <> s2 - s2 <> s1 /. s_String /; StringLength[s] > 5 => 0);
b[x_, 0] = 0;
b[0, y_] = 0;
b[c_?NumberQ * x_, y_] := Expand[c * b[x, y]];
b[x_, c_?NumberQ * y_] := Expand[c * b[x, y]];
b[x_Plus, y_] := b[#, y] & /@ x;
b[x_, y_Plus] := b[x, #] & /@ y;

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BCH[b, "x", "y"]

$$\begin{aligned}
 x - & \frac{xxxxx}{720} + \frac{xxxxy}{180} + \frac{xxxyy}{180} + \frac{xxy}{12} - \frac{xxxyx}{120} - \frac{xxxyx}{120} + \frac{xxxyx}{24} - \frac{xxxyx}{120} + \frac{xxxyy}{180} + \frac{xy}{2} - \frac{xyx}{6} + \\
 & \frac{xyxxx}{180} - \frac{xyxyx}{120} - \frac{xyxyx}{12} + \frac{xyxyx}{30} - \frac{xyxyx}{120} + \frac{xyy}{12} - \frac{xyyxx}{120} - \frac{xyyxy}{120} + \frac{xyyxy}{180} - \frac{xyyyy}{720} + y - \\
 & \frac{yx}{2} + \frac{yxx}{12} - \frac{yxxxx}{720} + \frac{yxxxxy}{180} - \frac{yxxxxy}{120} - \frac{yxxxxy}{120} - \frac{yxy}{6} + \frac{yxyx}{12} - \frac{yxyxx}{120} + \frac{yxyxy}{30} - \frac{yxyyx}{120} + \\
 & \frac{yxyyy}{180} + \frac{yyx}{12} - \frac{yyxx}{24} + \frac{yyxxx}{180} - \frac{yyxxx}{120} - \frac{yyxxx}{120} - \frac{yyxyx}{120} + \frac{yyxyx}{180} + \frac{yyxyx}{180} - \frac{yyyyx}{720}
 \end{aligned}$$

rgt = BCH[b, "x", BCH[b, "y", "z"]]

$$\begin{aligned}
 x - & \frac{xxxxx}{720} - \frac{xxxxz}{720} + \frac{xxxxy}{180} + \frac{xxxzy}{180} + \frac{xxxzy}{180} + \frac{xxxzz}{180} + \frac{xxxzy}{180} + \frac{xxxzz}{180} + \frac{xxy}{12} - \frac{xxxyx}{120} - \frac{xxxyx}{120} - \\
 & \frac{xxxyz}{120} + \frac{xxyy}{24} - \frac{xxyyx}{120} + \frac{xxyyy}{180} + \frac{xxyyz}{30} + \frac{xxyz}{12} - \frac{xxyzx}{120} - \frac{xxyzx}{120} + \frac{xxzz}{30} + \frac{xxzzx}{12} - \frac{xxzzx}{120} - \\
 & \frac{xxzxy}{120} - \frac{xxzxx}{120} - \frac{xxzyx}{120} - \frac{xxzyy}{120} - \frac{xxzyz}{24} - \frac{xxzz}{120} - \frac{xxzzx}{120} - \frac{xxzzy}{180} + \frac{xxzzz}{2} + \frac{xy}{6} + \\
 & \frac{xyxxx}{180} - \frac{xyxxx}{120} - \frac{xyxxx}{120} - \frac{xyxyx}{12} + \frac{xyxyx}{30} - \frac{xyxyx}{120} - \frac{xyxyx}{20} - \frac{xyxz}{12} + \frac{xyxzx}{30} + \frac{xyxzy}{30} - \frac{xyxzz}{120} + \\
 & \frac{xyy}{180} - \frac{xyyxx}{120} - \frac{xyyxy}{120} - \frac{xyyzz}{12} + \frac{xyyyx}{30} - \frac{xyyyy}{120} + \frac{xyyyz}{20} + \frac{xyyz}{12} - \frac{xyyzx}{30} - \frac{xyyzy}{30} - \frac{xyyzz}{120} + \\
 & \frac{xyz}{12} - \frac{xyzx}{120} - \frac{xyzxx}{120} - \frac{xyzxy}{120} + \frac{xyzxz}{180} - \frac{zyz}{720} + \frac{zyzyx}{180} + \frac{zyzyy}{12} - \frac{zyzyz}{120} - \frac{zyzz}{120} + \frac{zyzzx}{30} - \\
 & \frac{xyzzy}{3} + \frac{xyzzz}{12} + \frac{xz}{120} - \frac{xzx}{20} + \frac{xzxxx}{20} - \frac{xzxxxy}{12} + \frac{xzxxxz}{30} - \frac{xzxy}{120} + \frac{xzxyx}{20} - \frac{xzxyx}{12} + \frac{xzxyy}{120} - \frac{xzxyy}{120} - \\
 & \frac{xzxx}{120} + \frac{xzxxz}{180} + \frac{xzxxzy}{2} - \frac{xzxxz}{6} + \frac{xzy}{180} - \frac{xzyx}{120} - \frac{xzyxx}{120} + \frac{xzyxy}{12} + \frac{xzyxz}{30} - \frac{xzyyx}{120} + \frac{xzyyy}{20} - \\
 & \frac{xzyyz}{12} + \frac{xzyz}{30} + \frac{xzyzx}{30} - \frac{xzyzy}{120} + \frac{xzyzz}{6} + \frac{xzz}{12} - \frac{xzzxx}{120} + \frac{xzzxy}{30} - \frac{xzzxz}{30} - \frac{xzzyx}{120} - \frac{xzzyy}{180} - \\
 & \frac{xzzyz}{120} - \frac{xzzzx}{12} + \frac{xzzzy}{30} + \frac{xzzzz}{30} - \frac{yx}{120} - \frac{yxx}{12} - \frac{yxxxx}{120} - \frac{yxxxxy}{120} - \frac{yxxxz}{120} - \frac{yxxxxy}{120} - \frac{yxxxz}{120} - \\
 & \frac{yxyyz}{120} + \frac{yxxxz}{180} + \frac{yxxxzy}{180} - \frac{yxxxzz}{720} + \frac{yxy}{2} + \frac{yxyx}{12} - \frac{yxyxx}{720} + \frac{yxyxy}{180} + \frac{yxyxz}{180} - \frac{yxyyx}{120} - \frac{yxyyy}{120} - \\
 & \frac{yxyyz}{120} - \frac{yxyz}{120} - \frac{yxyzx}{120} - \frac{yxyzzy}{120} - \frac{yxyzz}{6} + \frac{yxz}{12} - \frac{yxzx}{120} + \frac{yxzxx}{30} + \frac{yxzxy}{30} - \frac{yxzxx}{120} + \frac{yxzy}{180} - \\
 & \frac{yxzyx}{120} - \frac{yxzyy}{12} + \frac{yxzyz}{30} + \frac{yxzzx}{30} - \frac{yxzzzy}{120} - \frac{yxzzz}{6} + \frac{yxzzz}{12} - \frac{yxzx}{120} + \frac{yxzxz}{30} + \frac{yxzxz}{30} + \frac{yxxxx}{12} - \\
 & \frac{yyxyx}{20} - \frac{yyxyy}{120} + \frac{yyxyz}{30} - \frac{yyxzx}{120} - \frac{yyxzy}{120} + \frac{yyxzz}{180} + \frac{yyyxx}{12} - \frac{yyyxy}{24} + \frac{yyyxz}{180} - \frac{yyyxz}{120} - \frac{yyyxy}{120} - \\
 & \frac{yyyzy}{120} - \frac{yyyzx}{120} - \frac{yyyzy}{120} - \frac{yyyzz}{120} - \frac{yyz}{120} - \frac{yyzxx}{120} - \frac{yyzxy}{180} - \frac{yyzxx}{180} - \frac{yyzyx}{180} - \frac{yyzyy}{720} - \frac{yyzyz}{120} + \\
 & \frac{yyzz}{720} - \frac{yyzzx}{180} - \frac{yyzzy}{180} - \frac{yyzzz}{180} + \frac{yz}{12} - \frac{yzx}{120} - \frac{yzxxx}{120} - \frac{yzxxy}{120} - \frac{yzxxx}{120} - \frac{yzxy}{120} - \frac{yzxyx}{120} - \\
 & \frac{yzxyy}{24} - \frac{yzxyz}{120} - \frac{yzxz}{120} + \frac{yzxxx}{180} + \frac{yzxzy}{2} - \frac{yzxzz}{6} - \frac{yzy}{180} - \frac{yzyx}{120} - \frac{yzyxx}{120} - \frac{yzyxy}{12} + \frac{yzyxz}{30} - \\
 & \frac{yzyyx}{120} - \frac{yzyyy}{20} - \frac{yzyyz}{12} - \frac{yzyz}{30} + \frac{yzyzx}{30} - \frac{yzyzy}{120} - \frac{yzyzz}{6} + \frac{yzz}{120} - \frac{yzzxx}{12} - \frac{yzzxy}{30} - \frac{yzzxz}{30} - \\
 & \frac{yzzyx}{120} + \frac{yzzyy}{180} - \frac{yzzyz}{120} - \frac{yzzzx}{12} + \frac{yzzzy}{30} - \frac{yzzzz}{30} - \frac{zx}{120} - \frac{zxx}{12} - \frac{zxxxx}{120} - \frac{zxxxxy}{120} - \frac{zxxxxz}{120} - \\
 & \frac{120}{120} - \frac{120}{120} - \frac{120}{120} + \frac{180}{180} + \frac{180}{180} - \frac{720}{720} + z - \frac{2}{2} + \frac{12}{12} - \frac{720}{720} + \frac{180}{180} + \frac{180}{180}
 \end{aligned}$$

$$\begin{array}{r}
 \frac{zxxyx}{120} - \frac{zxxyy}{120} - \frac{zxxyz}{120} - \frac{zxxxz}{120} - \frac{zxxzy}{120} - \frac{zxxzz}{120} - \frac{zxy}{6} + \frac{zxyx}{12} - \frac{zxyxx}{120} + \frac{zxyxy}{30} + \frac{zxyxz}{30} - \\
 \frac{zxyyx}{zxyyy} - \frac{zxyyz}{zxyyz} - \frac{zxyz}{zxyz} + \frac{zxyzx}{zxyzx} + \frac{zxyzzy}{zxyzzy} - \frac{zxyzzz}{zxyzzz} - \frac{zxy}{zxy} + \frac{zxyz}{zxyz} + \frac{zxyzx}{zxyzx} - \frac{zxyzxy}{zxyzxy} + \frac{zxyzxz}{zxyzxz} + \\
 \frac{zxxxz}{zxxxz} - \frac{zxxzy}{zxxzy} - \frac{zxxzz}{zxxzz} - \frac{zxy}{zxy} + \frac{zxyx}{zxyx} - \frac{zxyxx}{zxyxx} + \frac{zxyxy}{zxyxy} - \frac{zxyxz}{zxyxz} + \\
 \frac{30}{zyxxx} + \frac{12}{zyxxy} - \frac{20}{zyxxxz} - \frac{120}{zyxy} + \frac{30}{zyxyx} - \frac{120}{zyxyy} + \frac{120}{zyxyz} + \frac{180}{zyxz} - \frac{2}{zyxzx} + \frac{3}{zyxzy} - \frac{12}{zyxzz} + \\
 \frac{180}{zyy} - \frac{120}{zyyx} - \frac{120}{zyyxx} - \frac{12}{zyyxy} + \frac{20}{zyyxxz} + \frac{120}{zyyyx} - \frac{30}{zyyyy} + \frac{12}{zyyyyz} - \frac{20}{zyyzx} - \frac{20}{zyyzy} - \frac{120}{zyyzz} - \\
 \frac{12}{zyz} - \frac{12}{zyzx} + \frac{30}{zyzxx} - \frac{120}{zyzxy} + \frac{120}{zyzxxz} + \frac{180}{zyzy} - \frac{720}{zyzyx} - \frac{180}{zyzyy} + \frac{120}{zyzyz} - \frac{120}{zyzxxz} - \frac{120}{zyzzy} - \\
 \frac{6}{zyzzz} + \frac{12}{zzx} - \frac{120}{zzxx} + \frac{30}{zzxxx} + \frac{30}{zzxxy} - \frac{12}{zzxxxz} - \frac{20}{zzxyx} - \frac{120}{zzxyy} - \frac{30}{zzxyz} - \frac{120}{zzxxz} - \frac{120}{zzxzy} - \\
 \frac{180}{zzxzz} + \frac{12}{zzy} - \frac{24}{zzyx} - \frac{180}{zzyxx} - \frac{120}{zzyxy} - \frac{120}{zzyxz} - \frac{120}{zzyy} - \frac{120}{zzyyx} - \frac{120}{zzyyy} - \frac{120}{zzyyz} - \frac{120}{zzyzx} - \\
 \frac{120}{zzyzy} - \frac{12}{zzyzz} - \frac{12}{zzzxx} + \frac{30}{zzzxy} - \frac{120}{zzzxxz} - \frac{120}{zzzyx} - \frac{24}{zzzyy} + \frac{30}{zzzyz} - \frac{180}{zzzxxz} - \frac{120}{zzzzy} - \\
 \frac{120}{120} - \frac{120}{180} + \frac{180}{180} + \frac{180}{180} + \frac{180}{180} + \frac{180}{180} + \frac{180}{180} + \frac{180}{180} + \frac{180}{720} - \frac{720}{720}
 \end{array}$$

lft = BCH[b, BCH[b, "x", "y"], "z"]

$$\begin{array}{r}
 \frac{xxxxy}{720} - \frac{xxxxz}{720} + \frac{xxxxy}{180} + \frac{xxxyy}{180} + \frac{xxxyz}{180} + \frac{xxxxz}{180} + \frac{xxxzy}{180} + \frac{xxxzz}{180} + \frac{xxy}{12} - \frac{xxyxx}{120} - \frac{xxyxy}{120} - \\
 \frac{xxyxz}{xxyyx} - \frac{xxyy}{xxyyy} - \frac{xxyyx}{xxyyz} + \frac{xxyyz}{xxyyz} - \frac{xxyz}{xxyz} - \frac{xxyzx}{xxyzx} - \frac{xxzy}{xxyzzy} + \frac{xxzzz}{xxyzzz} + \frac{xy}{xy} - \frac{xyx}{xyx} + \\
 \frac{120}{xxxzy} - \frac{24}{xxxzz} - \frac{120}{xxzyx} - \frac{180}{xxzyy} - \frac{30}{xxzyz} - \frac{12}{xxzz} - \frac{120}{xxzzx} - \frac{120}{xxzzzy} - \frac{30}{xxzzz} - \frac{2}{xy} - \frac{6}{xyx} + \\
 \frac{120}{xyxxx} - \frac{120}{xyxxy} - \frac{120}{xyxxxz} - \frac{120}{xyxy} + \frac{120}{xyxyx} - \frac{24}{xyxyy} - \frac{120}{xyxyz} - \frac{120}{xyxz} - \frac{180}{xyxzz} - \frac{2}{xyxzy} - \frac{6}{xyxzz} + \\
 \frac{180}{xyy} - \frac{120}{xyyxx} - \frac{120}{xyyxy} - \frac{12}{xyyxxz} + \frac{30}{xyyyx} - \frac{120}{xyyyy} - \frac{20}{xyyyz} - \frac{12}{xyyz} + \frac{30}{xyyzx} + \frac{30}{xyyzy} - \frac{120}{xyyzz} + \\
 \frac{12}{xyz} - \frac{120}{xyzx} - \frac{120}{xyzxx} - \frac{120}{xyzxy} - \frac{180}{xyzxxz} - \frac{720}{xyzy} + \frac{180}{xyzyx} - \frac{12}{xyzyy} - \frac{120}{xyzyz} + \frac{120}{xyzz} - \frac{30}{xyzxxz} - \\
 \frac{3}{xyzzy} + \frac{12}{xyzzz} - \frac{120}{xz} - \frac{20}{xzxx} + \frac{20}{xzxxx} - \frac{12}{xzxxxy} - \frac{30}{xzxxxz} - \frac{120}{xzxy} - \frac{20}{xzxyx} - \frac{12}{xzxyy} - \frac{120}{xzxyz} - \\
 \frac{120}{xzzz} + \frac{180}{xzzxx} + \frac{2}{xzzxy} - \frac{6}{xzzzz} + \frac{180}{xzy} - \frac{120}{xzyx} - \frac{120}{xzyxx} - \frac{12}{xzyxy} + \frac{30}{xzyxz} - \frac{120}{xzyyx} - \frac{20}{xzyyy} - \\
 \frac{12}{xzyyz} - \frac{30}{xzyz} - \frac{30}{xzyzxx} - \frac{120}{xzyzy} - \frac{6}{xzyzz} - \frac{12}{xzz} - \frac{120}{xzzxx} - \frac{30}{xzzxy} - \frac{30}{xzzxxz} - \frac{120}{xzzzyx} - \frac{180}{xzzzyy} - \\
 \frac{120}{xzzyz} - \frac{12}{xzzzz} + \frac{30}{xzzzy} - \frac{30}{xzzzzz} - \frac{120}{yx} + \frac{12}{yxx} - \frac{120}{yxxx} - \frac{120}{yxxxxy} - \frac{120}{yxxxz} - \frac{120}{yxxxxy} - \\
 \frac{120}{yxxyz} - \frac{180}{yxxxz} - \frac{180}{yxxzy} - \frac{720}{yxxxzz} - \frac{2}{yxy} + \frac{12}{yxyx} - \frac{720}{yxyxx} + \frac{180}{yxyxy} - \frac{180}{yxyxz} - \frac{120}{yxyyx} - \frac{120}{yxyyy} - \\
 \frac{120}{yxyyz} - \frac{120}{yxyz} - \frac{120}{yxyzx} - \frac{120}{yxyzzy} - \frac{6}{yxyzz} - \frac{12}{yxxz} - \frac{120}{yxxzxx} - \frac{30}{yxxzxy} - \frac{30}{yxxzxxz} - \frac{120}{yxxzxxz} - \frac{180}{yxxzy} - \\
 \frac{120}{yxxzyx} - \frac{12}{yxxzyy} - \frac{30}{yxxzyz} - \frac{30}{yxxzxx} - \frac{120}{yxxzzy} - \frac{6}{yxxzz} + \frac{12}{yxxzzz} - \frac{120}{yxxz} - \frac{30}{yxxzxx} - \frac{30}{yxxzxxz} - \frac{120}{yxxzxxz} - \frac{12}{yxxzxxz} - \\
 \frac{20}{yyxyx} - \frac{120}{yyxxy} - \frac{30}{yyxyz} - \frac{120}{yyxxx} - \frac{120}{yyxzy} - \frac{180}{yyxzz} + \frac{12}{yyyxx} + \frac{24}{yyyxy} - \frac{180}{yyyxxz} - \frac{120}{yyyxy} - \\
 \frac{120}{yyyyz} - \frac{120}{yyyzx} - \frac{120}{yyyyzy} - \frac{120}{yyyyzz} - \frac{120}{yyz} - \frac{120}{yyzxx} - \frac{180}{yyzxy} - \frac{180}{yyzxxz} - \frac{180}{yyzyx} - \frac{720}{yyzyy} - \frac{120}{yyzyz} + \\
 \frac{720}{180} + \frac{180}{180} + \frac{180}{180} + \frac{180}{12} - \frac{120}{120} - \frac{120}{120}
 \end{array}$$

$$\begin{aligned}
 & \frac{yzzz}{24} - \frac{yyzzx}{120} - \frac{yyzzy}{120} + \frac{yyzzz}{180} + \frac{yz}{2} - \frac{yzx}{6} + \frac{yzxxx}{180} - \frac{yzxxy}{120} - \frac{yzxxz}{120} - \frac{yzxy}{12} + \frac{yzxyx}{30} - \\
 & \frac{yzxyy}{yzxyy} - \frac{yzxyz}{yzxyz} - \frac{yzxz}{yzxz} + \frac{yzxzx}{yzxzx} + \frac{yzxzy}{yzxzy} - \frac{yzxzz}{yzxzz} - \frac{yzy}{yzy} + \frac{yzyx}{yzyx} - \frac{yzyxx}{yzyxx} + \frac{yzyxy}{yzyxy} - \frac{yzyxz}{yzyxz} - \\
 & \frac{120}{yzyyx} - \frac{20}{yzyyy} - \frac{12}{yzyyz} - \frac{30}{yzyz} + \frac{30}{yzyzx} + \frac{120}{yzyzy} - \frac{6}{yzyzz} + \frac{12}{yzz} - \frac{120}{yzzxx} - \frac{30}{yzzxy} + \frac{30}{yzzxz} - \\
 & \frac{120}{yzzyx} - \frac{180}{yzzyy} - \frac{120}{yzzyz} - \frac{12}{yzzzx} + \frac{30}{yzzzy} + \frac{30}{yzzzz} - \frac{120}{zx} + \frac{12}{zxx} - \frac{120}{zxxxx} - \frac{120}{zxxxxy} - \frac{120}{zxxxxz} - \\
 & \frac{120}{zxxyx} - \frac{120}{zxxyy} - \frac{120}{zxxyz} - \frac{180}{zxxxz} + \frac{180}{zxxzy} - \frac{720}{zxxxz} - \frac{2}{zxy} + \frac{12}{zxyx} - \frac{720}{zxyxx} - \frac{180}{zxyxy} + \frac{180}{zxyxz} - \\
 & \frac{120}{zxyyx} - \frac{120}{zxyyy} - \frac{120}{zxyyz} - \frac{120}{zxyz} + \frac{120}{zxyzx} - \frac{120}{zxyzy} - \frac{6}{zxyzz} - \frac{12}{zxx} + \frac{120}{zxxz} - \frac{30}{zxxzx} + \frac{30}{zxxzy} + \\
 & \frac{120}{zxxzx} + \frac{180}{zxxzy} - \frac{120}{zxxzyx} - \frac{12}{zxxzy} + \frac{30}{zxxzy} + \frac{30}{zxxzz} - \frac{120}{zxxzy} - \frac{6}{zxxzz} - \frac{12}{zy} - \frac{120}{zyx} - \frac{30}{zyxx} + \\
 & \frac{30}{zyxxx} - \frac{12}{zyxxy} - \frac{20}{zyxxxz} - \frac{120}{zyxy} + \frac{30}{zyxyx} - \frac{120}{zyxyy} - \frac{120}{zyxyz} + \frac{180}{zyxz} - \frac{2}{zyxzx} + \frac{3}{zyxzy} - \frac{12}{zyxzz} + \\
 & \frac{180}{zyy} - \frac{120}{zyyx} - \frac{120}{zyyxx} - \frac{12}{zyyxy} - \frac{20}{zyyxz} - \frac{120}{zyyyx} - \frac{30}{zyyyy} + \frac{12}{zyyyz} - \frac{20}{zyyzx} - \frac{20}{zyyzy} - \frac{120}{zyyzz} - \\
 & \frac{12}{zyz} - \frac{12}{zyzx} - \frac{30}{zyzxx} - \frac{120}{zyzxy} - \frac{120}{zyzxx} + \frac{180}{zyzy} - \frac{720}{zyzyx} - \frac{180}{zyzyy} - \frac{120}{zyzyz} - \frac{120}{zyzxx} - \frac{120}{zyzzy} + \\
 & \frac{6}{zyzzz} - \frac{12}{zzx} - \frac{120}{zzxx} + \frac{30}{zzxxx} + \frac{30}{zzxxy} - \frac{12}{zzxxx} - \frac{20}{zzxyx} - \frac{120}{zzxyy} - \frac{30}{zzxyz} - \frac{120}{zzxzx} - \frac{120}{zzxzy} + \\
 & \frac{180}{zzxzz} - \frac{12}{zzy} - \frac{24}{zzyx} - \frac{180}{zzyxx} - \frac{120}{zzyxy} - \frac{120}{zzyxz} - \frac{120}{zzyy} - \frac{120}{zzyyx} - \frac{120}{zzyyy} - \frac{120}{zzyyz} - \frac{120}{zzyzx} - \\
 & \frac{120}{zzyzy} - \frac{12}{zzyzz} - \frac{12}{zzzxx} + \frac{30}{zzzxy} - \frac{120}{zzzxx} - \frac{120}{zzzyx} - \frac{24}{zzzyy} + \frac{30}{zzzyz} - \frac{180}{zzzzx} - \frac{120}{zzzzzy} - \\
 & \frac{120}{120} - \frac{120}{120} + \frac{180}{180} + \frac{180}{180} + \frac{180}{180} + \frac{180}{180} + \frac{180}{180} + \frac{180}{180} - \frac{720}{720} - \frac{720}{720}
 \end{aligned}$$

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