In[1]:=
$$\mathbf{td} = 1 + \frac{\mathbf{c1}\,\mathbf{t}}{2} + \frac{1}{12}\left(\mathbf{c1}^2 + \mathbf{c2}\right)\mathbf{t}^2 + \frac{1}{24}\,\mathbf{c1}\,\mathbf{c2}\,\mathbf{t}^3 - \frac{1}{720}\left(\mathbf{c1}^4 - 4\,\mathbf{c1}^2\,\mathbf{c2} - 3\,\mathbf{c2}^2 - \mathbf{c1}\,\mathbf{c3} + \mathbf{c4}\right)\mathbf{t}^4 + \frac{\left(-\mathbf{c1}^3\,\mathbf{c2} + 3\,\mathbf{c1}\,\mathbf{c2}^2 + \mathbf{c1}^2\,\mathbf{c3} - \mathbf{c1}\,\mathbf{c4}\right)\mathbf{t}^5}{1440} + \frac{\left(\mathbf{c1}^6 - 6\,\mathbf{c1}^4\,\mathbf{c2} + \frac{11\,\mathbf{c1}^2\,\mathbf{c2}^2}{2} + 5\,\mathbf{c2}^3 + \frac{5\,\mathbf{c1}^3\,\mathbf{c3}}{2} + \frac{11\,\mathbf{c1}\,\mathbf{c2}\,\mathbf{c3}}{2} - \frac{\mathbf{c3}^2}{2} - \frac{5\,\mathbf{c1}^2\,\mathbf{c4}}{2} - \frac{9\,\mathbf{c2}\,\mathbf{c4}}{2} - \mathbf{c1}\,\mathbf{c5} + \mathbf{c6}\right)\mathbf{t}^6}{30\,240}$$

Out[1]=
$$1 + \frac{\mathbf{c1}\,\mathbf{t}}{2} + \frac{1}{12}\left(\mathbf{c1}^2 + \mathbf{c2}\right)\mathbf{t}^2 + \frac{1}{24}\,\mathbf{c1}\,\mathbf{c2}\,\mathbf{t}^3 - \frac{1}{720}\left(\mathbf{c1}^4 - 4\,\mathbf{c1}^2\,\mathbf{c2} - 3\,\mathbf{c2}^2 - \mathbf{c1}\,\mathbf{c3} + \mathbf{c4}\right)\mathbf{t}^4 + \frac{\left(-\mathbf{c1}^3\,\mathbf{c2} + 3\,\mathbf{c1}\,\mathbf{c2}^2 + \mathbf{c1}^2\,\mathbf{c3} - \mathbf{c1}\,\mathbf{c4}\right)\mathbf{t}^5}{1440} + \frac{\left(\mathbf{c1}^6 - 6\,\mathbf{c1}^4\,\mathbf{c2} + \frac{11\,\mathbf{c1}^2\,\mathbf{c2}^2}{2} + 5\,\mathbf{c2}^3 + \frac{5\,\mathbf{c1}^3\,\mathbf{c3}}{2} + \frac{11\,\mathbf{c1}\,\mathbf{c2}\,\mathbf{c3}}{2} - \frac{\mathbf{c3}^2}{2} - \frac{5\,\mathbf{c1}^2\,\mathbf{c4}}{2} - \frac{9\,\mathbf{c2}\,\mathbf{c4}}{2} - \mathbf{c1}\,\mathbf{c5} + \mathbf{c6}\right)\mathbf{t}^6}{30\,240}$$

In[2]:=
```
AugmentedSymmetricPolynomial[{6}, {a, b, c, d, e, f, g, h, i, j}]
```

Out[2]=
$$\mathrm{a}^6 + \mathrm{b}^6 + \mathrm{c}^6 + \mathrm{d}^6 + \mathrm{e}^6 + \mathrm{f}^6 + \mathrm{g}^6 + \mathrm{h}^6 + \mathrm{i}^6 + \mathrm{j}^6$$

In[3]:=
```
SymmetricReduction[%2, {a, b, c, d, e, f, g, h, i, j},
 {d1, d2, d3, d4, d5, d6, d7, d8, d9, d10}]
```

Out[3]=
$$\left\{\mathrm{d1}^6 - 6\,\mathrm{d1}^4\,\mathrm{d2} + 9\,\mathrm{d1}^2\,\mathrm{d2}^2 - 2\,\mathrm{d2}^3 + 6\,\mathrm{d1}^3\,\mathrm{d3} - 12\,\mathrm{d1}\,\mathrm{d2}\,\mathrm{d3} + 3\,\mathrm{d3}^2 - 6\,\mathrm{d1}^2\,\mathrm{d4} + 6\,\mathrm{d2}\,\mathrm{d4} + 6\,\mathrm{d1}\,\mathrm{d5} - 6\,\mathrm{d6},\ 0\right\}$$

In[4]:=
```
s6 = First[%3]
```

Out[4]=
$$\mathrm{d1}^6 - 6\,\mathrm{d1}^4\,\mathrm{d2} + 9\,\mathrm{d1}^2\,\mathrm{d2}^2 - 2\,\mathrm{d2}^3 + 6\,\mathrm{d1}^3\,\mathrm{d3} - 12\,\mathrm{d1}\,\mathrm{d2}\,\mathrm{d3} + 3\,\mathrm{d3}^2 - 6\,\mathrm{d1}^2\,\mathrm{d4} + 6\,\mathrm{d2}\,\mathrm{d4} + 6\,\mathrm{d1}\,\mathrm{d5} - 6\,\mathrm{d6}$$

In[5]:=
```
AugmentedSymmetricPolynomial[{5}, {a, b, c, d, e, f, g, h, i, j}]
```

Out[5]=
$$\mathrm{a}^5 + \mathrm{b}^5 + \mathrm{c}^5 + \mathrm{d}^5 + \mathrm{e}^5 + \mathrm{f}^5 + \mathrm{g}^5 + \mathrm{h}^5 + \mathrm{i}^5 + \mathrm{j}^5$$

In[6]:=
```
SymmetricReduction[%5, {a, b, c, d, e, f, g, h, i, j},
 {d1, d2, d3, d4, d5, d6, d7, d8, d9, d10}]
```

Out[6]=
$$\left\{\mathrm{d1}^5 - 5\,\mathrm{d1}^3\,\mathrm{d2} + 5\,\mathrm{d1}\,\mathrm{d2}^2 + 5\,\mathrm{d1}^2\,\mathrm{d3} - 5\,\mathrm{d2}\,\mathrm{d3} - 5\,\mathrm{d1}\,\mathrm{d4} + 5\,\mathrm{d5},\ 0\right\}$$

In[7]:=
```
s5 = First[%6]
```

Out[7]=
$$\mathrm{d1}^5 - 5\,\mathrm{d1}^3\,\mathrm{d2} + 5\,\mathrm{d1}\,\mathrm{d2}^2 + 5\,\mathrm{d1}^2\,\mathrm{d3} - 5\,\mathrm{d2}\,\mathrm{d3} - 5\,\mathrm{d1}\,\mathrm{d4} + 5\,\mathrm{d5}$$

In[8]:=
```
ch = 10 + d1 * t + (1 / 2) * (d1 ^ 2 - 2 * d2) * t ^ 2 + (1 / 6) * (d1 ^ 3 - 3 * d1 * d2 + 3 * d3) * t ^ 3 +
   (1 / 24) * (d1 ^ 4 - 4 * d1 ^ 2 * d2 + 4 * d1 * d3 + 2 * d2 ^ 2 - 4 * d4) * t ^ 4 +
   (1 / 120) * s5 * t ^ 5 + (1 / 720) * s6 * t ^ 6
```

Out[8]=
$$10 + d1\,t + \frac{1}{2}\left(d1^2 - 2\,d2\right)t^2 + \frac{1}{6}\left(d1^3 - 3\,d1\,d2 + 3\,d3\right)t^3 + \frac{1}{24}\left(d1^4 - 4\,d1^2\,d2 + 2\,d2^2 + 4\,d1\,d3 - 4\,d4\right)t^4 + \frac{1}{120}\left(d1^5 - 5\,d1^3\,d2 + 5\,d1\,d2^2 + 5\,d1^2\,d3 - 5\,d2\,d3 - 5\,d1\,d4 + 5\,d5\right)t^5 + \frac{1}{720}\left(d1^6 - 6\,d1^4\,d2 + 9\,d1^2\,d2^2 - 2\,d2^3 + 6\,d1^3\,d3 - 12\,d1\,d2\,d3 + 3\,d3^2 - 6\,d1^2\,d4 + 6\,d2\,d4 + 6\,d1\,d5 - 6\,d6\right)t^6$$

In[9]:=
```
Expand[ch * td]
```

Out[9]=
$$10 + 5\,c1\,t + d1\,t + \frac{5\,c1^2\,t^2}{6} + \frac{5\,c2\,t^2}{6} + \frac{1}{2}\,c1\,d1\,t^2 + \frac{d1^2\,t^2}{2} - d2\,t^2 + \frac{5}{12}\,c1\,c2\,t^3 + \frac{1}{12}\,c1^2\,d1\,t^3 + \frac{1}{12}\,c2\,d1\,t^3 + \frac{1}{4}\,c1\,d1^2\,t^3 + \frac{d1^3\,t^3}{6} - \frac{1}{2}\,c1\,d2\,t^3 - \frac{1}{2}\,d1\,d2\,t^3 + \frac{d3\,t^3}{2} - \frac{c1^4\,t^4}{72} + \frac{1}{18}\,c1^2\,c2\,t^4 + \frac{c2^2\,t^4}{24} + \frac{1}{72}\,c1\,c3\,t^4 - \frac{c4\,t^4}{72} + \frac{1}{24}\,c1\,c2\,d1\,t^4 + \frac{1}{24}\,c1^2\,d1^2\,t^4 + \frac{1}{24}\,c2\,d1^2\,t^4 + \frac{1}{12}\,c1\,d1^3\,t^4 + \frac{d1^4\,t^4}{24} - \frac{1}{12}\,c1^2\,d2\,t^4 - \frac{1}{12}\,c2\,d2\,t^4 - \frac{1}{4}\,c1\,d1\,d2\,t^4 - \frac{1}{6}\,d1^2\,d2\,t^4 + \frac{d2^2\,t^4}{12} + \frac{1}{4}\,c1\,d3\,t^4 + \frac{1}{6}\,d1\,d3\,t^4 - \frac{d4\,t^4}{6} - \frac{1}{144}\,c1^3\,c2\,t^5 + \frac{1}{48}\,c1\,c2^2\,t^5 + \frac{1}{144}\,c1^2\,c3\,t^5 - \frac{1}{144}\,c1\,c4\,t^5 - \frac{1}{720}\,c1^4\,d1\,t^5 + \frac{1}{180}\,c1^2\,c2\,d1\,t^5 + \frac{1}{240}\,c2^2\,d1\,t^5 + \frac{1}{720}\,c1\,c3\,d1\,t^5 - \frac{1}{720}\,c4\,d1\,t^5 + \frac{1}{48}\,c1\,c2\,d1^2\,t^5 + \frac{1}{72}\,c1^2\,d1^3\,t^5 + \frac{1}{72}\,c2\,d1^3\,t^5 + \frac{1}{48}\,c1\,d1^4\,t^5 + \frac{d1^5\,t^5}{120} - \frac{1}{24}\,c1\,c2\,d2\,t^5 - \frac{1}{24}\,c1^2\,d1\,d2\,t^5 - \frac{1}{24}\,c2\,d1\,d2\,t^5 - \frac{1}{12}\,c1\,d1^2\,d2\,t^5 - \frac{1}{24}\,d1^3\,d2\,t^5 + \frac{1}{24}\,c1\,d2^2\,t^5 + \frac{1}{24}\,d1\,d2^2\,t^5 + \frac{1}{24}\,c1^2\,d3\,t^5 + \frac{1}{24}\,c2\,d3\,t^5 + \frac{1}{12}\,c1\,d1\,d3\,t^5 + \frac{1}{24}\,d1^2\,d3\,t^5 - \frac{1}{24}\,d2\,d3\,t^5 - \frac{1}{12}\,c1\,d4\,t^5 - \frac{1}{24}\,d1\,d4\,t^5 + \frac{d5\,t^5}{24} + \frac{c1^6\,t^6}{3024} - \frac{1}{504}\,c1^4\,c2\,t^6 + \frac{11\,c1^2\,c2^2\,t^6}{6048} + \frac{5\,c2^3\,t^6}{3024} + \frac{5\,c1^3\,c3\,t^6}{6048} + \frac{11\,c1\,c2\,c3\,t^6}{6048} - \frac{c3^2\,t^6}{6048} - \frac{5\,c1^2\,c4\,t^6}{6048} - \frac{1}{672}\,c2\,c4\,t^6 - \frac{c1\,c5\,t^6}{3024} + \frac{c6\,t^6}{3024} - \frac{c1^3\,c2\,d1\,t^6}{1440} + \frac{1}{480}\,c1\,c2^2\,d1\,t^6 + \frac{c1^2\,c3\,d1\,t^6}{1440} - \frac{c1\,c4\,d1\,t^6}{1440} - \frac{c1^4\,d1^2\,t^6}{1440} + \frac{1}{360}\,c1^2\,c2\,d1^2\,t^6 + \frac{1}{480}\,c2^2\,d1^2\,t^6 + \frac{c1\,c3\,d1^2\,t^6}{1440} - \frac{c4\,d1^2\,t^6}{1440} + \frac{1}{144}\,c1\,c2\,d1^3\,t^6 + \frac{1}{288}\,c1^2\,d1^4\,t^6 + \frac{1}{288}\,c2\,d1^4\,t^6 + \frac{1}{240}\,c1\,d1^5\,t^6 + \frac{d1^6\,t^6}{720} + \frac{1}{720}\,c1^4\,d2\,t^6 - \frac{1}{180}\,c1^2\,c2\,d2\,t^6 - \frac{1}{240}\,c2^2\,d2\,t^6 - \frac{1}{720}\,c1\,c3\,d2\,t^6 + \frac{1}{720}\,c4\,d2\,t^6 - \frac{1}{48}\,c1\,c2\,d1\,d2\,t^6 - \frac{1}{72}\,c1^2\,d1^2\,d2\,t^6 - \frac{1}{72}\,c2\,d1^2\,d2\,t^6 - \frac{1}{48}\,c1\,d1^3\,d2\,t^6 - \frac{1}{120}\,d1^4\,d2\,t^6 +$$

$$\frac{1}{144}\,c1^2\,d2^2\,t^6+\frac{1}{144}\,c2\,d2^2\,t^6+\frac{1}{48}\,c1\,d1\,d2^2\,t^6+\frac{1}{80}\,d1^2\,d2^2\,t^6-\frac{d2^3\,t^6}{360}+\frac{1}{48}\,c1\,c2\,d3\,t^6+$$
$$\frac{1}{72}\,c1^2\,d1\,d3\,t^6+\frac{1}{72}\,c2\,d1\,d3\,t^6+\frac{1}{48}\,c1\,d1^2\,d3\,t^6+\frac{1}{120}\,d1^3\,d3\,t^6-\frac{1}{48}\,c1\,d2\,d3\,t^6-$$
$$\frac{1}{60}\,d1\,d2\,d3\,t^6+\frac{d3^2\,t^6}{240}-\frac{1}{72}\,c1^2\,d4\,t^6-\frac{1}{72}\,c2\,d4\,t^6-\frac{1}{48}\,c1\,d1\,d4\,t^6-\frac{1}{120}\,d1^2\,d4\,t^6+$$
$$\frac{1}{120}\,d2\,d4\,t^6+\frac{1}{48}\,c1\,d5\,t^6+\frac{1}{120}\,d1\,d5\,t^6-\frac{d6\,t^6}{120}+\frac{c1^6\,d1\,t^7}{30\,240}-\frac{c1^4\,c2\,d1\,t^7}{5040}+$$
$$\frac{11\,c1^2\,c2^2\,d1\,t^7}{60\,480}+\frac{c2^3\,d1\,t^7}{6048}+\frac{c1^3\,c3\,d1\,t^7}{12\,096}+\frac{11\,c1\,c2\,c3\,d1\,t^7}{60\,480}-\frac{c3^2\,d1\,t^7}{60\,480}-$$
$$\frac{c1^2\,c4\,d1\,t^7}{12\,096}-\frac{c2\,c4\,d1\,t^7}{6720}-\frac{c1\,c5\,d1\,t^7}{30\,240}+\frac{c6\,d1\,t^7}{30\,240}-\frac{c1^3\,c2\,d1^2\,t^7}{2880}+\frac{1}{960}\,c1\,c2^2\,d1^2\,t^7+$$
$$\frac{c1^2\,c3\,d1^2\,t^7}{2880}-\frac{c1\,c4\,d1^2\,t^7}{2880}-\frac{c1^4\,d1^3\,t^7}{4320}+\frac{c1^2\,c2\,d1^3\,t^7}{1080}+\frac{c2^2\,d1^3\,t^7}{1440}+\frac{c1\,c3\,d1^3\,t^7}{4320}-$$
$$\frac{c4\,d1^3\,t^7}{4320}+\frac{1}{576}\,c1\,c2\,d1^4\,t^7+\frac{c1^2\,d1^5\,t^7}{1440}+\frac{c2\,d1^5\,t^7}{1440}+\frac{c1\,d1^6\,t^7}{1440}+\frac{c1^3\,c2\,d2\,t^7}{1440}-$$
$$\frac{1}{480}\,c1\,c2^2\,d2\,t^7-\frac{c1^2\,c3\,d2\,t^7}{1440}+\frac{c1\,c4\,d2\,t^7}{1440}+\frac{c1^4\,d1\,d2\,t^7}{1440}-\frac{1}{360}\,c1^2\,c2\,d1\,d2\,t^7-$$
$$\frac{1}{480}\,c2^2\,d1\,d2\,t^7-\frac{c1\,c3\,d1\,d2\,t^7}{1440}+\frac{c4\,d1\,d2\,t^7}{1440}-\frac{1}{144}\,c1\,c2\,d1^2\,d2\,t^7-\frac{1}{288}\,c1^2\,d1^3\,d2\,t^7-$$
$$\frac{1}{288}\,c2\,d1^3\,d2\,t^7-\frac{1}{240}\,c1\,d1^4\,d2\,t^7+\frac{1}{288}\,c1\,c2\,d2^2\,t^7+\frac{1}{288}\,c1^2\,d1\,d2^2\,t^7+$$
$$\frac{1}{288}\,c2\,d1\,d2^2\,t^7+\frac{1}{160}\,c1\,d1^2\,d2^2\,t^7-\frac{1}{720}\,c1\,d2^3\,t^7-\frac{c1^4\,d3\,t^7}{1440}+\frac{1}{360}\,c1^2\,c2\,d3\,t^7+$$
$$\frac{1}{480}\,c2^2\,d3\,t^7+\frac{c1\,c3\,d3\,t^7}{1440}-\frac{c4\,d3\,t^7}{1440}+\frac{1}{144}\,c1\,c2\,d1\,d3\,t^7+\frac{1}{288}\,c1^2\,d1^2\,d3\,t^7+$$
$$\frac{1}{288}\,c2\,d1^2\,d3\,t^7+\frac{1}{240}\,c1\,d1^3\,d3\,t^7-\frac{1}{288}\,c1^2\,d2\,d3\,t^7-\frac{1}{288}\,c2\,d2\,d3\,t^7-$$
$$\frac{1}{120}\,c1\,d1\,d2\,d3\,t^7+\frac{1}{480}\,c1\,d3^2\,t^7-\frac{1}{144}\,c1\,c2\,d4\,t^7-\frac{1}{288}\,c1^2\,d1\,d4\,t^7-\frac{1}{288}\,c2\,d1\,d4\,t^7-$$
$$\frac{1}{240}\,c1\,d1^2\,d4\,t^7+\frac{1}{240}\,c1\,d2\,d4\,t^7+\frac{1}{288}\,c1^2\,d5\,t^7+\frac{1}{288}\,c2\,d5\,t^7+\frac{1}{240}\,c1\,d1\,d5\,t^7-$$
$$\frac{1}{240}\,c1\,d6\,t^7+\frac{c1^6\,d1^2\,t^8}{60\,480}-\frac{c1^4\,c2\,d1^2\,t^8}{10\,080}+\frac{11\,c1^2\,c2^2\,d1^2\,t^8}{120\,960}+\frac{c2^3\,d1^2\,t^8}{12\,096}+$$
$$\frac{c1^3\,c3\,d1^2\,t^8}{24\,192}+\frac{11\,c1\,c2\,c3\,d1^2\,t^8}{120\,960}-\frac{c3^2\,d1^2\,t^8}{120\,960}-\frac{c1^2\,c4\,d1^2\,t^8}{24\,192}-\frac{c2\,c4\,d1^2\,t^8}{13\,440}-$$
$$\frac{c1\,c5\,d1^2\,t^8}{60\,480}+\frac{c6\,d1^2\,t^8}{60\,480}-\frac{c1^3\,c2\,d1^3\,t^8}{8640}+\frac{c1\,c2^2\,d1^3\,t^8}{2880}+\frac{c1^2\,c3\,d1^3\,t^8}{8640}-\frac{c1\,c4\,d1^3\,t^8}{8640}-$$
$$\frac{c1^4\,d1^4\,t^8}{17\,280}+\frac{c1^2\,c2\,d1^4\,t^8}{4320}+\frac{c2^2\,d1^4\,t^8}{5760}+\frac{c1\,c3\,d1^4\,t^8}{17\,280}-\frac{c4\,d1^4\,t^8}{17\,280}+\frac{c1\,c2\,d1^5\,t^8}{2880}+$$
$$\frac{c1^2\,d1^6\,t^8}{8640}+\frac{c2\,d1^6\,t^8}{8640}-\frac{c1^6\,d2\,t^8}{30\,240}+\frac{c1^4\,c2\,d2\,t^8}{5040}-\frac{11\,c1^2\,c2^2\,d2\,t^8}{60\,480}-\frac{c2^3\,d2\,t^8}{6048}-$$
$$\frac{c1^3\,c3\,d2\,t^8}{12\,096}-\frac{11\,c1\,c2\,c3\,d2\,t^8}{60\,480}+\frac{c3^2\,d2\,t^8}{60\,480}+\frac{c1^2\,c4\,d2\,t^8}{12\,096}+\frac{c2\,c4\,d2\,t^8}{6720}+\frac{c1\,c5\,d2\,t^8}{30\,240}-$$

$$\frac{c6\,d2\,t^8}{30240}+\frac{c1^3\,c2\,d1\,d2\,t^8}{2880}-\frac{1}{960}c1\,c2^2\,d1\,d2\,t^8-\frac{c1^2\,c3\,d1\,d2\,t^8}{2880}+\frac{c1\,c4\,d1\,d2\,t^8}{2880}+$$
$$\frac{c1^4\,d1^2\,d2\,t^8}{4320}-\frac{c1^2\,c2\,d1^2\,d2\,t^8}{1080}-\frac{c2^2\,d1^2\,d2\,t^8}{1440}-\frac{c1\,c3\,d1^2\,d2\,t^8}{4320}+\frac{c4\,d1^2\,d2\,t^8}{4320}-$$
$$\frac{1}{576}c1\,c2\,d1^3\,d2\,t^8-\frac{c1^2\,d1^4\,d2\,t^8}{1440}-\frac{c2\,d1^4\,d2\,t^8}{1440}-\frac{c1^4\,d2^2\,t^8}{8640}+\frac{c1^2\,c2\,d2^2\,t^8}{2160}+$$
$$\frac{c2^2\,d2^2\,t^8}{2880}+\frac{c1\,c3\,d2^2\,t^8}{8640}-\frac{c4\,d2^2\,t^8}{8640}+\frac{1}{576}c1\,c2\,d1\,d2^2\,t^8+\frac{1}{960}c1^2\,d1^2\,d2^2\,t^8+$$
$$\frac{1}{960}c2\,d1^2\,d2^2\,t^8-\frac{c1^2\,d2^3\,t^8}{4320}-\frac{c2\,d2^3\,t^8}{4320}-\frac{c1^3\,c2\,d3\,t^8}{2880}+\frac{1}{960}c1\,c2^2\,d3\,t^8+$$
$$\frac{c1^2\,c3\,d3\,t^8}{2880}-\frac{c1\,c4\,d3\,t^8}{2880}-\frac{c1^4\,d1\,d3\,t^8}{4320}+\frac{c1^2\,c2\,d1\,d3\,t^8}{1080}+\frac{c2^2\,d1\,d3\,t^8}{1440}+$$
$$\frac{c1\,c3\,d1\,d3\,t^8}{4320}-\frac{c4\,d1\,d3\,t^8}{4320}+\frac{1}{576}c1\,c2\,d1^2\,d3\,t^8+\frac{c1^2\,d1^3\,d3\,t^8}{1440}+\frac{c2\,d1^3\,d3\,t^8}{1440}-$$
$$\frac{1}{576}c1\,c2\,d2\,d3\,t^8-\frac{1}{720}c1^2\,d1\,d2\,d3\,t^8-\frac{1}{720}c2\,d1\,d2\,d3\,t^8+\frac{c1^2\,d3^2\,t^8}{2880}+\frac{c2\,d3^2\,t^8}{2880}+$$
$$\frac{c1^4\,d4\,t^8}{4320}-\frac{c1^2\,c2\,d4\,t^8}{1080}-\frac{c2^2\,d4\,t^8}{1440}-\frac{c1\,c3\,d4\,t^8}{4320}+\frac{c4\,d4\,t^8}{4320}-\frac{1}{576}c1\,c2\,d1\,d4\,t^8-$$
$$\frac{c1^2\,d1^2\,d4\,t^8}{1440}-\frac{c2\,d1^2\,d4\,t^8}{1440}+\frac{c1^2\,d2\,d4\,t^8}{1440}+\frac{c2\,d2\,d4\,t^8}{1440}+\frac{1}{576}c1\,c2\,d5\,t^8+$$
$$\frac{c1^2\,d1\,d5\,t^8}{1440}+\frac{c2\,d1\,d5\,t^8}{1440}-\frac{c1^2\,d6\,t^8}{1440}-\frac{c2\,d6\,t^8}{1440}+\frac{c1^6\,d1^3\,t^9}{181440}-\frac{c1^4\,c2\,d1^3\,t^9}{30240}+$$
$$\frac{11\,c1^2\,c2^2\,d1^3\,t^9}{362880}+\frac{c2^3\,d1^3\,t^9}{36288}+\frac{c1^3\,c3\,d1^3\,t^9}{72576}+\frac{11\,c1\,c2\,c3\,d1^3\,t^9}{362880}-\frac{c3^2\,d1^3\,t^9}{362880}-$$
$$\frac{c1^2\,c4\,d1^3\,t^9}{72576}-\frac{c2\,c4\,d1^3\,t^9}{40320}-\frac{c1\,c5\,d1^3\,t^9}{181440}+\frac{c6\,d1^3\,t^9}{181440}-\frac{c1^3\,c2\,d1^4\,t^9}{34560}+\frac{c1\,c2^2\,d1^4\,t^9}{11520}+$$
$$\frac{c1^2\,c3\,d1^4\,t^9}{34560}-\frac{c1\,c4\,d1^4\,t^9}{34560}-\frac{c1^4\,d1^5\,t^9}{86400}+\frac{c1^2\,c2\,d1^5\,t^9}{21600}+\frac{c2^2\,d1^5\,t^9}{28800}+\frac{c1\,c3\,d1^5\,t^9}{86400}-$$
$$\frac{c4\,d1^5\,t^9}{86400}+\frac{c1\,c2\,d1^6\,t^9}{17280}-\frac{c1^6\,d1\,d2\,t^9}{60480}+\frac{c1^4\,c2\,d1\,d2\,t^9}{10080}-\frac{11\,c1^2\,c2^2\,d1\,d2\,t^9}{120960}-$$
$$\frac{c2^3\,d1\,d2\,t^9}{12096}-\frac{c1^3\,c3\,d1\,d2\,t^9}{24192}-\frac{11\,c1\,c2\,c3\,d1\,d2\,t^9}{120960}+\frac{c3^2\,d1\,d2\,t^9}{120960}+\frac{c1^2\,c4\,d1\,d2\,t^9}{24192}+$$
$$\frac{c2\,c4\,d1\,d2\,t^9}{13440}+\frac{c1\,c5\,d1\,d2\,t^9}{60480}-\frac{c6\,d1\,d2\,t^9}{60480}+\frac{c1^3\,c2\,d1^2\,d2\,t^9}{8640}-\frac{c1\,c2^2\,d1^2\,d2\,t^9}{2880}-$$
$$\frac{c1^2\,c3\,d1^2\,d2\,t^9}{8640}+\frac{c1\,c4\,d1^2\,d2\,t^9}{8640}+\frac{c1^4\,d1^3\,d2\,t^9}{17280}-\frac{c1^2\,c2\,d1^3\,d2\,t^9}{4320}-\frac{c2^2\,d1^3\,d2\,t^9}{5760}-$$
$$\frac{c1\,c3\,d1^3\,d2\,t^9}{17280}+\frac{c4\,d1^3\,d2\,t^9}{17280}-\frac{c1\,c2\,d1^4\,d2\,t^9}{2880}-\frac{c1^3\,c2\,d2^2\,t^9}{17280}+\frac{c1\,c2^2\,d2^2\,t^9}{5760}+$$
$$\frac{c1^2\,c3\,d2^2\,t^9}{17280}-\frac{c1\,c4\,d2^2\,t^9}{17280}-\frac{c1^4\,d1\,d2^2\,t^9}{17280}+\frac{c1^2\,c2\,d1\,d2^2\,t^9}{4320}+\frac{c2^2\,d1\,d2^2\,t^9}{5760}+$$
$$\frac{c1\,c3\,d1\,d2^2\,t^9}{17280}-\frac{c4\,d1\,d2^2\,t^9}{17280}+\frac{c1\,c2\,d1^2\,d2^2\,t^9}{1920}-\frac{c1\,c2\,d2^3\,t^9}{8640}+\frac{c1^6\,d3\,t^9}{60480}-$$
$$\frac{c1^4\,c2\,d3\,t^9}{10080}+\frac{11\,c1^2\,c2^2\,d3\,t^9}{120960}+\frac{c2^3\,d3\,t^9}{12096}+\frac{c1^3\,c3\,d3\,t^9}{24192}+\frac{11\,c1\,c2\,c3\,d3\,t^9}{120960}-$$

$$\frac{c3^2\,d3\,t^9}{120\,960} - \frac{c1^2\,c4\,d3\,t^9}{24\,192} - \frac{c2\,c4\,d3\,t^9}{13\,440} - \frac{c1\,c5\,d3\,t^9}{60\,480} + \frac{c6\,d3\,t^9}{60\,480} - \frac{c1^3\,c2\,d1\,d3\,t^9}{8640} +$$
$$\frac{c1\,c2^2\,d1\,d3\,t^9}{2880} + \frac{c1^2\,c3\,d1\,d3\,t^9}{8640} - \frac{c1\,c4\,d1\,d3\,t^9}{8640} - \frac{c1^4\,d1^2\,d3\,t^9}{17\,280} + \frac{c1^2\,c2\,d1^2\,d3\,t^9}{4320} +$$
$$\frac{c2^2\,d1^2\,d3\,t^9}{5760} + \frac{c1\,c3\,d1^2\,d3\,t^9}{17\,280} - \frac{c4\,d1^2\,d3\,t^9}{17\,280} + \frac{c1\,c2\,d1^3\,d3\,t^9}{2880} + \frac{c1^4\,d2\,d3\,t^9}{17\,280} -$$
$$\frac{c1^2\,c2\,d2\,d3\,t^9}{4320} - \frac{c2^2\,d2\,d3\,t^9}{5760} - \frac{c1\,c3\,d2\,d3\,t^9}{17\,280} + \frac{c4\,d2\,d3\,t^9}{17\,280} - \frac{c1\,c2\,d1\,d2\,d3\,t^9}{1440} +$$
$$\frac{c1\,c2\,d3^2\,t^9}{5760} + \frac{c1^3\,c2\,d4\,t^9}{8640} - \frac{c1\,c2^2\,d4\,t^9}{2880} - \frac{c1^2\,c3\,d4\,t^9}{8640} + \frac{c1\,c4\,d4\,t^9}{8640} + \frac{c1^4\,d1\,d4\,t^9}{17\,280} -$$
$$\frac{c1^2\,c2\,d1\,d4\,t^9}{4320} - \frac{c2^2\,d1\,d4\,t^9}{5760} - \frac{c1\,c3\,d1\,d4\,t^9}{17\,280} + \frac{c4\,d1\,d4\,t^9}{17\,280} - \frac{c1\,c2\,d1^2\,d4\,t^9}{2880} +$$
$$\frac{c1\,c2\,d2\,d4\,t^9}{2880} - \frac{c1^4\,d5\,t^9}{17\,280} + \frac{c1^2\,c2\,d5\,t^9}{4320} + \frac{c2^2\,d5\,t^9}{5760} + \frac{c1\,c3\,d5\,t^9}{17\,280} - \frac{c4\,d5\,t^9}{17\,280} +$$
$$\frac{c1\,c2\,d1\,d5\,t^9}{2880} - \frac{c1\,c2\,d6\,t^9}{2880} + \frac{c1^6\,d1^4\,t^{10}}{725\,760} - \frac{c1^4\,c2\,d1^4\,t^{10}}{120\,960} + \frac{11\,c1^2\,c2^2\,d1^4\,t^{10}}{1\,451\,520} +$$
$$\frac{c2^3\,d1^4\,t^{10}}{145\,152} + \frac{c1^3\,c3\,d1^4\,t^{10}}{290\,304} + \frac{11\,c1\,c2\,c3\,d1^4\,t^{10}}{1\,451\,520} - \frac{c3^2\,d1^4\,t^{10}}{1\,451\,520} - \frac{c1^2\,c4\,d1^4\,t^{10}}{290\,304} -$$
$$\frac{c2\,c4\,d1^4\,t^{10}}{161\,280} - \frac{c1\,c5\,d1^4\,t^{10}}{725\,760} + \frac{c6\,d1^4\,t^{10}}{725\,760} - \frac{c1^3\,c2\,d1^5\,t^{10}}{172\,800} + \frac{c1\,c2^2\,d1^5\,t^{10}}{57\,600} +$$
$$\frac{c1^2\,c3\,d1^5\,t^{10}}{172\,800} - \frac{c1\,c4\,d1^5\,t^{10}}{172\,800} - \frac{c1^4\,d1^6\,t^{10}}{518\,400} + \frac{c1^2\,c2\,d1^6\,t^{10}}{129\,600} + \frac{c2^2\,d1^6\,t^{10}}{172\,800} + \frac{c1\,c3\,d1^6\,t^{10}}{518\,400} -$$
$$\frac{c4\,d1^6\,t^{10}}{518\,400} - \frac{c1^6\,d1^2\,d2\,t^{10}}{181\,440} + \frac{c1^4\,c2\,d1^2\,d2\,t^{10}}{30\,240} - \frac{11\,c1^2\,c2^2\,d1^2\,d2\,t^{10}}{362\,880} - \frac{c2^3\,d1^2\,d2\,t^{10}}{36\,288} -$$
$$\frac{c1^3\,c3\,d1^2\,d2\,t^{10}}{72\,576} - \frac{11\,c1\,c2\,c3\,d1^2\,d2\,t^{10}}{362\,880} + \frac{c3^2\,d1^2\,d2\,t^{10}}{362\,880} + \frac{c1^2\,c4\,d1^2\,d2\,t^{10}}{72\,576} +$$
$$\frac{c2\,c4\,d1^2\,d2\,t^{10}}{40\,320} + \frac{c1\,c5\,d1^2\,d2\,t^{10}}{181\,440} - \frac{c6\,d1^2\,d2\,t^{10}}{181\,440} + \frac{c1^3\,c2\,d1^3\,d2\,t^{10}}{34\,560} - \frac{c1\,c2^2\,d1^3\,d2\,t^{10}}{11\,520} -$$
$$\frac{c1^2\,c3\,d1^3\,d2\,t^{10}}{34\,560} + \frac{c1\,c4\,d1^3\,d2\,t^{10}}{34\,560} + \frac{c1^4\,d1^4\,d2\,t^{10}}{86\,400} - \frac{c1^2\,c2\,d1^4\,d2\,t^{10}}{21\,600} - \frac{c2^2\,d1^4\,d2\,t^{10}}{28\,800} -$$
$$\frac{c1\,c3\,d1^4\,d2\,t^{10}}{86\,400} + \frac{c4\,d1^4\,d2\,t^{10}}{86\,400} + \frac{c1^6\,d2^2\,t^{10}}{362\,880} - \frac{c1^4\,c2\,d2^2\,t^{10}}{60\,480} + \frac{11\,c1^2\,c2^2\,d2^2\,t^{10}}{725\,760} +$$
$$\frac{c2^3\,d2^2\,t^{10}}{72\,576} + \frac{c1^3\,c3\,d2^2\,t^{10}}{145\,152} + \frac{11\,c1\,c2\,c3\,d2^2\,t^{10}}{725\,760} - \frac{c3^2\,d2^2\,t^{10}}{725\,760} - \frac{c1^2\,c4\,d2^2\,t^{10}}{145\,152} -$$
$$\frac{c2\,c4\,d2^2\,t^{10}}{80\,640} - \frac{c1\,c5\,d2^2\,t^{10}}{362\,880} + \frac{c6\,d2^2\,t^{10}}{362\,880} - \frac{c1^3\,c2\,d1\,d2^2\,t^{10}}{34\,560} + \frac{c1\,c2^2\,d1\,d2^2\,t^{10}}{11\,520} +$$
$$\frac{c1^2\,c3\,d1\,d2^2\,t^{10}}{34\,560} - \frac{c1\,c4\,d1\,d2^2\,t^{10}}{34\,560} - \frac{c1^4\,d1^2\,d2^2\,t^{10}}{57\,600} + \frac{c1^2\,c2\,d1^2\,d2^2\,t^{10}}{14\,400} +$$
$$\frac{c2^2\,d1^2\,d2^2\,t^{10}}{19\,200} + \frac{c1\,c3\,d1^2\,d2^2\,t^{10}}{57\,600} - \frac{c4\,d1^2\,d2^2\,t^{10}}{57\,600} + \frac{c1^4\,d2^3\,t^{10}}{259\,200} - \frac{c1^2\,c2\,d2^3\,t^{10}}{64\,800} -$$
$$\frac{c2^2\,d2^3\,t^{10}}{86\,400} - \frac{c1\,c3\,d2^3\,t^{10}}{259\,200} + \frac{c4\,d2^3\,t^{10}}{259\,200} + \frac{c1^6\,d1\,d3\,t^{10}}{181\,440} - \frac{c1^4\,c2\,d1\,d3\,t^{10}}{30\,240} +$$
$$\frac{11\,c1^2\,c2^2\,d1\,d3\,t^{10}}{362\,880} + \frac{c2^3\,d1\,d3\,t^{10}}{36\,288} + \frac{c1^3\,c3\,d1\,d3\,t^{10}}{72\,576} + \frac{11\,c1\,c2\,c3\,d1\,d3\,t^{10}}{362\,880} -$$

$$\frac{c3^2\,d1\,d3\,t^{10}}{362\,880}-\frac{c1^2\,c4\,d1\,d3\,t^{10}}{72\,576}-\frac{c2\,c4\,d1\,d3\,t^{10}}{40\,320}-\frac{c1\,c5\,d1\,d3\,t^{10}}{181\,440}+\frac{c6\,d1\,d3\,t^{10}}{181\,440}-$$
$$\frac{c1^3\,c2\,d1^2\,d3\,t^{10}}{34\,560}+\frac{c1\,c2^2\,d1^2\,d3\,t^{10}}{11\,520}+\frac{c1^2\,c3\,d1^2\,d3\,t^{10}}{34\,560}-\frac{c1\,c4\,d1^2\,d3\,t^{10}}{34\,560}-$$
$$\frac{c1^4\,d1^3\,d3\,t^{10}}{86\,400}+\frac{c1^2\,c2\,d1^3\,d3\,t^{10}}{21\,600}+\frac{c2^2\,d1^3\,d3\,t^{10}}{28\,800}+\frac{c1\,c3\,d1^3\,d3\,t^{10}}{86\,400}-\frac{c4\,d1^3\,d3\,t^{10}}{86\,400}+$$
$$\frac{c1^3\,c2\,d2\,d3\,t^{10}}{34\,560}-\frac{c1\,c2^2\,d2\,d3\,t^{10}}{11\,520}-\frac{c1^2\,c3\,d2\,d3\,t^{10}}{34\,560}+\frac{c1\,c4\,d2\,d3\,t^{10}}{34\,560}+\frac{c1^4\,d1\,d2\,d3\,t^{10}}{43\,200}-$$
$$\frac{c1^2\,c2\,d1\,d2\,d3\,t^{10}}{10\,800}-\frac{c2^2\,d1\,d2\,d3\,t^{10}}{14\,400}-\frac{c1\,c3\,d1\,d2\,d3\,t^{10}}{43\,200}+\frac{c4\,d1\,d2\,d3\,t^{10}}{43\,200}-$$
$$\frac{c1^4\,d3^2\,t^{10}}{172\,800}+\frac{c1^2\,c2\,d3^2\,t^{10}}{43\,200}+\frac{c2^2\,d3^2\,t^{10}}{57\,600}+\frac{c1\,c3\,d3^2\,t^{10}}{172\,800}-\frac{c4\,d3^2\,t^{10}}{172\,800}-\frac{c1^6\,d4\,t^{10}}{181\,440}+$$
$$\frac{c1^4\,c2\,d4\,t^{10}}{30\,240}-\frac{11\,c1^2\,c2^2\,d4\,t^{10}}{362\,880}-\frac{c2^3\,d4\,t^{10}}{36\,288}-\frac{c1^3\,c3\,d4\,t^{10}}{72\,576}-\frac{11\,c1\,c2\,c3\,d4\,t^{10}}{362\,880}+$$
$$\frac{c3^2\,d4\,t^{10}}{362\,880}+\frac{c1^2\,c4\,d4\,t^{10}}{72\,576}+\frac{c2\,c4\,d4\,t^{10}}{40\,320}+\frac{c1\,c5\,d4\,t^{10}}{181\,440}-\frac{c6\,d4\,t^{10}}{181\,440}+\frac{c1^3\,c2\,d1\,d4\,t^{10}}{34\,560}-$$
$$\frac{c1\,c2^2\,d1\,d4\,t^{10}}{11\,520}-\frac{c1^2\,c3\,d1\,d4\,t^{10}}{34\,560}+\frac{c1\,c4\,d1\,d4\,t^{10}}{34\,560}+\frac{c1^4\,d1^2\,d4\,t^{10}}{86\,400}-\frac{c1^2\,c2\,d1^2\,d4\,t^{10}}{21\,600}-$$
$$\frac{c2^2\,d1^2\,d4\,t^{10}}{28\,800}-\frac{c1\,c3\,d1^2\,d4\,t^{10}}{86\,400}+\frac{c4\,d1^2\,d4\,t^{10}}{86\,400}-\frac{c1^4\,d2\,d4\,t^{10}}{86\,400}+\frac{c1^2\,c2\,d2\,d4\,t^{10}}{21\,600}+$$
$$\frac{c2^2\,d2\,d4\,t^{10}}{28\,800}+\frac{c1\,c3\,d2\,d4\,t^{10}}{86\,400}-\frac{c4\,d2\,d4\,t^{10}}{86\,400}-\frac{c1^3\,c2\,d5\,t^{10}}{34\,560}+\frac{c1\,c2^2\,d5\,t^{10}}{11\,520}+$$
$$\frac{c1^2\,c3\,d5\,t^{10}}{34\,560}-\frac{c1\,c4\,d5\,t^{10}}{34\,560}-\frac{c1^4\,d1\,d5\,t^{10}}{86\,400}+\frac{c1^2\,c2\,d1\,d5\,t^{10}}{21\,600}+\frac{c2^2\,d1\,d5\,t^{10}}{28\,800}+$$
$$\frac{c1\,c3\,d1\,d5\,t^{10}}{86\,400}-\frac{c4\,d1\,d5\,t^{10}}{86\,400}+\frac{c1^4\,d6\,t^{10}}{86\,400}-\frac{c1^2\,c2\,d6\,t^{10}}{21\,600}-\frac{c2^2\,d6\,t^{10}}{28\,800}-\frac{c1\,c3\,d6\,t^{10}}{86\,400}+$$
$$\frac{c4\,d6\,t^{10}}{86\,400}+\frac{c1^6\,d1^5\,t^{11}}{3\,628\,800}-\frac{c1^4\,c2\,d1^5\,t^{11}}{604\,800}+\frac{11\,c1^2\,c2^2\,d1^5\,t^{11}}{7\,257\,600}+\frac{c2^3\,d1^5\,t^{11}}{725\,760}+$$
$$\frac{c1^3\,c3\,d1^5\,t^{11}}{1\,451\,520}+\frac{11\,c1\,c2\,c3\,d1^5\,t^{11}}{7\,257\,600}-\frac{c3^2\,d1^5\,t^{11}}{7\,257\,600}-\frac{c1^2\,c4\,d1^5\,t^{11}}{1\,451\,520}-\frac{c2\,c4\,d1^5\,t^{11}}{806\,400}-$$
$$\frac{c1\,c5\,d1^5\,t^{11}}{3\,628\,800}+\frac{c6\,d1^5\,t^{11}}{3\,628\,800}-\frac{c1^3\,c2\,d1^6\,t^{11}}{1\,036\,800}+\frac{c1\,c2^2\,d1^6\,t^{11}}{345\,600}+\frac{c1^2\,c3\,d1^6\,t^{11}}{1\,036\,800}-$$
$$\frac{c1\,c4\,d1^6\,t^{11}}{1\,036\,800}-\frac{c1^6\,d1^3\,d2\,t^{11}}{725\,760}+\frac{c1^4\,c2\,d1^3\,d2\,t^{11}}{120\,960}-\frac{11\,c1^2\,c2^2\,d1^3\,d2\,t^{11}}{1\,451\,520}-\frac{c2^3\,d1^3\,d2\,t^{11}}{145\,152}-$$
$$\frac{c1^3\,c3\,d1^3\,d2\,t^{11}}{290\,304}-\frac{11\,c1\,c2\,c3\,d1^3\,d2\,t^{11}}{1\,451\,520}+\frac{c3^2\,d1^3\,d2\,t^{11}}{1\,451\,520}+\frac{c1^2\,c4\,d1^3\,d2\,t^{11}}{290\,304}+$$
$$\frac{c2\,c4\,d1^3\,d2\,t^{11}}{161\,280}+\frac{c1\,c5\,d1^3\,d2\,t^{11}}{725\,760}-\frac{c6\,d1^3\,d2\,t^{11}}{725\,760}+\frac{c1^3\,c2\,d1^4\,d2\,t^{11}}{172\,800}-\frac{c1\,c2^2\,d1^4\,d2\,t^{11}}{57\,600}-$$
$$\frac{c1^2\,c3\,d1^4\,d2\,t^{11}}{172\,800}+\frac{c1\,c4\,d1^4\,d2\,t^{11}}{172\,800}+\frac{c1^6\,d1\,d2^2\,t^{11}}{725\,760}-\frac{c1^4\,c2\,d1\,d2^2\,t^{11}}{120\,960}+$$
$$\frac{11\,c1^2\,c2^2\,d1\,d2^2\,t^{11}}{1\,451\,520}+\frac{c2^3\,d1\,d2^2\,t^{11}}{145\,152}+\frac{c1^3\,c3\,d1\,d2^2\,t^{11}}{290\,304}+\frac{11\,c1\,c2\,c3\,d1\,d2^2\,t^{11}}{1\,451\,520}-$$
$$\frac{c3^2\,d1\,d2^2\,t^{11}}{1\,451\,520}-\frac{c1^2\,c4\,d1\,d2^2\,t^{11}}{290\,304}-\frac{c2\,c4\,d1\,d2^2\,t^{11}}{161\,280}-\frac{c1\,c5\,d1\,d2^2\,t^{11}}{725\,760}+\frac{c6\,d1\,d2^2\,t^{11}}{725\,760}-$$

$$\frac{c1^3\,c2\,d1^2\,d2^2\,t^{11}}{115\,200}+\frac{c1\,c2^2\,d1^2\,d2^2\,t^{11}}{38\,400}+\frac{c1^2\,c3\,d1^2\,d2^2\,t^{11}}{115\,200}-\frac{c1\,c4\,d1^2\,d2^2\,t^{11}}{115\,200}+$$
$$\frac{c1^3\,c2\,d2^3\,t^{11}}{518\,400}-\frac{c1\,c2^2\,d2^3\,t^{11}}{172\,800}-\frac{c1^2\,c3\,d2^3\,t^{11}}{518\,400}+\frac{c1\,c4\,d2^3\,t^{11}}{518\,400}+\frac{c1^6\,d1^2\,d3\,t^{11}}{725\,760}-$$
$$\frac{c1^4\,c2\,d1^2\,d3\,t^{11}}{120\,960}+\frac{11\,c1^2\,c2^2\,d1^2\,d3\,t^{11}}{1\,451\,520}+\frac{c2^3\,d1^2\,d3\,t^{11}}{145\,152}+\frac{c1^3\,c3\,d1^2\,d3\,t^{11}}{290\,304}+$$
$$\frac{11\,c1\,c2\,c3\,d1^2\,d3\,t^{11}}{1\,451\,520}-\frac{c3^2\,d1^2\,d3\,t^{11}}{1\,451\,520}-\frac{c1^2\,c4\,d1^2\,d3\,t^{11}}{290\,304}-\frac{c2\,c4\,d1^2\,d3\,t^{11}}{161\,280}-$$
$$\frac{c1\,c5\,d1^2\,d3\,t^{11}}{725\,760}+\frac{c6\,d1^2\,d3\,t^{11}}{725\,760}-\frac{c1^3\,c2\,d1^3\,d3\,t^{11}}{172\,800}+\frac{c1\,c2^2\,d1^3\,d3\,t^{11}}{57\,600}+\frac{c1^2\,c3\,d1^3\,d3\,t^{11}}{172\,800}-$$
$$\frac{c1\,c4\,d1^3\,d3\,t^{11}}{172\,800}-\frac{c1^6\,d2\,d3\,t^{11}}{725\,760}+\frac{c1^4\,c2\,d2\,d3\,t^{11}}{120\,960}-\frac{11\,c1^2\,c2^2\,d2\,d3\,t^{11}}{1\,451\,520}-$$
$$\frac{c2^3\,d2\,d3\,t^{11}}{145\,152}-\frac{c1^3\,c3\,d2\,d3\,t^{11}}{290\,304}-\frac{11\,c1\,c2\,c3\,d2\,d3\,t^{11}}{1\,451\,520}+\frac{c3^2\,d2\,d3\,t^{11}}{1\,451\,520}+$$
$$\frac{c1^2\,c4\,d2\,d3\,t^{11}}{290\,304}+\frac{c2\,c4\,d2\,d3\,t^{11}}{161\,280}+\frac{c1\,c5\,d2\,d3\,t^{11}}{725\,760}-\frac{c6\,d2\,d3\,t^{11}}{725\,760}+\frac{c1^3\,c2\,d1\,d2\,d3\,t^{11}}{86\,400}-$$
$$\frac{c1\,c2^2\,d1\,d2\,d3\,t^{11}}{28\,800}-\frac{c1^2\,c3\,d1\,d2\,d3\,t^{11}}{86\,400}+\frac{c1\,c4\,d1\,d2\,d3\,t^{11}}{86\,400}-\frac{c1^3\,c2\,d3^2\,t^{11}}{345\,600}+$$
$$\frac{c1\,c2^2\,d3^2\,t^{11}}{115\,200}+\frac{c1^2\,c3\,d3^2\,t^{11}}{345\,600}-\frac{c1\,c4\,d3^2\,t^{11}}{345\,600}-\frac{c1^6\,d1\,d4\,t^{11}}{725\,760}+\frac{c1^4\,c2\,d1\,d4\,t^{11}}{120\,960}-$$
$$\frac{11\,c1^2\,c2^2\,d1\,d4\,t^{11}}{1\,451\,520}-\frac{c2^3\,d1\,d4\,t^{11}}{145\,152}-\frac{c1^3\,c3\,d1\,d4\,t^{11}}{290\,304}-\frac{11\,c1\,c2\,c3\,d1\,d4\,t^{11}}{1\,451\,520}+$$
$$\frac{c3^2\,d1\,d4\,t^{11}}{1\,451\,520}+\frac{c1^2\,c4\,d1\,d4\,t^{11}}{290\,304}+\frac{c2\,c4\,d1\,d4\,t^{11}}{161\,280}+\frac{c1\,c5\,d1\,d4\,t^{11}}{725\,760}-\frac{c6\,d1\,d4\,t^{11}}{725\,760}+$$
$$\frac{c1^3\,c2\,d1^2\,d4\,t^{11}}{172\,800}-\frac{c1\,c2^2\,d1^2\,d4\,t^{11}}{57\,600}-\frac{c1^2\,c3\,d1^2\,d4\,t^{11}}{172\,800}+\frac{c1\,c4\,d1^2\,d4\,t^{11}}{172\,800}-$$
$$\frac{c1^3\,c2\,d2\,d4\,t^{11}}{172\,800}+\frac{c1\,c2^2\,d2\,d4\,t^{11}}{57\,600}+\frac{c1^2\,c3\,d2\,d4\,t^{11}}{172\,800}-\frac{c1\,c4\,d2\,d4\,t^{11}}{172\,800}+\frac{c1^6\,d5\,t^{11}}{725\,760}-$$
$$\frac{c1^4\,c2\,d5\,t^{11}}{120\,960}+\frac{11\,c1^2\,c2^2\,d5\,t^{11}}{1\,451\,520}+\frac{c2^3\,d5\,t^{11}}{145\,152}+\frac{c1^3\,c3\,d5\,t^{11}}{290\,304}+\frac{11\,c1\,c2\,c3\,d5\,t^{11}}{1\,451\,520}-$$
$$\frac{c3^2\,d5\,t^{11}}{1\,451\,520}-\frac{c1^2\,c4\,d5\,t^{11}}{290\,304}-\frac{c2\,c4\,d5\,t^{11}}{161\,280}-\frac{c1\,c5\,d5\,t^{11}}{725\,760}+\frac{c6\,d5\,t^{11}}{725\,760}-\frac{c1^3\,c2\,d1\,d5\,t^{11}}{172\,800}+$$
$$\frac{c1\,c2^2\,d1\,d5\,t^{11}}{57\,600}+\frac{c1^2\,c3\,d1\,d5\,t^{11}}{172\,800}-\frac{c1\,c4\,d1\,d5\,t^{11}}{172\,800}+\frac{c1^3\,c2\,d6\,t^{11}}{172\,800}-\frac{c1\,c2^2\,d6\,t^{11}}{57\,600}-$$
$$\frac{c1^2\,c3\,d6\,t^{11}}{172\,800}+\frac{c1\,c4\,d6\,t^{11}}{172\,800}+\frac{c1^6\,d1^6\,t^{12}}{21\,772\,800}-\frac{c1^4\,c2\,d1^6\,t^{12}}{3\,628\,800}+\frac{11\,c1^2\,c2^2\,d1^6\,t^{12}}{43\,545\,600}+$$
$$\frac{c2^3\,d1^6\,t^{12}}{4\,354\,560}+\frac{c1^3\,c3\,d1^6\,t^{12}}{8\,709\,120}+\frac{11\,c1\,c2\,c3\,d1^6\,t^{12}}{43\,545\,600}-\frac{c3^2\,d1^6\,t^{12}}{43\,545\,600}-\frac{c1^2\,c4\,d1^6\,t^{12}}{8\,709\,120}-$$
$$\frac{c2\,c4\,d1^6\,t^{12}}{4\,838\,400}-\frac{c1\,c5\,d1^6\,t^{12}}{21\,772\,800}+\frac{c6\,d1^6\,t^{12}}{21\,772\,800}-\frac{c1^6\,d1^4\,d2\,t^{12}}{3\,628\,800}+\frac{c1^4\,c2\,d1^4\,d2\,t^{12}}{604\,800}-$$
$$\frac{11\,c1^2\,c2^2\,d1^4\,d2\,t^{12}}{7\,257\,600}-\frac{c2^3\,d1^4\,d2\,t^{12}}{725\,760}-\frac{c1^3\,c3\,d1^4\,d2\,t^{12}}{1\,451\,520}-\frac{11\,c1\,c2\,c3\,d1^4\,d2\,t^{12}}{7\,257\,600}+$$
$$\frac{c3^2\,d1^4\,d2\,t^{12}}{7\,257\,600}+\frac{c1^2\,c4\,d1^4\,d2\,t^{12}}{1\,451\,520}+\frac{c2\,c4\,d1^4\,d2\,t^{12}}{806\,400}+\frac{c1\,c5\,d1^4\,d2\,t^{12}}{3\,628\,800}-$$

$$\frac{c6\,d1^4\,d2\,t^{12}}{3\,628\,800}+\frac{c1^6\,d1^2\,d2^2\,t^{12}}{2\,419\,200}-\frac{c1^4\,c2\,d1^2\,d2^2\,t^{12}}{403\,200}+\frac{11\,c1^2\,c2^2\,d1^2\,d2^2\,t^{12}}{4\,838\,400}+$$
$$\frac{c2^3\,d1^2\,d2^2\,t^{12}}{483\,840}+\frac{c1^3\,c3\,d1^2\,d2^2\,t^{12}}{967\,680}+\frac{11\,c1\,c2\,c3\,d1^2\,d2^2\,t^{12}}{4\,838\,400}-\frac{c3^2\,d1^2\,d2^2\,t^{12}}{4\,838\,400}-$$
$$\frac{c1^2\,c4\,d1^2\,d2^2\,t^{12}}{967\,680}-\frac{c2\,c4\,d1^2\,d2^2\,t^{12}}{537\,600}-\frac{c1\,c5\,d1^2\,d2^2\,t^{12}}{2\,419\,200}+\frac{c6\,d1^2\,d2^2\,t^{12}}{2\,419\,200}-$$
$$\frac{c1^6\,d2^3\,t^{12}}{10\,886\,400}+\frac{c1^4\,c2\,d2^3\,t^{12}}{1\,814\,400}-\frac{11\,c1^2\,c2^2\,d2^3\,t^{12}}{21\,772\,800}-\frac{c2^3\,d2^3\,t^{12}}{2\,177\,280}-\frac{c1^3\,c3\,d2^3\,t^{12}}{4\,354\,560}-$$
$$\frac{11\,c1\,c2\,c3\,d2^3\,t^{12}}{21\,772\,800}+\frac{c3^2\,d2^3\,t^{12}}{21\,772\,800}+\frac{c1^2\,c4\,d2^3\,t^{12}}{4\,354\,560}+\frac{c2\,c4\,d2^3\,t^{12}}{2\,419\,200}+\frac{c1\,c5\,d2^3\,t^{12}}{10\,886\,400}-$$
$$\frac{c6\,d2^3\,t^{12}}{10\,886\,400}+\frac{c1^6\,d1^3\,d3\,t^{12}}{3\,628\,800}-\frac{c1^4\,c2\,d1^3\,d3\,t^{12}}{604\,800}+\frac{11\,c1^2\,c2^2\,d1^3\,d3\,t^{12}}{7\,257\,600}+\frac{c2^3\,d1^3\,d3\,t^{12}}{725\,760}+$$
$$\frac{c1^3\,c3\,d1^3\,d3\,t^{12}}{1\,451\,520}+\frac{11\,c1\,c2\,c3\,d1^3\,d3\,t^{12}}{7\,257\,600}-\frac{c3^2\,d1^3\,d3\,t^{12}}{7\,257\,600}-\frac{c1^2\,c4\,d1^3\,d3\,t^{12}}{1\,451\,520}-$$
$$\frac{c2\,c4\,d1^3\,d3\,t^{12}}{806\,400}-\frac{c1\,c5\,d1^3\,d3\,t^{12}}{3\,628\,800}+\frac{c6\,d1^3\,d3\,t^{12}}{3\,628\,800}-\frac{c1^6\,d1\,d2\,d3\,t^{12}}{1\,814\,400}+$$
$$\frac{c1^4\,c2\,d1\,d2\,d3\,t^{12}}{302\,400}-\frac{11\,c1^2\,c2^2\,d1\,d2\,d3\,t^{12}}{3\,628\,800}-\frac{c2^3\,d1\,d2\,d3\,t^{12}}{362\,880}-\frac{c1^3\,c3\,d1\,d2\,d3\,t^{12}}{725\,760}-$$
$$\frac{11\,c1\,c2\,c3\,d1\,d2\,d3\,t^{12}}{3\,628\,800}+\frac{c3^2\,d1\,d2\,d3\,t^{12}}{3\,628\,800}+\frac{c1^2\,c4\,d1\,d2\,d3\,t^{12}}{725\,760}+\frac{c2\,c4\,d1\,d2\,d3\,t^{12}}{403\,200}+$$
$$\frac{c1\,c5\,d1\,d2\,d3\,t^{12}}{1\,814\,400}-\frac{c6\,d1\,d2\,d3\,t^{12}}{1\,814\,400}+\frac{c1^6\,d3^2\,t^{12}}{7\,257\,600}-\frac{c1^4\,c2\,d3^2\,t^{12}}{1\,209\,600}+\frac{11\,c1^2\,c2^2\,d3^2\,t^{12}}{14\,515\,200}+$$
$$\frac{c2^3\,d3^2\,t^{12}}{1\,451\,520}+\frac{c1^3\,c3\,d3^2\,t^{12}}{2\,903\,040}+\frac{11\,c1\,c2\,c3\,d3^2\,t^{12}}{14\,515\,200}-\frac{c3^2\,d3^2\,t^{12}}{14\,515\,200}-\frac{c1^2\,c4\,d3^2\,t^{12}}{2\,903\,040}-$$
$$\frac{c2\,c4\,d3^2\,t^{12}}{1\,612\,800}-\frac{c1\,c5\,d3^2\,t^{12}}{7\,257\,600}+\frac{c6\,d3^2\,t^{12}}{7\,257\,600}-\frac{c1^6\,d1^2\,d4\,t^{12}}{3\,628\,800}+\frac{c1^4\,c2\,d1^2\,d4\,t^{12}}{604\,800}-$$
$$\frac{11\,c1^2\,c2^2\,d1^2\,d4\,t^{12}}{7\,257\,600}-\frac{c2^3\,d1^2\,d4\,t^{12}}{725\,760}-\frac{c1^3\,c3\,d1^2\,d4\,t^{12}}{1\,451\,520}-\frac{11\,c1\,c2\,c3\,d1^2\,d4\,t^{12}}{7\,257\,600}+$$
$$\frac{c3^2\,d1^2\,d4\,t^{12}}{7\,257\,600}+\frac{c1^2\,c4\,d1^2\,d4\,t^{12}}{1\,451\,520}+\frac{c2\,c4\,d1^2\,d4\,t^{12}}{806\,400}+\frac{c1\,c5\,d1^2\,d4\,t^{12}}{3\,628\,800}-$$
$$\frac{c6\,d1^2\,d4\,t^{12}}{3\,628\,800}+\frac{c1^6\,d2\,d4\,t^{12}}{3\,628\,800}-\frac{c1^4\,c2\,d2\,d4\,t^{12}}{604\,800}+\frac{11\,c1^2\,c2^2\,d2\,d4\,t^{12}}{7\,257\,600}+\frac{c2^3\,d2\,d4\,t^{12}}{725\,760}+$$
$$\frac{c1^3\,c3\,d2\,d4\,t^{12}}{1\,451\,520}+\frac{11\,c1\,c2\,c3\,d2\,d4\,t^{12}}{7\,257\,600}-\frac{c3^2\,d2\,d4\,t^{12}}{7\,257\,600}-\frac{c1^2\,c4\,d2\,d4\,t^{12}}{1\,451\,520}-$$
$$\frac{c2\,c4\,d2\,d4\,t^{12}}{806\,400}-\frac{c1\,c5\,d2\,d4\,t^{12}}{3\,628\,800}+\frac{c6\,d2\,d4\,t^{12}}{3\,628\,800}+\frac{c1^6\,d1\,d5\,t^{12}}{3\,628\,800}-\frac{c1^4\,c2\,d1\,d5\,t^{12}}{604\,800}+$$
$$\frac{11\,c1^2\,c2^2\,d1\,d5\,t^{12}}{7\,257\,600}+\frac{c2^3\,d1\,d5\,t^{12}}{725\,760}+\frac{c1^3\,c3\,d1\,d5\,t^{12}}{1\,451\,520}+\frac{11\,c1\,c2\,c3\,d1\,d5\,t^{12}}{7\,257\,600}-$$
$$\frac{c3^2\,d1\,d5\,t^{12}}{7\,257\,600}-\frac{c1^2\,c4\,d1\,d5\,t^{12}}{1\,451\,520}-\frac{c2\,c4\,d1\,d5\,t^{12}}{806\,400}-\frac{c1\,c5\,d1\,d5\,t^{12}}{3\,628\,800}+\frac{c6\,d1\,d5\,t^{12}}{3\,628\,800}-$$
$$\frac{c1^6\,d6\,t^{12}}{3\,628\,800}+\frac{c1^4\,c2\,d6\,t^{12}}{604\,800}-\frac{11\,c1^2\,c2^2\,d6\,t^{12}}{7\,257\,600}-\frac{c2^3\,d6\,t^{12}}{725\,760}-\frac{c1^3\,c3\,d6\,t^{12}}{1\,451\,520}-$$
$$\frac{11\,c1\,c2\,c3\,d6\,t^{12}}{7\,257\,600}+\frac{c3^2\,d6\,t^{12}}{7\,257\,600}+\frac{c1^2\,c4\,d6\,t^{12}}{1\,451\,520}+\frac{c2\,c4\,d6\,t^{12}}{806\,400}+\frac{c1\,c5\,d6\,t^{12}}{3\,628\,800}-\frac{c6\,d6\,t^{12}}{3\,628\,800}$$

In[10]:= **SeriesCoefficient[%9, {t, 0, 6}]**

Out[10]=

$$\frac{c1^6}{3024} - \frac{c1^4\,c2}{504} + \frac{11\,c1^2\,c2^2}{6048} + \frac{5\,c2^3}{3024} + \frac{5\,c1^3\,c3}{6048} + \frac{11\,c1\,c2\,c3}{6048} - \frac{c3^2}{6048} - \frac{5\,c1^2\,c4}{6048} -$$
$$\frac{c2\,c4}{672} - \frac{c1\,c5}{3024} + \frac{c6}{3024} - \frac{c1^3\,c2\,d1}{1440} + \frac{1}{480}\,c1\,c2^2\,d1 + \frac{c1^2\,c3\,d1}{1440} - \frac{c1\,c4\,d1}{1440} - \frac{c1^4\,d1^2}{1440} +$$
$$\frac{1}{360}\,c1^2\,c2\,d1^2 + \frac{c2^2\,d1^2}{480} + \frac{c1\,c3\,d1^2}{1440} - \frac{c4\,d1^2}{1440} + \frac{1}{144}\,c1\,c2\,d1^3 + \frac{c1^2\,d1^4}{288} + \frac{c2\,d1^4}{288} +$$
$$\frac{c1\,d1^5}{240} + \frac{d1^6}{720} + \frac{c1^4\,d2}{720} - \frac{1}{180}\,c1^2\,c2\,d2 - \frac{c2^2\,d2}{240} - \frac{c1\,c3\,d2}{720} + \frac{c4\,d2}{720} - \frac{1}{48}\,c1\,c2\,d1\,d2 -$$
$$\frac{1}{72}\,c1^2\,d1^2\,d2 - \frac{1}{72}\,c2\,d1^2\,d2 - \frac{1}{48}\,c1\,d1^3\,d2 - \frac{d1^4\,d2}{120} + \frac{c1^2\,d2^2}{144} + \frac{c2\,d2^2}{144} + \frac{1}{48}\,c1\,d1\,d2^2 +$$
$$\frac{d1^2\,d2^2}{80} - \frac{d2^3}{360} + \frac{c1\,c2\,d3}{48} + \frac{1}{72}\,c1^2\,d1\,d3 + \frac{c2\,d1\,d3}{72} + \frac{1}{48}\,c1\,d1^2\,d3 + \frac{d1^3\,d3}{120} - \frac{c1\,d2\,d3}{48} -$$
$$\frac{d1\,d2\,d3}{60} + \frac{d3^2}{240} - \frac{c1^2\,d4}{72} - \frac{c2\,d4}{72} - \frac{c1\,d1\,d4}{48} - \frac{d1^2\,d4}{120} + \frac{d2\,d4}{120} + \frac{c1\,d5}{48} + \frac{d1\,d5}{120} - \frac{d6}{120}$$

In[11]:=
```
Expand[%10 /. {d1 → e1 + 10 * t * H, d2 → e2 + 9 * e1 * t * H + 45 * t^2 * H^2,
   d3 → e3 + 8 * e2 * t * H + 36 * e1 * t^2 * H^2 + 120 * t^3 * H^3,
   d4 → e4 + 7 * e3 * t * H + 28 * e2 * t^2 * H^2 + 84 * e1 * t^3 * H^3 + 210 * t^4 * H^4,
   d5 → e5 + 6 * e4 * t * H + 21 * e3 * t^2 * H^2 + 56 * e2 * t^3 * H^3 +
     126 * e1 * t^4 * H^4 + 252 * t^5 * H^5, d6 → e6 + 5 * e5 * t * H + 15 * e4 * t^2 * H^2 +
     35 * e3 * t^3 * H^3 + 70 * e2 * t^4 * H^4 + 126 * e1 * t^5 * H^5 + 210 * t^6 * H^6}]
```

Out[11]=

$$\frac{c1^6}{3024} - \frac{c1^4\,c2}{504} + \frac{11\,c1^2\,c2^2}{6048} + \frac{5\,c2^3}{3024} + \frac{5\,c1^3\,c3}{6048} + \frac{11\,c1\,c2\,c3}{6048} - \frac{c3^2}{6048} - \frac{5\,c1^2\,c4}{6048} -$$
$$\frac{c2\,c4}{672} - \frac{c1\,c5}{3024} + \frac{c6}{3024} - \frac{c1^3\,c2\,e1}{1440} + \frac{1}{480}\,c1\,c2^2\,e1 + \frac{c1^2\,c3\,e1}{1440} - \frac{c1\,c4\,e1}{1440} - \frac{c1^4\,e1^2}{1440} +$$
$$\frac{1}{360}\,c1^2\,c2\,e1^2 + \frac{c2^2\,e1^2}{480} + \frac{c1\,c3\,e1^2}{1440} - \frac{c4\,e1^2}{1440} + \frac{1}{144}\,c1\,c2\,e1^3 + \frac{c1^2\,e1^4}{288} + \frac{c2\,e1^4}{288} +$$
$$\frac{c1\,e1^5}{240} + \frac{e1^6}{720} + \frac{c1^4\,e2}{720} - \frac{1}{180}\,c1^2\,c2\,e2 - \frac{c2^2\,e2}{240} - \frac{c1\,c3\,e2}{720} + \frac{c4\,e2}{720} - \frac{1}{48}\,c1\,c2\,e1\,e2 -$$
$$\frac{1}{72}\,c1^2\,e1^2\,e2 - \frac{1}{72}\,c2\,e1^2\,e2 - \frac{1}{48}\,c1\,e1^3\,e2 - \frac{e1^4\,e2}{120} + \frac{c1^2\,e2^2}{144} + \frac{c2\,e2^2}{144} + \frac{1}{48}\,c1\,e1\,e2^2 +$$
$$\frac{e1^2\,e2^2}{80} - \frac{e2^3}{360} + \frac{c1\,c2\,e3}{48} + \frac{1}{72}\,c1^2\,e1\,e3 + \frac{c2\,e1\,e3}{72} + \frac{1}{48}\,c1\,e1^2\,e3 + \frac{e1^3\,e3}{120} - \frac{c1\,e2\,e3}{48} -$$
$$\frac{e1\,e2\,e3}{60} + \frac{e3^2}{240} - \frac{c1^2\,e4}{72} - \frac{c2\,e4}{72} - \frac{c1\,e1\,e4}{48} - \frac{e1^2\,e4}{120} + \frac{e2\,e4}{120} + \frac{c1\,e5}{48} + \frac{e1\,e5}{120} - \frac{e6}{120} -$$
$$\frac{1}{144}\,c1^3\,c2\,H\,t + \frac{1}{48}\,c1\,c2^2\,H\,t + \frac{1}{144}\,c1^2\,c3\,H\,t - \frac{1}{144}\,c1\,c4\,H\,t - \frac{1}{720}\,c1^4\,e1\,H\,t +$$
$$\frac{1}{180}\,c1^2\,c2\,e1\,H\,t + \frac{1}{240}\,c2^2\,e1\,H\,t + \frac{1}{720}\,c1\,c3\,e1\,H\,t - \frac{1}{720}\,c4\,e1\,H\,t + \frac{1}{48}\,c1\,c2\,e1^2\,H\,t +$$
$$\frac{1}{72}\,c1^2\,e1^3\,H\,t + \frac{1}{72}\,c2\,e1^3\,H\,t + \frac{1}{48}\,c1\,e1^4\,H\,t + \frac{1}{120}\,e1^5\,H\,t - \frac{1}{24}\,c1\,c2\,e2\,H\,t -$$
$$\frac{1}{24}\,c1^2\,e1\,e2\,H\,t - \frac{1}{24}\,c2\,e1\,e2\,H\,t - \frac{1}{12}\,c1\,e1^2\,e2\,H\,t - \frac{1}{24}\,e1^3\,e2\,H\,t + \frac{1}{24}\,c1\,e2^2\,H\,t +$$
$$\frac{1}{24}\,e1\,e2^2\,H\,t + \frac{1}{24}\,c1^2\,e3\,H\,t + \frac{1}{24}\,c2\,e3\,H\,t + \frac{1}{12}\,c1\,e1\,e3\,H\,t + \frac{1}{24}\,e1^2\,e3\,H\,t -$$
$$\frac{1}{24}\,e2\,e3\,H\,t - \frac{1}{12}\,c1\,e4\,H\,t - \frac{1}{24}\,e1\,e4\,H\,t + \frac{e5\,H\,t}{24} - \frac{1}{144}\,c1^4\,H^2\,t^2 + \frac{1}{36}\,c1^2\,c2\,H^2\,t^2 +$$
$$\frac{1}{48}\,c2^2\,H^2\,t^2 + \frac{1}{144}\,c1\,c3\,H^2\,t^2 - \frac{1}{144}\,c4\,H^2\,t^2 + \frac{1}{48}\,c1\,c2\,e1\,H^2\,t^2 + \frac{1}{48}\,c1^2\,e1^2\,H^2\,t^2 +$$
$$\frac{1}{48}\,c2\,e1^2\,H^2\,t^2 + \frac{1}{24}\,c1\,e1^3\,H^2\,t^2 + \frac{1}{48}\,e1^4\,H^2\,t^2 - \frac{1}{24}\,c1^2\,e2\,H^2\,t^2 - \frac{1}{24}\,c2\,e2\,H^2\,t^2 -$$
$$\frac{1}{8}\,c1\,e1\,e2\,H^2\,t^2 - \frac{1}{12}\,e1^2\,e2\,H^2\,t^2 + \frac{1}{24}\,e2^2\,H^2\,t^2 + \frac{1}{8}\,c1\,e3\,H^2\,t^2 + \frac{1}{12}\,e1\,e3\,H^2\,t^2 -$$
$$\frac{1}{12}\,e4\,H^2\,t^2 + \frac{5}{72}\,c1\,c2\,H^3\,t^3 + \frac{1}{72}\,c1^2\,e1\,H^3\,t^3 + \frac{1}{72}\,c2\,e1\,H^3\,t^3 + \frac{1}{24}\,c1\,e1^2\,H^3\,t^3 +$$
$$\frac{1}{36}\,e1^3\,H^3\,t^3 - \frac{1}{12}\,c1\,e2\,H^3\,t^3 - \frac{1}{12}\,e1\,e2\,H^3\,t^3 + \frac{1}{12}\,e3\,H^3\,t^3 + \frac{5}{144}\,c1^2\,H^4\,t^4 + \frac{5}{144}\,c2\,H^4\,t^4 +$$
$$\frac{1}{48}\,c1\,e1\,H^4\,t^4 + \frac{1}{48}\,e1^2\,H^4\,t^4 - \frac{1}{24}\,e2\,H^4\,t^4 + \frac{1}{24}\,c1\,H^5\,t^5 + \frac{1}{120}\,e1\,H^5\,t^5 + \frac{H^6\,t^6}{72}$$

In[12]:=
```
Expand[(1 + (a + b) * t) * (1 + (a + c) * t) *
  (1 + (a + d) * t) * (1 + (a + e) * t) * (1 + (b + c) * t) * (1 + (b + d) * t) *
  (1 + (b + e) * t) * (1 + (c + d) * t) * (1 + (c + e) * t) * (1 + (d + e) * t)]
```

Out[12]=

$$1 + 4\,a\,t + 4\,b\,t + 4\,c\,t + 4\,d\,t + 4\,e\,t + 6\,a^2\,t^2 + 15\,a\,b\,t^2 + 6\,b^2\,t^2 + \langle\langle 1605 \rangle\rangle + a\,c^3\,d^2\,e^4\,t^{10} + b\,c^3\,d^2\,e^4\,t^{10} + a^2\,b\,d^3\,e^4\,t^{10} + a\,b^2\,d^3\,e^4\,t^{10} + a^2\,c\,d^3\,e^4\,t^{10} + 2\,a\,b\,c\,d^3\,e^4\,t^{10} + b^2\,c\,d^3\,e^4\,t^{10} + a\,c^2\,d^3\,e^4\,t^{10} + b\,c^2\,d^3\,e^4\,t^{10}$$

Size in memory: 0.6 MB | + Show more | Show all | Iconize | Store full expression in notebook

In[13]:=
```
G6 = SeriesCoefficient[%12, {t, 0, 6}]
```

Out[13]=

$$3\,a^4\,b^2 + 7\,a^3\,b^3 + 3\,a^2\,b^4 + 8\,a^4\,b\,c + 39\,a^3\,b^2\,c + 39\,a^2\,b^3\,c + 8\,a\,b^4\,c + 3\,a^4\,c^2 + 39\,a^3\,b\,c^2 + 80\,a^2\,b^2\,c^2 + 39\,a\,b^3\,c^2 + 3\,b^4\,c^2 + 7\,a^3\,c^3 + 39\,a^2\,b\,c^3 + 39\,a\,b^2\,c^3 + 7\,b^3\,c^3 + 3\,a^2\,c^4 + 8\,a\,b\,c^4 + 3\,b^2\,c^4 + 8\,a^4\,b\,d + 39\,a^3\,b^2\,d + 39\,a^2\,b^3\,d + 8\,a\,b^4\,d + 8\,a^4\,c\,d + 96\,a^3\,b\,c\,d + 193\,a^2\,b^2\,c\,d + 96\,a\,b^3\,c\,d + 8\,b^4\,c\,d + 39\,a^3\,c^2\,d + 193\,a^2\,b\,c^2\,d + 193\,a\,b^2\,c^2\,d + 39\,b^3\,c^2\,d + 39\,a^2\,c^3\,d + 96\,a\,b\,c^3\,d + 39\,b^2\,c^3\,d + 8\,a\,c^4\,d + 8\,b\,c^4\,d + 3\,a^4\,d^2 + 39\,a^3\,b\,d^2 + 80\,a^2\,b^2\,d^2 + 39\,a\,b^3\,d^2 + 3\,b^4\,d^2 + 39\,a^3\,c\,d^2 + 193\,a^2\,b\,c\,d^2 + 193\,a\,b^2\,c\,d^2 + 39\,b^3\,c\,d^2 + 80\,a^2\,c^2\,d^2 + 193\,a\,b\,c^2\,d^2 + 80\,b^2\,c^2\,d^2 + 39\,a\,c^3\,d^2 + 39\,b\,c^3\,d^2 + 3\,c^4\,d^2 + 7\,a^3\,d^3 + 39\,a^2\,b\,d^3 + 39\,a\,b^2\,d^3 + 7\,b^3\,d^3 + 39\,a^2\,c\,d^3 + 96\,a\,b\,c\,d^3 + 39\,b^2\,c\,d^3 + 39\,a\,c^2\,d^3 + 39\,b\,c^2\,d^3 + 7\,c^3\,d^3 + 3\,a^2\,d^4 + 8\,a\,b\,d^4 + 3\,b^2\,d^4 + 8\,a\,c\,d^4 + 8\,b\,c\,d^4 + 3\,c^2\,d^4 + 8\,a^4\,b\,e + 39\,a^3\,b^2\,e + 39\,a^2\,b^3\,e + 8\,a\,b^4\,e + 8\,a^4\,c\,e + 96\,a^3\,b\,c\,e + 193\,a^2\,b^2\,c\,e + 96\,a\,b^3\,c\,e + 8\,b^4\,c\,e + 39\,a^3\,c^2\,e + 193\,a^2\,b\,c^2\,e + 193\,a\,b^2\,c^2\,e + 39\,b^3\,c^2\,e + 39\,a^2\,c^3\,e + 96\,a\,b\,c^3\,e + 39\,b^2\,c^3\,e + 8\,a\,c^4\,e + 8\,b\,c^4\,e + 8\,a^4\,d\,e + 96\,a^3\,b\,d\,e + 193\,a^2\,b^2\,d\,e + 96\,a\,b^3\,d\,e + 8\,b^4\,d\,e + 96\,a^3\,c\,d\,e + 444\,a^2\,b\,c\,d\,e + 444\,a\,b^2\,c\,d\,e + 96\,b^3\,c\,d\,e + 193\,a^2\,c^2\,d\,e + 444\,a\,b\,c^2\,d\,e + 193\,b^2\,c^2\,d\,e + 96\,a\,c^3\,d\,e + 96\,b\,c^3\,d\,e + 8\,c^4\,d\,e + 39\,a^3\,d^2\,e + 193\,a^2\,b\,d^2\,e + 193\,a\,b^2\,d^2\,e + 39\,b^3\,d^2\,e + 193\,a^2\,c\,d^2\,e + 444\,a\,b\,c\,d^2\,e + 193\,b^2\,c\,d^2\,e + 193\,a\,c^2\,d^2\,e + 193\,b\,c^2\,d^2\,e + 39\,c^3\,d^2\,e + 39\,a^2\,d^3\,e + 96\,a\,b\,d^3\,e + 39\,b^2\,d^3\,e + 96\,a\,c\,d^3\,e + 96\,b\,c\,d^3\,e + 39\,c^2\,d^3\,e + 8\,a\,d^4\,e + 8\,b\,d^4\,e + 8\,c\,d^4\,e + 3\,a^4\,e^2 + 39\,a^3\,b\,e^2 + 80\,a^2\,b^2\,e^2 + 39\,a\,b^3\,e^2 + 3\,b^4\,e^2 + 39\,a^3\,c\,e^2 + 193\,a^2\,b\,c\,e^2 + 193\,a\,b^2\,c\,e^2 + 39\,b^3\,c\,e^2 + 80\,a^2\,c^2\,e^2 + 193\,a\,b\,c^2\,e^2 + 80\,b^2\,c^2\,e^2 + 39\,a\,c^3\,e^2 + 39\,b\,c^3\,e^2 + 3\,c^4\,e^2 + 39\,a^3\,d\,e^2 + 193\,a^2\,b\,d\,e^2 + 193\,a\,b^2\,d\,e^2 + 39\,b^3\,d\,e^2 + 193\,a^2\,c\,d\,e^2 + 444\,a\,b\,c\,d\,e^2 + 193\,b^2\,c\,d\,e^2 + 193\,a\,c^2\,d\,e^2 + 193\,b\,c^2\,d\,e^2 + 39\,c^3\,d\,e^2 + 80\,a^2\,d^2\,e^2 + 193\,a\,b\,d^2\,e^2 + 80\,b^2\,d^2\,e^2 + 193\,a\,c\,d^2\,e^2 + 193\,b\,c\,d^2\,e^2 + 80\,c^2\,d^2\,e^2 + 39\,a\,d^3\,e^2 + 39\,b\,d^3\,e^2 + 39\,c\,d^3\,e^2 + 3\,d^4\,e^2 + 7\,a^3\,e^3 + 39\,a^2\,b\,e^3 + 39\,a\,b^2\,e^3 + 7\,b^3\,e^3 + 39\,a^2\,c\,e^3 + 96\,a\,b\,c\,e^3 + 39\,b^2\,c\,e^3 + 39\,a\,c^2\,e^3 + 39\,b\,c^2\,e^3 + 7\,c^3\,e^3 + 39\,a^2\,d\,e^3 + 96\,a\,b\,d\,e^3 + 39\,b^2\,d\,e^3 + 96\,a\,c\,d\,e^3 + 96\,b\,c\,d\,e^3 + 39\,c^2\,d\,e^3 + 39\,a\,d^2\,e^3 + 39\,b\,d^2\,e^3 + 39\,c\,d^2\,e^3 + 7\,d^3\,e^3 + 3\,a^2\,e^4 + 8\,a\,b\,e^4 + 3\,b^2\,e^4 + 8\,a\,c\,e^4 + 8\,b\,c\,e^4 + 3\,c^2\,e^4 + 8\,a\,d\,e^4 + 8\,b\,d\,e^4 + 8\,c\,d\,e^4 + 3\,d^2\,e^4$$

In[14]:=
```
G5 = SeriesCoefficient[%12, {t, 0, 5}]
```

Out[14]=

$$3 a^4 b + 15 a^3 b^2 + 15 a^2 b^3 + 3 a b^4 + 3 a^4 c + 38 a^3 b c + 78 a^2 b^2 c + 38 a b^3 c + 3 b^4 c + 15 a^3 c^2 + 78 a^2 b c^2 + 78 a b^2 c^2 + 15 b^3 c^2 + 15 a^2 c^3 + 38 a b c^3 + 15 b^2 c^3 + 3 a c^4 + 3 b c^4 + 3 a^4 d + 38 a^3 b d + 78 a^2 b^2 d + 38 a b^3 d + 3 b^4 d + 38 a^3 c d + 189 a^2 b c d + 189 a b^2 c d + 38 b^3 c d + 78 a^2 c^2 d + 189 a b c^2 d + 78 b^2 c^2 d + 38 a c^3 d + 38 b c^3 d + 3 c^4 d + 15 a^3 d^2 + 78 a^2 b d^2 + 78 a b^2 d^2 + 15 b^3 d^2 + 78 a^2 c d^2 + 189 a b c d^2 + 78 b^2 c d^2 + 78 a c^2 d^2 + 78 b c^2 d^2 + 15 c^3 d^2 + 15 a^2 d^3 + 38 a b d^3 + 15 b^2 d^3 + 38 a c d^3 + 38 b c d^3 + 15 c^2 d^3 + 3 a d^4 + 3 b d^4 + 3 c d^4 + 3 a^4 e + 38 a^3 b e + 78 a^2 b^2 e + 38 a b^3 e + 3 b^4 e + 38 a^3 c e + 189 a^2 b c e + 189 a b^2 c e + 38 b^3 c e + 78 a^2 c^2 e + 189 a b c^2 e + 78 b^2 c^2 e + 38 a c^3 e + 38 b c^3 e + 3 c^4 e + 38 a^3 d e + 189 a^2 b d e + 189 a b^2 d e + 38 b^3 d e + 189 a^2 c d e + 444 a b c d e + 189 b^2 c d e + 189 a c^2 d e + 189 b c^2 d e + 38 c^3 d e + 78 a^2 d^2 e + 189 a b d^2 e + 78 b^2 d^2 e + 189 a c d^2 e + 189 b c d^2 e + 78 c^2 d^2 e + 38 a d^3 e + 38 b d^3 e + 38 c d^3 e + 3 d^4 e + 15 a^3 e^2 + 78 a^2 b e^2 + 78 a b^2 e^2 + 15 b^3 e^2 + 78 a^2 c e^2 + 189 a b c e^2 + 78 b^2 c e^2 + 78 a c^2 e^2 + 78 b c^2 e^2 + 15 c^3 e^2 + 78 a^2 d e^2 + 189 a b d e^2 + 78 b^2 d e^2 + 189 a c d e^2 + 189 b c d e^2 + 78 c^2 d e^2 + 78 a d^2 e^2 + 78 b d^2 e^2 + 78 c d^2 e^2 + 15 d^3 e^2 + 15 a^2 e^3 + 38 a b e^3 + 15 b^2 e^3 + 38 a c e^3 + 38 b c e^3 + 15 c^2 e^3 + 38 a d e^3 + 38 b d e^3 + 38 c d e^3 + 15 d^2 e^3 + 3 a e^4 + 3 b e^4 + 3 c e^4 + 3 d e^4$$

In[15]:=
```
G4 = SeriesCoefficient[%12, {t, 0, 4}]
```

Out[15]=

$$a^4 + 13 a^3 b + 27 a^2 b^2 + 13 a b^3 + b^4 + 13 a^3 c + 67 a^2 b c + 67 a b^2 c + 13 b^3 c + 27 a^2 c^2 + 67 a b c^2 + 27 b^2 c^2 + 13 a c^3 + 13 b c^3 + c^4 + 13 a^3 d + 67 a^2 b d + 67 a b^2 d + 13 b^3 d + 67 a^2 c d + 163 a b c d + 67 b^2 c d + 67 a c^2 d + 67 b c^2 d + 13 c^3 d + 27 a^2 d^2 + 67 a b d^2 + 27 b^2 d^2 + 67 a c d^2 + 67 b c d^2 + 27 c^2 d^2 + 13 a d^3 + 13 b d^3 + 13 c d^3 + d^4 + 13 a^3 e + 67 a^2 b e + 67 a b^2 e + 13 b^3 e + 67 a^2 c e + 163 a b c e + 67 b^2 c e + 67 a c^2 e + 67 b c^2 e + 13 c^3 e + 67 a^2 d e + 163 a b d e + 67 b^2 d e + 163 a c d e + 163 b c d e + 67 c^2 d e + 67 a d^2 e + 67 b d^2 e + 67 c d^2 e + 13 d^3 e + 27 a^2 e^2 + 67 a b e^2 + 27 b^2 e^2 + 67 a c e^2 + 67 b c e^2 + 27 c^2 e^2 + 67 a d e^2 + 67 b d e^2 + 67 c d e^2 + 27 d^2 e^2 + 13 a e^3 + 13 b e^3 + 13 c e^3 + 13 d e^3 + e^4$$

In[16]:=
```
G3 = SeriesCoefficient[%12, {t, 0, 3}]
```

Out[16]=

$$4 a^3 + 21 a^2 b + 21 a b^2 + 4 b^3 + 21 a^2 c + 52 a b c + 21 b^2 c + 21 a c^2 + 21 b c^2 + 4 c^3 + 21 a^2 d + 52 a b d + 21 b^2 d + 52 a c d + 52 b c d + 21 c^2 d + 21 a d^2 + 21 b d^2 + 21 c d^2 + 4 d^3 + 21 a^2 e + 52 a b e + 21 b^2 e + 52 a c e + 52 b c e + 21 c^2 e + 52 a d e + 52 b d e + 52 c d e + 21 d^2 e + 21 a e^2 + 21 b e^2 + 21 c e^2 + 21 d e^2 + 4 e^3$$

In[17]:=
```
G2 = SeriesCoefficient[%12, {t, 0, 2}]
```

Out[17]=

$$6 a^2 + 15 a b + 6 b^2 + 15 a c + 15 b c + 6 c^2 + 15 a d + 15 b d + 15 c d + 6 d^2 + 15 a e + 15 b e + 15 c e + 15 d e + 6 e^2$$

In[18]:=
```
G1 = SeriesCoefficient[%12, {t, 0, 1}]
```

Out[18]=

$$4 (a + b + c + d + e)$$

In[19]:=
```
SymmetricReduction[G6, {a, b, c, d, e}, {f1, f2, f3, f4, f5}]
```

Out[19]=

$$\{3 f1^2 f2^2 + f2^3 + 2 f1^3 f3 + 6 f1 f2 f3 - f3^2 - 2 f1^2 f4 - 2 f2 f4 - 22 f1 f5, 0\}$$

In[20]:=
```
k6 = First[%19]
```

Out[20]=
$$3\,f1^2\,f2^2 + f2^3 + 2\,f1^3\,f3 + 6\,f1\,f2\,f3 - f3^2 - 2\,f1^2\,f4 - 2\,f2\,f4 - 22\,f1\,f5$$

In[21]:=
```
SymmetricReduction[G5, {a, b, c, d, e}, {f1, f2, f3, f4, f5}]
```

Out[21]=
$$\left\{3\,f1^3\,f2 + 6\,f1\,f2^2 + 5\,f1^2\,f3 + 2\,f2\,f3 - 5\,f1\,f4 - 11\,f5,\ 0\right\}$$

In[22]:=
```
k5 = First[%21]
```

Out[22]=
$$3\,f1^3\,f2 + 6\,f1\,f2^2 + 5\,f1^2\,f3 + 2\,f2\,f3 - 5\,f1\,f4 - 11\,f5$$

In[23]:=
```
SymmetricReduction[G4, {a, b, c, d, e}, {f1, f2, f3, f4, f5}]
```

Out[23]=
$$\left\{f1^4 + 9\,f1^2\,f2 + 3\,f2^2 + 4\,f1\,f3 - 3\,f4,\ 0\right\}$$

In[24]:=
```
k4 = First[%23]
```

Out[24]=
$$f1^4 + 9\,f1^2\,f2 + 3\,f2^2 + 4\,f1\,f3 - 3\,f4$$

In[25]:=
```
SymmetricReduction[G3, {a, b, c, d, e}, {f1, f2, f3, f4, f5}]
```

Out[25]=
$$\left\{4\,f1^3 + 9\,f1\,f2 + f3,\ 0\right\}$$

In[26]:=
```
k3 = First[%25]
```

Out[26]=
$$4\,f1^3 + 9\,f1\,f2 + f3$$

In[27]:=
```
SymmetricReduction[G2, {a, b, c, d, e}, {f1, f2, f3, f4, f5}]
```

Out[27]=
$$\left\{6\,f1^2 + 3\,f2,\ 0\right\}$$

In[28]:=
```
k2 = First[%27]
```

Out[28]=
$$6\,f1^2 + 3\,f2$$

In[29]:=
```
SymmetricReduction[G1, {a, b, c, d, e}, {f1, f2, f3, f4, f5}]
```

Out[29]=
$$\{4\,f1,\ 0\}$$

In[30]:=
```
k1 = First[%29]
```

Out[30]=
$$4\,f1$$

In[31]:=
```
p1 = Expand[%11 /. {e1 → k1, e2 → k2, e3 → k3, e4 → k4, e5 → k5, e6 → k6}]
```

Out[31]=

$$\frac{c1^6}{3024} - \frac{c1^4\,c2}{504} + \frac{11\,c1^2\,c2^2}{6048} + \frac{5\,c2^3}{3024} + \frac{5\,c1^3\,c3}{6048} + \frac{11\,c1\,c2\,c3}{6048} - \frac{c3^2}{6048} - \frac{5\,c1^2\,c4}{6048} - \frac{c2\,c4}{672} -$$
$$\frac{c1\,c5}{3024} + \frac{c6}{3024} - \frac{1}{360}\,c1^3\,c2\,f1 + \frac{1}{120}\,c1\,c2^2\,f1 + \frac{1}{360}\,c1^2\,c3\,f1 - \frac{c1\,c4\,f1}{360} - \frac{c1^4\,f1^2}{360} +$$
$$\frac{1}{90}\,c1^2\,c2\,f1^2 + \frac{c2^2\,f1^2}{120} + \frac{1}{360}\,c1\,c3\,f1^2 - \frac{c4\,f1^2}{360} + \frac{1}{36}\,c1\,c2\,f1^3 + \frac{c1^2\,f1^4}{72} + \frac{c2\,f1^4}{72} +$$
$$\frac{c1\,f1^5}{60} + \frac{f1^6}{180} + \frac{c1^4\,f2}{240} - \frac{1}{60}\,c1^2\,c2\,f2 - \frac{c2^2\,f2}{80} - \frac{c1\,c3\,f2}{240} + \frac{c4\,f2}{240} - \frac{1}{16}\,c1\,c2\,f1\,f2 -$$
$$\frac{1}{24}\,c1^2\,f1^2\,f2 - \frac{1}{24}\,c2\,f1^2\,f2 - \frac{1}{16}\,c1\,f1^3\,f2 - \frac{f1^4\,f2}{40} + \frac{c1^2\,f2^2}{48} + \frac{c2\,f2^2}{48} + \frac{1}{16}\,c1\,f1\,f2^2 +$$
$$\frac{3\,f1^2\,f2^2}{80} - \frac{f2^3}{120} + \frac{c1\,c2\,f3}{48} - \frac{1}{48}\,c1\,f1^2\,f3 - \frac{f1^3\,f3}{60} - \frac{c1\,f2\,f3}{48} - \frac{f1\,f2\,f3}{120} + \frac{f3^2}{80} +$$
$$\frac{c1^2\,f4}{24} + \frac{c2\,f4}{24} + \frac{7\,c1\,f1\,f4}{48} + \frac{f1^2\,f4}{10} - \frac{7\,f2\,f4}{120} - \frac{11\,c1\,f5}{48} - \frac{11\,f1\,f5}{60} - \frac{1}{144}\,c1^3\,c2\,H\,t +$$
$$\frac{1}{48}\,c1\,c2^2\,H\,t + \frac{1}{144}\,c1^2\,c3\,H\,t - \frac{1}{144}\,c1\,c4\,H\,t - \frac{1}{180}\,c1^4\,f1\,H\,t + \frac{1}{45}\,c1^2\,c2\,f1\,H\,t +$$
$$\frac{1}{60}\,c2^2\,f1\,H\,t + \frac{1}{180}\,c1\,c3\,f1\,H\,t - \frac{1}{180}\,c4\,f1\,H\,t + \frac{1}{12}\,c1\,c2\,f1^2\,H\,t + \frac{1}{18}\,c1^2\,f1^3\,H\,t +$$
$$\frac{1}{18}\,c2\,f1^3\,H\,t + \frac{1}{12}\,c1\,f1^4\,H\,t + \frac{1}{30}\,f1^5\,H\,t - \frac{1}{8}\,c1\,c2\,f2\,H\,t - \frac{1}{8}\,c1^2\,f1\,f2\,H\,t -$$
$$\frac{1}{8}\,c2\,f1\,f2\,H\,t - \frac{1}{4}\,c1\,f1^2\,f2\,H\,t - \frac{1}{8}\,f1^3\,f2\,H\,t + \frac{1}{8}\,c1\,f2^2\,H\,t + \frac{1}{8}\,f1\,f2^2\,H\,t + \frac{1}{24}\,c1^2\,f3\,H\,t +$$
$$\frac{1}{24}\,c2\,f3\,H\,t - \frac{1}{24}\,f1^2\,f3\,H\,t - \frac{1}{24}\,f2\,f3\,H\,t + \frac{1}{4}\,c1\,f4\,H\,t + \frac{7}{24}\,f1\,f4\,H\,t - \frac{11\,f5\,H\,t}{24} -$$
$$\frac{1}{144}\,c1^4\,H^2\,t^2 + \frac{1}{36}\,c1^2\,c2\,H^2\,t^2 + \frac{1}{48}\,c2^2\,H^2\,t^2 + \frac{1}{144}\,c1\,c3\,H^2\,t^2 - \frac{1}{144}\,c4\,H^2\,t^2 +$$
$$\frac{1}{12}\,c1\,c2\,f1\,H^2\,t^2 + \frac{1}{12}\,c1^2\,f1^2\,H^2\,t^2 + \frac{1}{12}\,c2\,f1^2\,H^2\,t^2 + \frac{1}{6}\,c1\,f1^3\,H^2\,t^2 + \frac{1}{12}\,f1^4\,H^2\,t^2 -$$
$$\frac{1}{8}\,c1^2\,f2\,H^2\,t^2 - \frac{1}{8}\,c2\,f2\,H^2\,t^2 - \frac{3}{8}\,c1\,f1\,f2\,H^2\,t^2 - \frac{1}{4}\,f1^2\,f2\,H^2\,t^2 + \frac{1}{8}\,f2^2\,H^2\,t^2 +$$
$$\frac{1}{8}\,c1\,f3\,H^2\,t^2 + \frac{1}{4}\,f4\,H^2\,t^2 + \frac{5}{72}\,c1\,c2\,H^3\,t^3 + \frac{1}{18}\,c1^2\,f1\,H^3\,t^3 + \frac{1}{18}\,c2\,f1\,H^3\,t^3 +$$
$$\frac{1}{6}\,c1\,f1^2\,H^3\,t^3 + \frac{1}{9}\,f1^3\,H^3\,t^3 - \frac{1}{4}\,c1\,f2\,H^3\,t^3 - \frac{1}{4}\,f1\,f2\,H^3\,t^3 + \frac{1}{12}\,f3\,H^3\,t^3 + \frac{5}{144}\,c1^2\,H^4\,t^4 +$$
$$\frac{5}{144}\,c2\,H^4\,t^4 + \frac{1}{12}\,c1\,f1\,H^4\,t^4 + \frac{1}{12}\,f1^2\,H^4\,t^4 - \frac{1}{8}\,f2\,H^4\,t^4 + \frac{1}{24}\,c1\,H^5\,t^5 + \frac{1}{30}\,f1\,H^5\,t^5 + \frac{H^6\,t^6}{72}$$

In[32]:=
```
FunctionExpand[1 - Binomial[5 - d, 5]]
```

Out[32]=

$$1 - \frac{1}{120}\,(1-d)\,(2-d)\,(3-d)\,(4-d)\,(5-d)$$

In[33]:=
```
Expand[(1 / 4) * l1 * l2 * f1 +
  (1 / 4) * (l1 ^ 2 + l2) * (f1 ^ 2 - 2 * f2) + (1 / 2) * l1 * (f1 ^ 3 - 3 * f1 * f2 + 3 * f3) +
  (1 / 4) * (f1 ^ 4 - 4 * f1 ^ 2 * f2 + 4 * f1 * f3 + 2 * f2 ^ 2) - 30 * d + 30 * %32]
```

Out[33]=

$$\frac{77\,d}{2}-\frac{225\,d^2}{4}+\frac{85\,d^3}{4}-\frac{15\,d^4}{4}+\frac{d^5}{4}+\frac{f1^4}{4}-f1^2\,f2+\frac{f2^2}{2}+f1\,f3+\frac{f1^3\,l1}{2}-\frac{3\,f1\,f2\,l1}{2}+\frac{3\,f3\,l1}{2}+\frac{f1^2\,l1^2}{4}-\frac{f2\,l1^2}{2}+\frac{f1^2\,l2}{4}-\frac{f2\,l2}{2}+\frac{f1\,l1\,l2}{4}$$

In[34]:=
```
Expand[%33 /. {l1 → (6 - d) * H, l2 → (d ^ 2 - 6 * d + 15) * H ^ 2, f1 → (5 / 2) * (d - 1) * H,
   f2 → (5 / 24) * (d - 1) * (13 * d - 11) * H ^ 2, f3 → (5 / 16) * (d - 1) ^ 2 * (5 * d - 3) * H ^ 3}]
```

Out[34]=

$$\frac{77\,d}{2}-\frac{225\,d^2}{4}+\frac{85\,d^3}{4}-\frac{15\,d^4}{4}+\frac{d^5}{4}-\frac{44\,165\,H^4}{1152}+\frac{885\,d\,H^4}{16}-\frac{11\,155\,d^2\,H^4}{576}+\frac{35\,d^3\,H^4}{16}+\frac{235\,d^4\,H^4}{1152}$$

In[35]:=
```
Expand[%34 /. {H ^ 4 → d}]
```

Out[35]=

$$\frac{187\,d}{1152}-\frac{15\,d^2}{16}+\frac{1085\,d^3}{576}-\frac{25\,d^4}{16}+\frac{523\,d^5}{1152}$$

In[36]:=
```
Expand[(1 / d) * %35]
```

Out[36]=

$$\frac{187}{1152}-\frac{15\,d}{16}+\frac{1085\,d^2}{576}-\frac{25\,d^3}{16}+\frac{523\,d^4}{1152}$$

In[37]:=
```
Factor[%36]
```

Out[37]=

$$\frac{(-1+d)\left(-187+893\,d-1277\,d^2+523\,d^3\right)}{1152}$$

In[38]:=
```
FunctionExpand[1 - Binomial[6 - d, 6]]
```

Out[38]=

$$1-\frac{1}{720}(-6+d)(-5+d)(-4+d)(-3+d)(-2+d)(-1+d)$$

In[39]:=
```
Expand[24 * 5 * (H^5 - %38) - (1 / 5) * (f1^5) + (f1^3) * (f2) - (f1^2) * (f3) -
  (f1) * (f2^2) + (f1) * (f4) + (f2) * (f3) + (1 / 2) * (f1^2 - 2 * f2) * l2 * (d - 7) * H +
  (1 / 30) * f1 * ((d - 7)^4 * H^4 - 4 * (d - 7)^2 * H^2 * l2 + (d - 7) * H * l3 - 3 * l2^2 + l4) +
  (1 / 2) * (f1^4 - 4 * f1^2 * f2 + 4 * f1 * f3 + 2 * f2^2 - 4 * f4) * (d - 7) * H -
  (1 / 3) * ((d - 7)^2 * H^2 + l2) * (f1^3 - 3 * f1 * f2 + 3 * f3)]
```

Out[39]=
$$-294\,d+\frac{812\,d^2}{3}-\frac{245\,d^3}{2}+\frac{175\,d^4}{6}-\frac{7\,d^5}{2}+\frac{d^6}{6}-\frac{f1^5}{5}+f1^3\,f2-f1\,f2^2-f1^2\,f3+$$
$$f2\,f3+f1\,f4-\frac{7\,f1^4\,H}{2}+\frac{1}{2}\,d\,f1^4\,H+14\,f1^2\,f2\,H-2\,d\,f1^2\,f2\,H-7\,f2^2\,H+d\,f2^2\,H-$$
$$14\,f1\,f3\,H+2\,d\,f1\,f3\,H+14\,f4\,H-2\,d\,f4\,H-\frac{49\,f1^3\,H^2}{3}+\frac{14}{3}\,d\,f1^3\,H^2-\frac{1}{3}\,d^2\,f1^3\,H^2+$$
$$49\,f1\,f2\,H^2-14\,d\,f1\,f2\,H^2+d^2\,f1\,f2\,H^2-49\,f3\,H^2+14\,d\,f3\,H^2-d^2\,f3\,H^2+$$
$$\frac{2401\,f1\,H^4}{30}-\frac{686}{15}\,d\,f1\,H^4+\frac{49}{5}\,d^2\,f1\,H^4-\frac{14}{15}\,d^3\,f1\,H^4+\frac{1}{30}\,d^4\,f1\,H^4+120\,H^5-\frac{f1^3\,l2}{3}+$$
$$f1\,f2\,l2-f3\,l2-\frac{7}{2}\,f1^2\,H\,l2+\frac{1}{2}\,d\,f1^2\,H\,l2+7\,f2\,H\,l2-d\,f2\,H\,l2-\frac{98}{15}\,f1\,H^2\,l2+$$
$$\frac{28}{15}\,d\,f1\,H^2\,l2-\frac{2}{15}\,d^2\,f1\,H^2\,l2-\frac{f1\,l2^2}{10}-\frac{7\,f1\,H\,l3}{30}+\frac{1}{30}\,d\,f1\,H\,l3+\frac{f1\,l4}{30}$$

In[40]:=
```
Expand[%39 /. {l2 → (d^2 - 7 * d + 21) * H^2, l3 → (35 - 21 * d + 7 * d^2 - d^3) * H^3,
   l4 → (d^4 - 7 * d^3 + 21 * d^2 - 35 * d + 35) * H^4,
   f1 → (5 / 2) * (d - 1) * H, f2 → (5 / 24) * (d - 1) * (13 * d - 11) * H^2,
   f3 → (5 / 16) * (d - 1)^2 * (5 * d - 3) * H^3, f4 → %37 * H^4}]
```

Out[40]=
$$-294\,d+\frac{812\,d^2}{3}-\frac{245\,d^3}{2}+\frac{175\,d^4}{6}-\frac{7\,d^5}{2}+\frac{d^6}{6}+\frac{677\,357\,H^5}{2304}-$$
$$\frac{623\,429\,d\,H^5}{2304}+\frac{140\,815\,d^2\,H^5}{1152}-\frac{33\,175\,d^3\,H^5}{1152}+\frac{7541\,d^4\,H^5}{2304}-\frac{269\,d^5\,H^5}{2304}$$

In[41]:=
```
Expand[%40 /. {H^5 → d}]
```

Out[41]=
$$-\frac{19\,d}{2304}+\frac{187\,d^2}{2304}-\frac{305\,d^3}{1152}+\frac{425\,d^4}{1152}-\frac{523\,d^5}{2304}+\frac{115\,d^6}{2304}$$

In[42]:=
```
Expand[(1 / d) * %41]
```

Out[42]=
$$-\frac{19}{2304}+\frac{187\,d}{2304}-\frac{305\,d^2}{1152}+\frac{425\,d^3}{1152}-\frac{523\,d^4}{2304}+\frac{115\,d^5}{2304}$$

In[43]:=
```
Factor[%42]
```

Out[43]=
$$\frac{(-1+d)^2\,(-1+5\,d)\,\left(19-54\,d+23\,d^2\right)}{2304}$$

In[44]:=
```
Expand[p1 /.
  {c1 → (8 - d) * H, c2 → (d^2 - 8 * d + 28) * H^2, c3 → (56 - 28 * d + 8 * d^2 - d^3) * H^3,
   c4 → (d^4 - 8 * d^3 + 28 * d^2 - 56 * d + 70) * H^4,
   c5 → (56 - 70 * d + 56 * d^2 - 28 * d^3 + 8 * d^4 - d^5) * H^5,
   c6 → (d^6 - 8 * d^5 + 28 * d^4 - 56 * d^3 + 70 * d^2 - 56 * d + 28) * H^6,
   f1 → (5 / 2) * (d - 1) * H, f2 → (5 / 24) * (d - 1) * (13 * d - 11) * H^2,
   f3 → (5 / 16) * (d - 1)^2 * (5 * d - 3) * H^3, f4 → %37 * H^4, f5 → %43 * H^5}]
```

Out[44]=

$$\frac{4\,172\,519\,H^6}{1\,548\,288}+\frac{443\,d\,H^6}{96}+\frac{175\,303\,d^2\,H^6}{73\,728}+\frac{5\,d^3\,H^6}{12}-\frac{5167\,d^4\,H^6}{73\,728}-\frac{d^5\,H^6}{32}-\frac{3935\,d^6\,H^6}{1\,548\,288}+$$
$$\frac{443\,H^6\,t}{48}+\frac{3161}{288}d\,H^6\,t+\frac{125}{32}d^2\,H^6\,t+\frac{65}{144}d^3\,H^6\,t-\frac{5}{96}d^4\,H^6\,t-\frac{1}{96}d^5\,H^6\,t+\frac{3161\,H^6\,t^2}{288}+$$
$$\frac{295}{32}d\,H^6\,t^2+\frac{425}{192}d^2\,H^6\,t^2+\frac{5}{32}d^3\,H^6\,t^2-\frac{5}{576}d^4\,H^6\,t^2+\frac{295\,H^6\,t^3}{48}+\frac{1015}{288}d\,H^6\,t^3+$$
$$\frac{25}{48}d^2\,H^6\,t^3+\frac{5}{288}d^3\,H^6\,t^3+\frac{1015\,H^6\,t^4}{576}+\frac{5}{8}d\,H^6\,t^4+\frac{25}{576}d^2\,H^6\,t^4+\frac{H^6\,t^5}{4}+\frac{1}{24}d\,H^6\,t^5+\frac{H^6\,t^6}{72}$$

In[45]:=
```
Expand[%44 /. {H^6 → d}]
```

Out[45]=

$$\frac{4\,172\,519\,d}{1\,548\,288}+\frac{443\,d^2}{96}+\frac{175\,303\,d^3}{73\,728}+\frac{5\,d^4}{12}-\frac{5167\,d^5}{73\,728}-\frac{d^6}{32}-\frac{3935\,d^7}{1\,548\,288}+$$
$$\frac{443\,d\,t}{48}+\frac{3161\,d^2\,t}{288}+\frac{125\,d^3\,t}{32}+\frac{65\,d^4\,t}{144}-\frac{5\,d^5\,t}{96}-\frac{d^6\,t}{96}+\frac{3161\,d\,t^2}{288}+$$
$$\frac{295\,d^2\,t^2}{32}+\frac{425\,d^3\,t^2}{192}+\frac{5\,d^4\,t^2}{32}-\frac{5\,d^5\,t^2}{576}+\frac{295\,d\,t^3}{48}+\frac{1015\,d^2\,t^3}{288}+$$
$$\frac{25\,d^3\,t^3}{48}+\frac{5\,d^4\,t^3}{288}+\frac{1015\,d\,t^4}{576}+\frac{5\,d^2\,t^4}{8}+\frac{25\,d^3\,t^4}{576}+\frac{d\,t^5}{4}+\frac{d^2\,t^5}{24}+\frac{d\,t^6}{72}$$

In[46]:=
```
Expand[p1 /.
  {c1 → (8 - d) * H, c2 → (d^2 - 8 * d + 28) * H^2, c3 → (56 - 28 * d + 8 * d^2 - d^3) * H^3,
   c4 → (d^4 - 8 * d^3 + 28 * d^2 - 56 * d + 70) * H^4,
   c5 → (56 - 70 * d + 56 * d^2 - 28 * d^3 + 8 * d^4 - d^5) * H^5,
   c6 → (d^6 - 8 * d^5 + 28 * d^4 - 56 * d^3 + 70 * d^2 - 56 * d + 28) * H^6,
   f1 → -(5 / 2) * (d - 1) * H, f2 → (5 / 24) * (d - 1) * (13 * d - 11) * H^2,
   f3 → -(5 / 16) * (d - 1)^2 * (5 * d - 3) * H^3, f4 → %37 * H^4, f5 → %43 * (-1) * H^5}]
```

Out[46]=

$$\frac{234\,265\,319\,H^6}{1\,548\,288}-\frac{9885\,d\,H^6}{32}+\frac{18\,495\,175\,d^2\,H^6}{73\,728}-\frac{4975\,d^3\,H^6}{48}+\frac{1\,676\,753\,d^4\,H^6}{73\,728}-$$
$$\frac{235\,d^5\,H^6}{96}+\frac{146\,593\,d^6\,H^6}{1\,548\,288}+\frac{3295\,H^6\,t}{16}-\frac{32\,681}{96}d\,H^6\,t+\frac{61\,975}{288}d^2\,H^6\,t-65\,d^3\,H^6\,t+$$
$$\frac{2675}{288}d^4\,H^6\,t-\frac{47}{96}d^5\,H^6\,t+\frac{32\,681\,H^6\,t^2}{288}-\frac{4675}{32}d\,H^6\,t^2+\frac{12\,965}{192}d^2\,H^6\,t^2-$$
$$\frac{425}{32}d^3\,H^6\,t^2+\frac{535}{576}d^4\,H^6\,t^2+\frac{4675\,H^6\,t^3}{144}-\frac{2935}{96}d\,H^6\,t^3+\frac{1325}{144}d^2\,H^6\,t^3-$$
$$\frac{85}{96}d^3\,H^6\,t^3+\frac{2935\,H^6\,t^4}{576}-\frac{25}{8}d\,H^6\,t^4+\frac{265}{576}d^2\,H^6\,t^4+\frac{5\,H^6\,t^5}{12}-\frac{1}{8}d\,H^6\,t^5+\frac{H^6\,t^6}{72}$$

In[47]:= **Expand[%46 /. {t → t + (5 / 2) * (d - 1)}]**

Out[47]=

$$\frac{245\,519\,H^6}{1\,548\,288}+\frac{395\,d\,H^6}{192}+\frac{32\,695\,d^2\,H^6}{8192}+\frac{275\,d^3\,H^6}{96}+\frac{62\,953\,d^4\,H^6}{73\,728}+$$
$$\frac{5\,d^5\,H^6}{64}-\frac{5447\,d^6\,H^6}{1\,548\,288}+\frac{395\,H^6\,t}{192}+\frac{1181}{144}d\,H^6\,t+\frac{2675}{288}d^2\,H^6\,t+\frac{1205}{288}d^3\,H^6\,t+$$
$$\frac{425}{576}d^4\,H^6\,t+\frac{1}{32}d^5\,H^6\,t+\frac{1181\,H^6\,t^2}{288}+\frac{925}{96}d\,H^6\,t^2+\frac{1315}{192}d^2\,H^6\,t^2+$$
$$\frac{175}{96}d^3\,H^6\,t^2+\frac{85}{576}d^4\,H^6\,t^2+\frac{925\,H^6\,t^3}{288}+\frac{685}{144}d\,H^6\,t^3+\frac{575}{288}d^2\,H^6\,t^3+$$
$$\frac{35}{144}d^3\,H^6\,t^3+\frac{685\,H^6\,t^4}{576}+\frac{25}{24}d\,H^6\,t^4+\frac{115}{576}d^2\,H^6\,t^4+\frac{5\,H^6\,t^5}{24}+\frac{1}{12}d\,H^6\,t^5+\frac{H^6\,t^6}{72}$$

In[48]:= **Expand[%47 /. {H^6 → d}]**

Out[48]=

$$\frac{245\,519\,d}{1\,548\,288}+\frac{395\,d^2}{192}+\frac{32\,695\,d^3}{8192}+\frac{275\,d^4}{96}+\frac{62\,953\,d^5}{73\,728}+\frac{5\,d^6}{64}-\frac{5447\,d^7}{1\,548\,288}+$$
$$\frac{395\,d\,t}{192}+\frac{1181\,d^2\,t}{144}+\frac{2675\,d^3\,t}{288}+\frac{1205\,d^4\,t}{288}+\frac{425\,d^5\,t}{576}+\frac{d^6\,t}{32}+\frac{1181\,d\,t^2}{288}+$$
$$\frac{925\,d^2\,t^2}{96}+\frac{1315\,d^3\,t^2}{192}+\frac{175\,d^4\,t^2}{96}+\frac{85\,d^5\,t^2}{576}+\frac{925\,d\,t^3}{288}+\frac{685\,d^2\,t^3}{144}+$$
$$\frac{575\,d^3\,t^3}{288}+\frac{35\,d^4\,t^3}{144}+\frac{685\,d\,t^4}{576}+\frac{25\,d^2\,t^4}{24}+\frac{115\,d^3\,t^4}{576}+\frac{5\,d\,t^5}{24}+\frac{d^2\,t^5}{12}+\frac{d\,t^6}{72}$$

In[49]:= **Expand[%45 /. {t → m - (5 / 2) * (d - 1)}]**

Out[49]=

$$\frac{444\,410\,639\,d}{1\,548\,288}-\frac{66\,517\,d^2}{96}+\frac{16\,579\,621\,d^3}{24\,576}-\frac{2035\,d^4}{6}+\frac{6\,829\,033\,d^5}{73\,728}-\frac{1243\,d^6}{96}+\frac{1\,107\,385\,d^7}{1\,548\,288}+$$
$$\frac{66\,517\,d\,m}{192}-\frac{49\,061\,d^2\,m}{72}+\frac{4675\,d^3\,m}{9}-\frac{27\,635\,d^4\,m}{144}+\frac{19\,745\,d^5\,m}{576}-\frac{113\,d^6\,m}{48}+\frac{49\,061\,d\,m^2}{288}-$$
$$\frac{12\,595\,d^2\,m^2}{48}+\frac{28\,225\,d^3\,m^2}{192}-\frac{1705\,d^4\,m^2}{48}+\frac{1795\,d^5\,m^2}{576}+\frac{12\,595\,d\,m^3}{288}-\frac{3565\,d^2\,m^3}{72}+$$
$$\frac{5225\,d^3\,m^3}{288}-\frac{155\,d^4\,m^3}{72}+\frac{3565\,d\,m^4}{576}-\frac{55\,d^2\,m^4}{12}+\frac{475\,d^3\,m^4}{576}+\frac{11\,d\,m^5}{24}-\frac{d^2\,m^5}{6}+\frac{d\,m^6}{72}$$

In[50]:= **Expand[%48 /. {t → m - (5 / 2) * (d - 1)}]**

Out[50]=

$$\frac{234\,265\,319\,d}{1\,548\,288}-\frac{9885\,d^2}{32}+\frac{18\,495\,175\,d^3}{73\,728}-\frac{4975\,d^4}{48}+\frac{1\,676\,753\,d^5}{73\,728}-\frac{235\,d^6}{96}+\frac{146\,593\,d^7}{1\,548\,288}+$$
$$\frac{3295\,d\,m}{16}-\frac{32\,681\,d^2\,m}{96}+\frac{61\,975\,d^3\,m}{288}-65\,d^4\,m+\frac{2675\,d^5\,m}{288}-\frac{47\,d^6\,m}{96}+\frac{32\,681\,d\,m^2}{288}-$$
$$\frac{4675\,d^2\,m^2}{32}+\frac{12\,965\,d^3\,m^2}{192}-\frac{425\,d^4\,m^2}{32}+\frac{535\,d^5\,m^2}{576}+\frac{4675\,d\,m^3}{144}-\frac{2935\,d^2\,m^3}{96}+$$
$$\frac{1325\,d^3\,m^3}{144}-\frac{85\,d^4\,m^3}{96}+\frac{2935\,d\,m^4}{576}-\frac{25\,d^2\,m^4}{8}+\frac{265\,d^3\,m^4}{576}+\frac{5\,d\,m^5}{12}-\frac{d^2\,m^5}{8}+\frac{d\,m^6}{72}$$

In[51]:=
```
FunctionExpand[Binomial[m + 7, 7] - Binomial[7 + m - d, 7] +
  4 * Binomial[7 + m - (5 / 2) * (d - 1), 7] - 4 * Binomial[7 + m - d - (5 / 2) * (d - 1), 7] -
  3 * 5 * d * Binomial[6 + m - (5 / 2) * (d - 1), 6] + 2 * (%49) - %50]
```

Out[51]=

$$
\begin{aligned}
&-\frac{234\,265\,319\,d}{1\,548\,288}+\frac{9885\,d^2}{32}-\frac{18\,495\,175\,d^3}{73\,728}+\frac{4975\,d^4}{48}-\frac{1\,676\,753\,d^5}{73\,728}+\\
&\frac{235\,d^6}{96}-\frac{146\,593\,d^7}{1\,548\,288}-\frac{1}{3072}d\,(-17+5\,d-2\,m)\,(-15+5\,d-2\,m)\\
&(-13+5\,d-2\,m)\,(-11+5\,d-2\,m)\,(-9+5\,d-2\,m)\,(-7+5\,d-2\,m)-\frac{1}{161\,280}\\
&(-19+5\,d-2\,m)\,(-17+5\,d-2\,m)\,(-15+5\,d-2\,m)\,(-13+5\,d-2\,m)\,(-11+5\,d-2\,m)\\
&(-9+5\,d-2\,m)\,(-7+5\,d-2\,m)+\frac{1}{161\,280}(-19+7\,d-2\,m)\,(-17+7\,d-2\,m)\\
&(-15+7\,d-2\,m)\,(-13+7\,d-2\,m)\,(-11+7\,d-2\,m)\,(-9+7\,d-2\,m)\,(-7+7\,d-2\,m)+\\
&\frac{(-7+d-m)\,(-6+d-m)\,(-5+d-m)\,(-4+d-m)\,(-3+d-m)\,(-2+d-m)\,(-1+d-m)}{5040}-\\
&\frac{3295\,d\,m}{16}+\frac{32\,681\,d^2\,m}{96}-\frac{61\,975\,d^3\,m}{288}+65\,d^4\,m-\frac{2675\,d^5\,m}{288}+\frac{47\,d^6\,m}{96}-\\
&\frac{32\,681\,d\,m^2}{288}+\frac{4675\,d^2\,m^2}{32}-\frac{12\,965\,d^3\,m^2}{192}+\frac{425\,d^4\,m^2}{32}-\frac{535\,d^5\,m^2}{576}-\frac{4675\,d\,m^3}{144}+\\
&\frac{2935\,d^2\,m^3}{96}-\frac{1325\,d^3\,m^3}{144}+\frac{85\,d^4\,m^3}{96}-\frac{2935\,d\,m^4}{576}+\frac{25\,d^2\,m^4}{8}-\frac{265\,d^3\,m^4}{576}-\\
&\frac{5\,d\,m^5}{12}+\frac{d^2\,m^5}{8}-\frac{d\,m^6}{72}+\frac{(1+m)\,(2+m)\,(3+m)\,(4+m)\,(5+m)\,(6+m)\,(7+m)}{5040}+\\
&2\left(\frac{444\,410\,639\,d}{1\,548\,288}-\frac{66\,517\,d^2}{96}+\frac{16\,579\,621\,d^3}{24\,576}-\frac{2035\,d^4}{6}+\frac{6\,829\,033\,d^5}{73\,728}-\right.\\
&\frac{1243\,d^6}{96}+\frac{1\,107\,385\,d^7}{1\,548\,288}+\frac{66\,517\,d\,m}{192}-\frac{49\,061\,d^2\,m}{72}+\frac{4675\,d^3\,m}{9}-\frac{27\,635\,d^4\,m}{144}+\\
&\frac{19\,745\,d^5\,m}{576}-\frac{113\,d^6\,m}{48}+\frac{49\,061\,d\,m^2}{288}-\frac{12\,595\,d^2\,m^2}{48}+\frac{28\,225\,d^3\,m^2}{192}-\\
&\frac{1705\,d^4\,m^2}{48}+\frac{1795\,d^5\,m^2}{576}+\frac{12\,595\,d\,m^3}{288}-\frac{3565\,d^2\,m^3}{72}+\frac{5225\,d^3\,m^3}{288}-\\
&\left.\frac{155\,d^4\,m^3}{72}+\frac{3565\,d\,m^4}{576}-\frac{55\,d^2\,m^4}{12}+\frac{475\,d^3\,m^4}{576}+\frac{11\,d\,m^5}{24}-\frac{d^2\,m^5}{6}+\frac{d\,m^6}{72}\right)
\end{aligned}
$$

In[52]:=
```
s0 = %51 /. {m → 0}
```

Out[52]=

$$1+\frac{(-7+d)\,(-6+d)\,(-5+d)\,(-4+d)\,(-3+d)\,(-2+d)\,(-1+d)}{5040}-\frac{234\,265\,319\,d}{1\,548\,288}+\frac{9885\,d^2}{32}-\frac{18\,495\,175\,d^3}{73\,728}+\frac{4975\,d^4}{48}-\frac{1\,676\,753\,d^5}{73\,728}+\frac{235\,d^6}{96}-\frac{146\,593\,d^7}{1\,548\,288}-\frac{d\,(-17+5\,d)\,(-15+5\,d)\,(-13+5\,d)\,(-11+5\,d)\,(-9+5\,d)\,(-7+5\,d)}{3072}-\frac{(-19+5\,d)\,(-17+5\,d)\,(-15+5\,d)\,(-13+5\,d)\,(-11+5\,d)\,(-9+5\,d)\,(-7+5\,d)}{161\,280}+\frac{(-19+7\,d)\,(-17+7\,d)\,(-15+7\,d)\,(-13+7\,d)\,(-11+7\,d)\,(-9+7\,d)\,(-7+7\,d)}{161\,280}+2\left(\frac{444\,410\,639\,d}{1\,548\,288}-\frac{66\,517\,d^2}{96}+\frac{16\,579\,621\,d^3}{24\,576}-\frac{2035\,d^4}{6}+\frac{6\,829\,033\,d^5}{73\,728}-\frac{1243\,d^6}{96}+\frac{1\,107\,385\,d^7}{1\,548\,288}\right)$$

In[53]:=
```
Factor[%52]
```

Out[53]=

$$\frac{1}{1\,548\,288}(-1+d)\,d\left(-3\,500\,495+19\,507\,441\,d-37\,476\,458\,d^2+30\,435\,862\,d^3-10\,691\,399\,d^4+1\,349\,497\,d^5\right)$$

In[54]:=
```
s1 = %51 /. {m → 1}
```

Out[54]=

$$8+\frac{(-8+d)\,(-7+d)\,(-6+d)\,(-5+d)\,(-4+d)\,(-3+d)\,(-2+d)}{5040}-\frac{787\,630\,439\,d}{1\,548\,288}+\frac{3317\,d^2}{4}-\frac{40\,051\,655\,d^3}{73\,728}+\frac{2925\,d^4}{16}-\frac{810\,011\,d^5}{24\,576}+\frac{47\,d^6}{16}-\frac{146\,593\,d^7}{1\,548\,288}-\frac{d\,(-19+5\,d)\,(-17+5\,d)\,(-15+5\,d)\,(-13+5\,d)\,(-11+5\,d)\,(-9+5\,d)}{3072}-\frac{(-21+5\,d)\,(-19+5\,d)\,(-17+5\,d)\,(-15+5\,d)\,(-13+5\,d)\,(-11+5\,d)\,(-9+5\,d)}{161\,280}+\frac{(-21+7\,d)\,(-19+7\,d)\,(-17+7\,d)\,(-15+7\,d)\,(-13+7\,d)\,(-11+7\,d)\,(-9+7\,d)}{161\,280}+2\left(\frac{1\,322\,580\,239\,d}{1\,548\,288}-\frac{162\,331\,d^2}{96}+\frac{33\,424\,421\,d^3}{24\,576}-\frac{2275\,d^4}{4}+\frac{9\,586\,153\,d^5}{73\,728}-\frac{1469\,d^6}{96}+\frac{1\,107\,385\,d^7}{1\,548\,288}\right)$$

In[55]:=
```
Factor[%54]
```

Out[55]=

$$\frac{1}{1\,548\,288}(-1+d)\,d\left(-4\,964\,783+27\,017\,713\,d-49\,890\,986\,d^2+37\,892\,374\,d^3-12\,037\,415\,d^4+1\,349\,497\,d^5\right)$$

In[56]:=
```
HK = Expand[(%37 * d) + 2 * (s0 - s1)]
```

Out[56]=

$$-\frac{83\,d}{48}+\frac{12\,275\,d^2}{1152}-\frac{1145\,d^3}{48}+\frac{13\,885\,d^4}{576}-\frac{131\,d^5}{12}+\frac{2003\,d^6}{1152}$$

In[57]:=
```
Factor[%56]
```

Out[57]=

$$\frac{(-1+d)\,d\left(1992-10\,283\,d+17\,197\,d^2-10\,573\,d^3+2003\,d^4\right)}{1152}$$

In[58]:=
```
K2 = Expand[(7 d - 21) * HK - (7 * d - 21) ^ 2 * (1 / 4) * (%37 * d)]
```

Out[58]=

$$\frac{9429\,d}{512}-\frac{92\,603\,d^2}{768}+\frac{1\,368\,367\,d^3}{4608}-\frac{134\,785\,d^4}{384}+\frac{967\,771\,d^5}{4608}-\frac{46\,403\,d^6}{768}+\frac{30\,457\,d^7}{4608}$$

In[59]:=
```
Factor[%58]
```

Out[59]=

$$\frac{7\,(-3+d)\,(-1+d)\,d\left(4041-21\,070\,d+35\,720\,d^2-22\,370\,d^3+4351\,d^4\right)}{4608}$$

In[60]:=
```
C2 = Expand[-(1 / 24) * (195 * d ^ 2 - 1132 * d + 1609) * (%37 * d) + (1 / 3) * (13 * d - 34) * HK]
```

Out[60]=

$$\frac{240\,941\,d}{27\,648}-\frac{14\,783\,d^2}{256}+\frac{1\,333\,535\,d^3}{9216}-\frac{22\,445\,d^4}{128}+\frac{334\,055\,d^5}{3072}-\frac{8423\,d^6}{256}+\frac{106\,327\,d^7}{27\,648}$$

In[61]:=
```
Factor[%60]
```

Out[61]=

$$\frac{(-1+d)\,d\left(-240\,941+1\,355\,623\,d-2\,644\,982\,d^2+2\,203\,138\,d^3-803\,357\,d^4+106\,327\,d^5\right)}{27\,648}$$

In[62]:=
```
Expand[12 * s0 - K2 - C2]
```

Out[62]=

$$-\frac{13\,d}{387\,072}+\frac{19\,d^3}{18\,432}-\frac{91\,d^5}{18\,432}+\frac{1525\,d^7}{387\,072}$$

In[63]:=
```
Factor[%62]
```

Out[63]=

$$\frac{(-1+d)\,d\,(1+d)\,(-1+5\,d)\,(1+5\,d)\left(-13+61\,d^2\right)}{387\,072}$$