Qual função está dentro da integral?

Elemento 5 nós

Função de Forma e Derivadas

In[11]:=
```
n = 5;
A = (0.8090169943749475 + 1. * r);
B = (-1. + 1. * r - 0.7265425280053609 * s);
Cc = (2.6180339887498953 + 1. * r + 3.077683537175254 * s);
Dd = (-1. + 1. * r + 0.7265425280053609 * s);
Ee = (2.6180339887498953 + 1. * r - 3.077683537175254 * s);
den = (122.60990336999416 -
    17.888543819998326 * Power[r, 2] - 17.88854381999832 * Power[s, 2]);
den2 = Power[122.60990336999416 - 17.888543819998326 * Power[r, 2] -
    17.88854381999832 * Power[s, 2], 2];

NN = {(-11.577708763999665 * A * B * Cc) / den,
   (9.366563145999496 * B * Dd * Cc) / den,
   (9.366563145999496 * Ee * B * Dd) / den,
   (-11.577708763999665 * A * Ee * Dd) / den,
   (4.422291236000336 * A * Ee * Cc) / den};

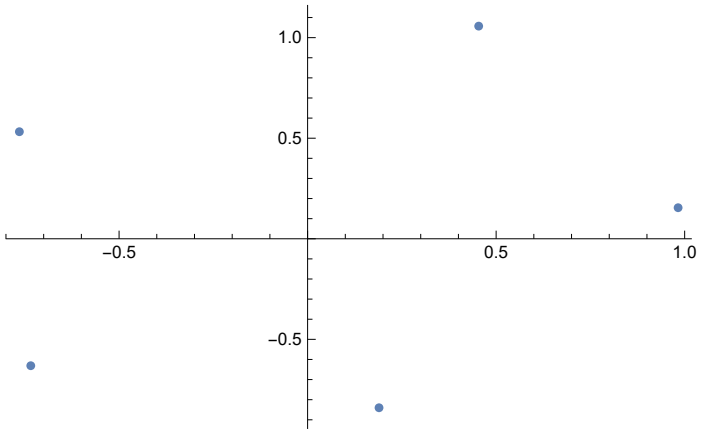
dn1 = Table[0, n];
dn2 = Table[0, n];
dn1[[1]] = (-414.2167011199733 * r * A * B * Cc) / den2 - (11.577708763999665 * A * B) / den -
   (11.577708763999665 * A * Cc) / den - (11.577708763999665 * B * Cc) / den;
dn1[[2]] = (335.1083505599867 * r * B * Dd * Cc) / den2 + (9.366563145999496 * B * Dd) / den +
   (9.366563145999496 * B * Cc) / den + (9.366563145999496 * Dd * Cc) / den;
dn1[[3]] = (335.1083505599867 * r * Ee * B * Dd) / den2 + (9.366563145999496 * Ee * B) / den +
   (9.366563145999496 * Ee * Dd) / den + (9.366563145999496 * B * Dd) / den;
dn1[[4]] = (-414.2167011199733 * r * A * Ee * Dd) / den2 - (11.577708763999665 * A * Ee) / den -
   (11.577708763999665 * A * Dd) / den - (11.577708763999665 * Ee * Dd) / den;
dn1[[5]] = (158.21670111997315 * r * A * Ee * Cc) / den2 + (4.422291236000336 * A * Ee) / den +
   (4.422291236000336 * A * Cc) / den + (4.422291236000336 * Ee * Cc) / den;

dn2[[1]] = (-414.21670111997315 * A * B * s * Cc) / den2 -
   (35.632523661171426 * A * B) / den + (8.41169779390614 * A * Cc) / den;
dn2[[2]] = (335.1083505599866 * B * Dd * s * Cc) / den2 + (28.827317194355103 * B * Dd) / den +
   (6.80520646681632 * B * Cc) / den - (6.80520646681632 * Dd * Cc) / den;
dn2[[3]] = (335.1083505599866 * Ee * B * Dd * s) / den2 + (6.80520646681632 * Ee * B) / den -
   (6.80520646681632 * Ee * Dd) / den - (28.827317194355103 * B * Dd) / den;
dn2[[4]] = (-414.21670111997315 * A * Ee * Dd * s) / den2 -
   (8.41169779390614 * A * Ee) / den + (35.632523661171426 * A * Dd) / den;
dn2[[5]] = (158.21670111997307 * A * Ee * s * Cc) / den2 +
   (13.61041293363264 * A * Ee) / den - (13.61041293363264 * A * Cc) / den;
```

Matriz Jacobiana ($\partial_{\xi} x$)

In[32]:=
```
x = Table[0, n];
y = Table[0, n];
For[i = 1, i < n + 1, i++,
  x[[i]] = Cos[2 π * i / n] + RandomReal[{-0.2, 0.2}];
  y[[i]] = Sin[2 π * i / n] + RandomReal[{-0.2, 0.2}];
 ];
Thread[{x, y}];
ListPlot[%]
dxDxi1 = Sum[dn1[[i]] * x[[i]], {i, 1, n}];
dyDxi1 = Sum[dn1[[i]] * y[[i]], {i, 1, n}];
dxDxi2 = Sum[dn2[[i]] * x[[i]], {i, 1, n}];
dyDxi2 = Sum[dn2[[i]] * y[[i]], {i, 1, n}];
detJ = dxDxi1 * dyDxi2 - dyDxi1 * dxDxi2;
```

Out[36]=



$B^T.B$

$B^T.B\,\mathrm{detJ}$

Deu certo! Pelo que parece a função a ser integrada é sempre um polinômio de grau 16 sobre um polinômio de grau 16, sendo que o denominador é sempre o mesmo!
Mentira! O denominador muda conforme os pontos dos nós do elemento (x_i, y_i).

In[42]:=
```
dNdx = 1/detJ (dyDxi2 * dn1[[1]] - dyDxi1 * dn2[[1]]);
dNdy = 1/detJ (-dxDxi2 * dn1[[2]] + dxDxi1 * dn2[[2]]);
BBJ = dNdx * dNdy * detJ // FullSimplify
```

Out[44]=
```
-((0.611102
      (-430.963 + 1. r^8 + r^7 (-2.11128 - 1.17047 s) + r^6 (-18.657 + (-1.87465 - 1.11193 s) s) +
        r^5 (45.2196 + s (24.7518 + (-3.20338 - 2.86421 s) s)) +
        r^4 (107.333 + s (28.6015 + s (30.8344 + (-3.40681 - 5.85111 s) s))) +
        r^3 (-317.901 + s (-174.342 + s (39.7828 + s (40.6317 + (1.43342 - 2.21701 s) s)))) +
        r^2 (-118.313 +
           s (-127.869 + s (-254.824 + s (26.81 + s (69.8713 + (-1.18968 - 4.36644 s) s))))) +
        s (136.397 + s (667.644 + s (-23.7106 + s (-198.452 +
                 s (-1.79148 + s (20.3799 + (0.342485 - 0.627257 s) s)))))) +
        r (734.393 + s (409.034 + s (-117.762 + s (-143.937 + s (-15.7614 +
                   s (15.8799 + (2.52552 - 0.523271 s) s)))))))
      (404.665 + 1. r^8 + r^7 (0.683521 + 1.12179 s) + r^6 (-37.9054 + s (6.15318 + 10.1213 s)) +
        r^5 (-55.7533 + s (-57.9387 + s (12.1225 + 9.40122 s))) +
        r^4 (389.471 + s (-57.2717 + s (-152.353 + s (7.62161 + 13.8389 s)))) +
        r^3 (673.649 + s (636.135 + s (-259.561 + s (-198.618 + s (24.1371 + 15.4371 s))))) +
        r^2 (-1269.77 + s (-82.1125 +
           s (445.878 + s (34.0249 + s (-46.7125 + s (-3.2163 + 1.31397 s)))))) +
        s (1272.06 + s (857.182 + s (-591.264 + s (-438.042 + s (91.2966 +
                   s (67.7356 + (-4.68474 - 3.40366 s) s)))))) +
        r (-2218.13 + s (-1999.46 + s (1215.26 + s (919.692 + s (-217.123 +
                   s (-140.679 + s (12.6981 + 7.15764 s)))))))))/
    ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
        r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
        r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
        r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
        r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
        r^2 (-1329. + s (-67.2378 +
           s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s)))))) +
        r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 + s (0.0811638 +
                   s (-18.3103 + s (0.0337737 + 1.04901 s)))))) +
        s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
                   s (-28.8278 + s (-0.686583 + 1.05119 s)))))))))
```

In[51]:=
```
p8r = PolynomialQuotient[Numerator[BBJ],
  Denominator[BBJ] / (6.854101966249684` - 1.` r^2 - 0.9999999999999996` s^2)^4, r]
restoR = PolynomialRemainder[Numerator[BBJ],
  Denominator[BBJ] / (6.854101966249684` - 1.` r^2 - 0.9999999999999996` s^2)^4, r]
```

Out[51]=
$$159.298 - 0.611102\, r^8 + r^7 \left(0.918335 - 0.144067\, s\right) + 484.22\, s + 2332.8\, s^2 - 273.411\, s^3 - 2069.12\, s^4 - 113.852\, s^5 + 462.882\, s^6 + 19.375\, s^7 - 32.8663\, s^8 + r^6 \left(18.512 - 0.214321\, s - 2.23438\, s^2\right) + r^5 \left(-11.4023 + 15.6771\, s + 10.0246\, s^2 + 4.25658\, s^3\right) + r^4 \left(-138.416 - 126.981\, s - 56.0576\, s^2 + 41.0043\, s^3 + 24.9695\, s^4\right) + r^3 \left(108.549 - 12.8503\, s - 182.067\, s^2 - 149.447\, s^3 + 23.114\, s^4 + 22.6383\, s^5\right) + r^2 \left(346.704 + 759.116\, s + 598.039\, s^2 - 17.9163\, s^3 - 127.577\, s^4 - 32.9812\, s^5 - 4.84814\, s^6\right) + r \left(-279.65 - 224.538\, s - 895.07\, s^2 - 500.652\, s^3 + 472.824\, s^4 + 330.774\, s^5 - 63.1156\, s^6 - 45.7962\, s^7\right)$$

Out[52]=
$$-261\,125. - 861\,179.\, s - 5.35047 \times 10^6\, s^2 - 91\,067.\, s^3 + 7.6706 \times 10^6\, s^4 + 1.06354 \times 10^6\, s^5 - 4.28273 \times 10^6\, s^6 - 643\,260.\, s^7 + 1.27793 \times 10^6\, s^8 + 168\,621.\, s^9 - 224\,551.\, s^{10} - 22\,857.5\, s^{11} + 23\,441.4\, s^{12} + 1577.4\, s^{13} - 1351.4\, s^{14} - 44.0156\, s^{15} + 33.2439\, s^{16} + r^7 \left(224.686 + 1521.76\, s - 8283.93\, s^2 - 3341.42\, s^3 + 8546.25\, s^4 + 3441.59\, s^5 - 2352.44\, s^6 - 997.94\, s^7 + 194.133\, s^8 + 85.9519\, s^9\right) + r^6 \left(399.054 + 3337.23\, s + 20\,558.6\, s^2 - 11\,835.1\, s^3 - 30\,129.7\, s^4 + 3744.4\, s^5 + 12\,050.8\, s^6 - 425.52\, s^7 - 1966.11\, s^8 + 23.5314\, s^9 + 118.709\, s^{10}\right) + r^5 \left(-5796.42 - 29\,088.3\, s + 168\,746.\, s^2 + 101\,620.\, s^3 - 173\,187.\, s^4 - 95\,956.9\, s^5 + 58\,762.4\, s^6 + 33\,329.2\, s^7 - 8202.97\, s^8 - 4867.23\, s^9 + 410.551\, s^{10} + 256.176\, s^{11}\right) + r^4 \left(-11\,541.7 - 64\,345.6\, s - 395\,406.\, s^2 + 162\,950.\, s^3 + 579\,987.\, s^4 - 57\,482.8\, s^5 - 274\,275.\, s^6 + 7638.54\, s^7 + 60\,254.\, s^8 - 540.64\, s^9 - 6426.57\, s^{10} + 26.813\, s^{11} + 270.661\, s^{12}\right) + r^3 \left(46\,448.9 + 183\,579.\, s - 1.14488 \times 10^6\, s^2 - 916\,835.\, s^3 + 1.17024 \times 10^6\, s^4 + 896\,016.\, s^5 - 447\,305.\, s^6 - 359\,394.\, s^7 + 80\,895.2\, s^8 + 70\,456.5\, s^9 - 7036.88\, s^{10} - 6752.35\, s^{11} + 239.231\, s^{12} + 254.497\, s^{13}\right) + r^2 \left(98\,458.9 + 409\,897.\, s + 2.52444 \times 10^6\, s^2 - 547\,861.\, s^3 - 3.67824 \times 10^6\, s^4 + 64\,905.8\, s^5 + 1.93848 \times 10^6\, s^6 + 45\,200.9\, s^7 - 516\,236.\, s^8 - 13\,452.5\, s^9 + 75\,463.4\, s^{10} + 1299.39\, s^{11} - 5811.86\, s^{12} - 40.734\, s^{13} + 185.197\, s^{14}\right) + r \left(-118\,405. - 381\,738.\, s + 2.5857 \times 10^6\, s^2 + 2.58531 \times 10^6\, s^3 - 2.63472 \times 10^6\, s^4 - 2.73856 \times 10^6\, s^5 + 1.06522 \times 10^6\, s^6 + 1.25316 \times 10^6\, s^7 - 215\,759.\, s^8 - 303\,243.\, s^9 + 22\,907.3\, s^{10} + 40\,728.\, s^{11} - 1189.97\, s^{12} - 2883.06\, s^{13} + 22.8132\, s^{14} + 84.2724\, s^{15}\right)$$

In[53]:=
```
p8s = PolynomialQuotient[restoR,
  Denominator[BBJ] / (6.854101966249684` - 1.` r^2 - 0.9999999999999996` s^2)^4, s]
restoRS = PolynomialRemainder[restoR,
  Denominator[BBJ] / (6.854101966249684` - 1.` r^2 - 0.9999999999999996` s^2)^4, s]
```

Out[53]=
$$-115.09 - 3320.\, r + 1575.63\, r^2 + 6423.02\, r^3 - 3405.08\, r^4 - 2019.92\, r^5 + 1170.36\, r^6 + 91.2032\, r^7 - 74.8456\, r^8 + \left(-351.446 - 1270.56\, r + 101.634\, r^2 + 1867.68\, r^3 - 578.15\, r^4 - 464.739\, r^5 + 152.967\, r^6 + 5.19574\, r^7\right) s + \left(-2317.52 + 734.264\, r - 302.362\, r^2 + 688.997\, r^3 - 129.025\, r^4 - 121.779\, r^5 + 37.3729\, r^6\right) s^2 + \left(35.1183 + 591.609\, r - 149.216\, r^2 + 221.762\, r^3 + 0.4097\, r^4 - 18.8027\, r^5\right) s^3 + \left(1949.56 - 603.708\, r + 21.237\, r^2 + 16.2047\, r^3 - 10.8701\, r^4\right) s^4 + \left(173.36 - 378.709\, r + 3.72175\, r^2 - 8.13882\, r^3\right) s^5 + \left(-432.164 + 73.6079\, r + 1.02755\, r^2\right) s^6 + \left(-21.2163 + 48.6094\, r\right) s^7 + 31.6251\, s^8$$

Out[54]=
$$4529.67 + 7.54359 \times 10^6\, r - 3.73056 \times 10^6\, r^2 - 1.91725 \times 10^7\, r^3 + 1.00704 \times 10^7\, r^4 + 1.40961 \times 10^7\, r^5 - 7.74699 \times 10^6\, r^6 - 4.794 \times 10^6\, r^7 + 2.76928 \times 10^6\, r^8 + 869\,754.\, r^9 - 534\,152.\, r^{10} - 86\,338.9\, r^{11} + 57\,438.3\, r^{12} + 4365.54\, r^{13} - 3242.94\, r^{14} - 85.5902\, r^{15} + 74.8456\, r^{16} + \left(-17\,614.6 + 3.45862 \times 10^6\, r - 1.37028 \times 10^6\, r^2 - 7.54544 \times 10^6\, r^3 + 3.91906 \times 10^6\, r^4 + 4.1951 \times 10^6\, r^5 - 2.36859 \times 10^6\, r^6 - 1.01087 \times 10^6\, r^7 + 580\,198.\, r^8 + 138\,131.\, r^9 - 68\,497.7\, r^{10} - 13\,388.2\, r^{11} + 4026.51\, r^{12} + 898.559\, r^{13} - 103.894\, r^{14} - 26.4843\, r^{15}\right) s + \left(-58\,120.4 - 3.33871 \times 10^6\, r + 2.06327 \times 10^6\, r^2 + 8.31525 \times 10^6\, r^3 - 4.79952 \times 10^6\, r^4 - 5.48481 \times 10^6\, r^5 + 3.24074 \times 10^6\, r^6 + 1.54125 \times 10^6\, r^7 - 965\,460.\, r^8 - 206\,309.\, r^9 + 142\,642.\, r^{10} + 12\,340.6\, r^{11} - 10\,146.6\, r^{12} - 227.752\, r^{13} + 271.503\, r^{14}\right) s^2 + \left(-9766.25 - 1.5017 \times 10^6\, r + 782\,459.\, r^2 + 3.14892 \times 10^6\, r^3 - 1.93873 \times 10^6\, r^4 - 1.45391 \times 10^6\, r^5 + 1.0358 \times 10^6\, r^6 + 231\,389.\, r^7 - 212\,287.\, r^8 - 11\,994.3\, r^9 + 19\,531.3\, r^{10} - 289.476\, r^{11} - 720.794\, r^{12} + 44.0297\, r^{13}\right) s^3 + \left(17\,371.1 + 490\,729.\, r - 368\,682.\, r^2 - 1.19906 \times 10^6\, r^3 + 750\,674.\, r^4 + 691\,999.\, r^5 - 438\,751.\, r^6 - 147\,436.\, r^7 + 102\,648.\, r^8 + 11\,462.4\, r^9 - 10\,007.\, r^{10} - 163.877\, r^{11} + 318.469\, r^{12}\right) s^4 + \left(4266.88 + 216\,962.\, r - 142\,613.\, r^2 - 438\,135.\, r^3 + 311\,074.\, r^4 + 158\,780.\, r^5 - 142\,464.\, r^6 - 9419.74\, r^7 + 21\,695.5\, r^8 - 1613.05\, r^9 - 1141.52\, r^{10} + 167.512\, r^{11}\right) s^5 + \left(-1311.32 - 23\,955.2\, r + 21\,441.5\, r^2 + 57\,519.5\, r^3 - 38\,506.4\, r^4 - 28\,028.6\, r^5 + 19\,059.2\, r^6 + 3726.29\, r^7 - 3103.29\, r^8 - 21.7154\, r^9 + 121.812\, r^{10}\right) s^6 + \left(-359.938 - 10\,430.\, r + 8400.77\, r^2 + 20\,335.4\, r^3 - 16\,242.7\, r^4 - 5225.99\, r^5 + 6111.06\, r^6 - 425.014\, r^7 - 524.616\, r^8 + 96.9983\, r^9\right) s^7$$

In[55]:=
```
restoRSR = PolynomialRemainder[restoRS,
  Denominator[BBJ] / (6.854101966249684` - 1.` r^2 - 0.9999999999999996` s^2)^4, r]
```

Out[55]=
$$-261\,125. - 861\,179.\,s - 5.35047\times10^{6}\,s^{2} - 91\,067.\,s^{3} + 7.6706\times10^{6}\,s^{4} + 1.06354\times10^{6}\,s^{5} - 4.28273\times10^{6}\,s^{6} - 643\,260.\,s^{7} + 1.27793\times10^{6}\,s^{8} + 168\,621.\,s^{9} - 224\,551.\,s^{10} - 22\,857.5\,s^{11} + 23\,441.4\,s^{12} + 1577.4\,s^{13} - 1351.4\,s^{14} - 44.0156\,s^{15} + 33.2439\,s^{16} + r^{7}\left(224.686 + 1521.76\,s - 8283.93\,s^{2} - 3341.42\,s^{3} + 8546.25\,s^{4} + 3441.59\,s^{5} - 2352.44\,s^{6} - 997.94\,s^{7} + 194.133\,s^{8} + 85.9519\,s^{9}\right) + r^{6}\left(399.054 + 3337.23\,s + 20\,558.6\,s^{2} - 11\,835.1\,s^{3} - 30\,129.7\,s^{4} + 3744.4\,s^{5} + 12\,050.8\,s^{6} - 425.52\,s^{7} - 1966.11\,s^{8} + 23.5314\,s^{9} + 118.709\,s^{10}\right) + r^{5}\left(-5796.42 - 29\,088.3\,s + 168\,746.\,s^{2} + 101\,620.\,s^{3} - 173\,187.\,s^{4} - 95\,956.9\,s^{5} + 58\,762.4\,s^{6} + 33\,329.2\,s^{7} - 8202.97\,s^{8} - 4867.23\,s^{9} + 410.551\,s^{10} + 256.176\,s^{11}\right) + r^{4}\left(-11\,541.7 - 64\,345.6\,s - 395\,406.\,s^{2} + 162\,950.\,s^{3} + 579\,987.\,s^{4} - 57\,482.8\,s^{5} - 274\,275.\,s^{6} + 7638.54\,s^{7} + 60\,254.\,s^{8} - 540.64\,s^{9} - 6426.57\,s^{10} + 26.813\,s^{11} + 270.661\,s^{12}\right) + r^{3}\left(46\,448.9 + 183\,579.\,s - 1.14488\times10^{6}\,s^{2} - 916\,835.\,s^{3} + 1.17024\times10^{6}\,s^{4} + 896\,016.\,s^{5} - 447\,305.\,s^{6} - 359\,394.\,s^{7} + 80\,895.2\,s^{8} + 70\,456.5\,s^{9} - 7036.88\,s^{10} - 6752.35\,s^{11} + 239.231\,s^{12} + 254.497\,s^{13}\right) + r^{2}\left(98\,458.9 + 409\,897.\,s + 2.52444\times10^{6}\,s^{2} - 547\,861.\,s^{3} - 3.67824\times10^{6}\,s^{4} + 64\,905.8\,s^{5} + 1.93848\times10^{6}\,s^{6} + 45\,200.9\,s^{7} - 516\,236.\,s^{8} - 13\,452.5\,s^{9} + 75\,463.4\,s^{10} + 1299.39\,s^{11} - 5811.86\,s^{12} - 40.734\,s^{13} + 185.197\,s^{14}\right) + r\left(-118\,405. - 381\,738.\,s + 2.5857\times10^{6}\,s^{2} + 2.58531\times10^{6}\,s^{3} - 2.63472\times10^{6}\,s^{4} - 2.73856\times10^{6}\,s^{5} + 1.06522\times10^{6}\,s^{6} + 1.25316\times10^{6}\,s^{7} - 215\,759.\,s^{8} - 303\,243.\,s^{9} + 22\,907.3\,s^{10} + 40\,728.\,s^{11} - 1189.97\,s^{12} - 2883.06\,s^{13} + 22.8132\,s^{14} + 84.2724\,s^{15}\right)$$

In[57]:=
```
BBJ2 = (p8r + p8s + restoRS /
    (Denominator[BBJ] / (6.854101966249684` - 1.` r^2 - 0.9999999999999996` s^2)^4)) /
  (6.854101966249684` - 1.` r^2 - 0.9999999999999996` s^2)^4
```

In[61]:=
```
FullSimplify[BBJ2]
```

In[62]:=
```
Expand[BBJ2]
```

$$\frac{44.2086}{(6.8541 - 1.\,r^2 - 1.\,s^2)^4} - \frac{3599.65\,r}{(6.8541 - 1.\,r^2 - 1.\,s^2)^4} + \frac{1922.34\,r^2}{(6.8541 - 1.\,r^2 - 1.\,s^2)^4} + \frac{6531.57\,r^3}{(6.8541 - 1.\,r^2 - 1.\,s^2)^4} - \frac{3543.5\,r^4}{(6.8541 - 1.\,r^2 - 1.\,s^2)^4} - \frac{2031.33\,r^5}{(6.8541 - 1.\,r^2 - 1.\,s^2)^4} + \frac{1188.88\,r^6}{(6.8541 - 1.\,r^2 - 1.\,s^2)^4} + \frac{92.1216\,r^7}{(6.8541 - 1.\,r^2 - 1.\,s^2)^4} - \frac{75.4567\,r^8}{(6.8541 - 1.\,r^2 - 1.\,s^2)^4} + \frac{132.773\,s}{(6.8541 - 1.\,r^2 - 1.\,s^2)^4} - \frac{1495.1\,r\,s}{(6.8541 - 1.\,r^2 - 1.\,s^2)^4} + \frac{860.75\,r^2\,s}{(6.8541 - 1.\,r^2 - 1.\,s^2)^4} + \frac{1854.83\,r^3\,s}{(6.8541 - 1.\,r^2 - 1.\,s^2)^4} - \frac{705.131\,r^4\,s}{(6.8541 - 1.\,r^2 - 1.\,s^2)^4} - \frac{449.062\,r^5\,s}{(6.8541 - 1.\,r^2 - 1.\,s^2)^4} + \frac{152.752\,r^6\,s}{(6.8541 - 1.\,r^2 - 1.\,s^2)^4} + \frac{5.05167\,r^7\,s}{(6.8541 - 1.\,r^2 - 1.\,s^2)^4} + \frac{15.281\,s^2}{(6.8541 - 1.\,r^2 - 1.\,s^2)^4} - \frac{160.806\,r\,s^2}{(6.8541 - 1.\,r^2 - 1.\,s^2)^4} + \frac{295.677\,r^2\,s^2}{(6.8541 - 1.\,r^2 - 1.\,s^2)^4} + \frac{506.93\,r^3\,s^2}{(6.8541 - 1.\,r^2 - 1.\,s^2)^4} - \frac{185.083\,r^4\,s^2}{(6.8541 - 1.\,r^2 - 1.\,s^2)^4} - \frac{111.755\,r^5\,s^2}{(6.8541 - 1.\,r^2 - 1.\,s^2)^4} + \frac{35.1385\,r^6\,s^2}{(6.8541 - 1.\,r^2 - 1.\,s^2)^4} - \frac{238.293\,s^3}{(6.8541 - 1.\,r^2 - 1.\,s^2)^4} + \frac{90.9571\,r\,s^3}{(6.8541 - 1.\,r^2 - 1.\,s^2)^4} - \frac{167.132\,r^2\,s^3}{(6.8541 - 1.\,r^2 - 1.\,s^2)^4} + \frac{72.3151\,r^3\,s^3}{(6.8541 - 1.\,r^2 - 1.\,s^2)^4} + \frac{41.414\,r^4\,s^3}{(6.8541 - 1.\,r^2 - 1.\,s^2)^4} -$$

$$\frac{14.5461\, r^5\, s^3}{\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4} - \frac{119.556\, s^4}{\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4} - \frac{130.884\, r\, s^4}{\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4} -$$
$$\frac{106.34\, r^2\, s^4}{\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4} + \frac{39.3187\, r^3\, s^4}{\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4} + \frac{14.0994\, r^4\, s^4}{\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4} +$$
$$\frac{59.5076\, s^5}{\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4} - \frac{47.9354\, r\, s^5}{\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4} - \frac{29.2595\, r^2\, s^5}{\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4} +$$
$$\frac{14.4995\, r^3\, s^5}{\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4} + \frac{30.7182\, s^6}{\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4} + \frac{10.4923\, r\, s^6}{\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4} -$$
$$\frac{3.82059\, r^2\, s^6}{\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4} - \frac{1.84129\, s^7}{\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4} + \frac{2.81324\, r\, s^7}{\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4} -$$
$$\frac{1.24116\, s^8}{\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4} + 4529.67 \Big/ \Big(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4$$
$$\left(2308.24 + 1.\, r^8 + r^7\left(0.0749944 - 0.284433\, s\right) + r^6\left(-27.5999 + s\left(0.314255 + 4.10709\, s\right)\right) + \right.$$
$$r^5\left(-1.11986 + s\left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) +$$
$$r^4\left(286.959 + s\left(1.67402 + s\left(-84.7941 + s\left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + r^3\left(5.87158 + \right.$$
$$\left. s\left(40.5156 + s\left(1.50515 + s\left(-18.3416 + s\left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + r^2\left(-1329. + \right.$$
$$\left. s\left(-67.2378 + s\left(586.163 + s\left(17.0677 + s\left(-86.022 + s\left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) +$$
$$r\left(-11.7828 + s\left(-184.642 + s\left(-0.423864 + s\left(103.159 + \right.\right.\right.\right.$$
$$\left.\left.\left.\left. s\left(0.0811638 + s\left(-18.3103 + s\left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) +$$
$$s\left(281.022 + s\left(-1353.73 + s\left(-114.256 + s\left(296.578 + s\left(15.3937 + \right.\right.\right.\right.$$
$$\left.\left.\left.\left. s\left(-28.8278 + s\left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right)\Big) +$$
$$\left(7.54359 \times 10^6\, r\right) \Big/ \Big(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + r^7\left(0.0749944 - 0.284433\, s\right) + \right.$$
$$r^6\left(-27.5999 + s\left(0.314255 + 4.10709\, s\right)\right) +$$
$$r^5\left(-1.11986 + s\left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) +$$
$$r^4\left(286.959 + s\left(1.67402 + s\left(-84.7941 + s\left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + r^3\left(5.87158 + \right.$$
$$\left. s\left(40.5156 + s\left(1.50515 + s\left(-18.3416 + s\left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + r^2\left(-1329. + \right.$$
$$\left. s\left(-67.2378 + s\left(586.163 + s\left(17.0677 + s\left(-86.022 + s\left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) +$$
$$r\left(-11.7828 + s\left(-184.642 + s\left(-0.423864 + s\left(103.159 + \right.\right.\right.\right.$$
$$\left.\left.\left.\left. s\left(0.0811638 + s\left(-18.3103 + s\left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) +$$
$$s\left(281.022 + s\left(-1353.73 + s\left(-114.256 + s\left(296.578 + s\left(15.3937 + \right.\right.\right.\right.$$
$$\left.\left.\left.\left. s\left(-28.8278 + s\left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right)\Big) -$$
$$\left(3.73056 \times 10^6\, r^2\right) \Big/ \Big(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + r^7\left(0.0749944 - 0.284433\, s\right) + \right.$$
$$r^6\left(-27.5999 + s\left(0.314255 + 4.10709\, s\right)\right) +$$
$$r^5\left(-1.11986 + s\left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) +$$
$$r^4\left(286.959 + s\left(1.67402 + s\left(-84.7941 + s\left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) +$$
$$r^3\left(5.87158 + s\left(40.5156 + s\left(1.50515 + s\left(-18.3416 + s\left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) +$$
$$r^2\left(-1329. + \right.$$
$$\left. s\left(-67.2378 + s\left(586.163 + s\left(17.0677 + s\left(-86.022 + s\left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) +$$
$$r\left(-11.7828 + s\left(-184.642 + s\left(-0.423864 + s\left(103.159 + \right.\right.\right.\right.$$
$$\left.\left.\left.\left. s\left(0.0811638 + s\left(-18.3103 + s\left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) +$$
$$s\left(281.022 + s\left(-1353.73 + s\left(-114.256 + s\left(296.578 + s\left(15.3937 + \right.\right.\right.\right.$$
$$\left.\left.\left.\left. s\left(-28.8278 + s\left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right)\Big) -$$
$$\left(1.91725 \times 10^7\, r^3\right) \Big/ \Big(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + r^7\left(0.0749944 - 0.284433\, s\right) + \right.$$
$$r^6\left(-27.5999 + s\left(0.314255 + 4.10709\, s\right)\right) +$$
$$r^5\left(-1.11986 + s\left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) +$$
$$r^4\left(286.959 + s\left(1.67402 + s\left(-84.7941 + s\left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) +$$
$$r^3\left(5.87158 + s\left(40.5156 + s\left(1.50515 + s\left(-18.3416 + s\left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) +$$
$$r^2\left(-1329. + \right.$$

```
    s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s))))) +
  r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
        s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s))))))) +
  s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
        s (-28.8278 + s (-0.686583 + 1.05119 s)))))))) +
(1.00704 × 10^7 r^4) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
  r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
  r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
  r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
  r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
  r^2 (-1329. +
    s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s))))) +
  r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
        s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s))))))) +
  s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
        s (-28.8278 + s (-0.686583 + 1.05119 s)))))))) +
(1.40961 × 10^7 r^5) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
  r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
  r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
  r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
  r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
  r^2 (-1329. +
    s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s))))) +
  r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
        s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s))))))) +
  s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
        s (-28.8278 + s (-0.686583 + 1.05119 s)))))))) -
(7.74699 × 10^6 r^6) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
  r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
  r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
  r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
  r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
  r^2 (-1329. +
    s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s))))) +
  r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
        s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s))))))) +
  s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
        s (-28.8278 + s (-0.686583 + 1.05119 s)))))))) -
(4.794 × 10^6 r^7) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
  r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
  r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
  r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
  r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
  r^2 (-1329. +
    s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s))))) +
  r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
        s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s))))))) +
  s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
```

$$
\begin{aligned}
&\qquad s\left(-28.8278+s\left(-0.686583+1.05119\,s\right)\right)\Big)\Big)\Big)\Big)\Big)\Big)\Big)\Big)\Big) + \\
&\left(2.76928\times 10^{6}\,r^{8}\right)\Big/\Big(\left(6.8541-1.\,r^{2}-1.\,s^{2}\right)^{4}\left(2308.24+1.\,r^{8}+r^{7}\left(0.0749944-0.284433\,s\right)+\right. \\
&\quad r^{6}\left(-27.5999+s\left(0.314255+4.10709\,s\right)\right)+ \\
&\quad r^{5}\left(-1.11986+s\left(-0.0312747+\left(-0.18738+0.480139\,s\right)s\right)\right)+ \\
&\quad r^{4}\left(286.959+s\left(1.67402+s\left(-84.7941+s\left(-0.0580727+6.26538\,s\right)\right)\right)\right)+ \\
&\quad r^{3}\left(5.87158+s\left(40.5156+s\left(1.50515+s\left(-18.3416+s\left(-0.228601+1.81358\,s\right)\right)\right)\right)\right)+ \\
&\quad r^{2}\left(-1329.+\right. \\
&\qquad s\left(-67.2378+s\left(586.163+s\left(17.0677+s\left(-86.022+s\left(-1.05891+4.20947\,s\right)\right)\right)\right)\right)\Big)+ \\
&\quad r\left(-11.7828+s\left(-184.642+s\left(-0.423864+s\left(103.159+\right.\right.\right. \\
&\qquad\qquad s\left(0.0811638+s\left(-18.3103+s\left(0.0337737+1.04901\,s\right)\right)\right)\Big)\Big)\Big)+ \\
&\quad s\left(281.022+s\left(-1353.73+s\left(-114.256+s\left(296.578+s\left(15.3937+\right.\right.\right. \\
&\qquad\qquad s\left(-28.8278+s\left(-0.686583+1.05119\,s\right)\right)\Big)\Big)\Big)\Big)\Big)\Big)\Big)\Big)\Big) + \\
&\left(869\,754.\,r^{9}\right)\Big/\Big(\left(6.8541-1.\,r^{2}-1.\,s^{2}\right)^{4}\left(2308.24+1.\,r^{8}+r^{7}\left(0.0749944-0.284433\,s\right)+\right. \\
&\quad r^{6}\left(-27.5999+s\left(0.314255+4.10709\,s\right)\right)+ \\
&\quad r^{5}\left(-1.11986+s\left(-0.0312747+\left(-0.18738+0.480139\,s\right)s\right)\right)+ \\
&\quad r^{4}\left(286.959+s\left(1.67402+s\left(-84.7941+s\left(-0.0580727+6.26538\,s\right)\right)\right)\right)+ \\
&\quad r^{3}\left(5.87158+s\left(40.5156+s\left(1.50515+s\left(-18.3416+s\left(-0.228601+1.81358\,s\right)\right)\right)\right)\right)+ \\
&\quad r^{2}\left(-1329.+\right. \\
&\qquad s\left(-67.2378+s\left(586.163+s\left(17.0677+s\left(-86.022+s\left(-1.05891+4.20947\,s\right)\right)\right)\right)\right)\Big)+ \\
&\quad r\left(-11.7828+s\left(-184.642+s\left(-0.423864+s\left(103.159+\right.\right.\right. \\
&\qquad\qquad s\left(0.0811638+s\left(-18.3103+s\left(0.0337737+1.04901\,s\right)\right)\right)\Big)\Big)\Big)+ \\
&\quad s\left(281.022+s\left(-1353.73+s\left(-114.256+s\left(296.578+s\left(15.3937+\right.\right.\right. \\
&\qquad\qquad s\left(-28.8278+s\left(-0.686583+1.05119\,s\right)\right)\Big)\Big)\Big)\Big)\Big)\Big)\Big)\Big)\Big) - \\
&\left(534\,152.\,r^{10}\right)\Big/\Big(\left(6.8541-1.\,r^{2}-1.\,s^{2}\right)^{4}\left(2308.24+1.\,r^{8}+r^{7}\left(0.0749944-0.284433\,s\right)+\right. \\
&\quad r^{6}\left(-27.5999+s\left(0.314255+4.10709\,s\right)\right)+ \\
&\quad r^{5}\left(-1.11986+s\left(-0.0312747+\left(-0.18738+0.480139\,s\right)s\right)\right)+ \\
&\quad r^{4}\left(286.959+s\left(1.67402+s\left(-84.7941+s\left(-0.0580727+6.26538\,s\right)\right)\right)\right)+ \\
&\quad r^{3}\left(5.87158+s\left(40.5156+s\left(1.50515+s\left(-18.3416+s\left(-0.228601+1.81358\,s\right)\right)\right)\right)\right)+ \\
&\quad r^{2}\left(-1329.+\right. \\
&\qquad s\left(-67.2378+s\left(586.163+s\left(17.0677+s\left(-86.022+s\left(-1.05891+4.20947\,s\right)\right)\right)\right)\right)\Big)+ \\
&\quad r\left(-11.7828+s\left(-184.642+s\left(-0.423864+s\left(103.159+\right.\right.\right. \\
&\qquad\qquad s\left(0.0811638+s\left(-18.3103+s\left(0.0337737+1.04901\,s\right)\right)\right)\Big)\Big)\Big)+ \\
&\quad s\left(281.022+s\left(-1353.73+s\left(-114.256+s\left(296.578+s\left(15.3937+\right.\right.\right. \\
&\qquad\qquad s\left(-28.8278+s\left(-0.686583+1.05119\,s\right)\right)\Big)\Big)\Big)\Big)\Big)\Big)\Big)\Big)\Big) - \\
&\left(86\,338.9\,r^{11}\right)\Big/\Big(\left(6.8541-1.\,r^{2}-1.\,s^{2}\right)^{4}\left(2308.24+1.\,r^{8}+r^{7}\left(0.0749944-0.284433\,s\right)+\right. \\
&\quad r^{6}\left(-27.5999+s\left(0.314255+4.10709\,s\right)\right)+ \\
&\quad r^{5}\left(-1.11986+s\left(-0.0312747+\left(-0.18738+0.480139\,s\right)s\right)\right)+ \\
&\quad r^{4}\left(286.959+s\left(1.67402+s\left(-84.7941+s\left(-0.0580727+6.26538\,s\right)\right)\right)\right)+ \\
&\quad r^{3}\left(5.87158+s\left(40.5156+s\left(1.50515+s\left(-18.3416+s\left(-0.228601+1.81358\,s\right)\right)\right)\right)\right)+ \\
&\quad r^{2}\left(-1329.+\right. \\
&\qquad s\left(-67.2378+s\left(586.163+s\left(17.0677+s\left(-86.022+s\left(-1.05891+4.20947\,s\right)\right)\right)\right)\right)\Big)+ \\
&\quad r\left(-11.7828+s\left(-184.642+s\left(-0.423864+s\left(103.159+\right.\right.\right. \\
&\qquad\qquad s\left(0.0811638+s\left(-18.3103+s\left(0.0337737+1.04901\,s\right)\right)\right)\Big)\Big)\Big)+ \\
&\quad s\left(281.022+s\left(-1353.73+s\left(-114.256+s\left(296.578+s\left(15.3937+\right.\right.\right. \\
&\qquad\qquad s\left(-28.8278+s\left(-0.686583+1.05119\,s\right)\right)\Big)\Big)\Big)\Big)\Big)\Big)\Big)\Big)\Big) + \\
&\left(57\,438.3\,r^{12}\right)\Big/\Big(\left(6.8541-1.\,r^{2}-1.\,s^{2}\right)^{4}\left(2308.24+1.\,r^{8}+r^{7}\left(0.0749944-0.284433\,s\right)+\right. \\
&\quad r^{6}\left(-27.5999+s\left(0.314255+4.10709\,s\right)\right)+
\end{aligned}
$$

$$
\begin{aligned}
&r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + \\
&r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + \\
&r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + \\
&r^2 \left(-1329. + \right. \\
&\quad \left. s \left(-67.2378 + s \left(586.163 + s \left(17.0677 + s \left(-86.022 + s \left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) + \\
&r \left(-11.7828 + s \left(-184.642 + s \left(-0.423864 + s \left(103.159 + \right.\right.\right.\right. \\
&\qquad \left.\left.\left.\left. s \left(0.0811638 + s \left(-18.3103 + s \left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) + \\
&s \left(281.022 + s \left(-1353.73 + s \left(-114.256 + s \left(296.578 + s \left(15.3937 + \right.\right.\right.\right. \\
&\qquad \left.\left.\left.\left. s \left(-28.8278 + s \left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right) + \\
&\left(4365.54\, r^{13}\right) \Big/ \left(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + r^7 \left(0.0749944 - 0.284433\, s\right) + \right.\right. \\
&\quad r^6 \left(-27.5999 + s \left(0.314255 + 4.10709\, s\right)\right) + \\
&\quad r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + \\
&\quad r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + \\
&\quad r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + \\
&\quad r^2 \left(-1329. + \right. \\
&\qquad \left. s \left(-67.2378 + s \left(586.163 + s \left(17.0677 + s \left(-86.022 + s \left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) + \\
&\quad r \left(-11.7828 + s \left(-184.642 + s \left(-0.423864 + s \left(103.159 + \right.\right.\right.\right. \\
&\qquad \left.\left.\left.\left. s \left(0.0811638 + s \left(-18.3103 + s \left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) + \\
&\quad s \left(281.022 + s \left(-1353.73 + s \left(-114.256 + s \left(296.578 + s \left(15.3937 + \right.\right.\right.\right. \\
&\qquad \left.\left.\left.\left. s \left(-28.8278 + s \left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right) - \\
&\left(3242.94\, r^{14}\right) \Big/ \left(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + r^7 \left(0.0749944 - 0.284433\, s\right) + \right.\right. \\
&\quad r^6 \left(-27.5999 + s \left(0.314255 + 4.10709\, s\right)\right) + \\
&\quad r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + \\
&\quad r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + \\
&\quad r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + \\
&\quad r^2 \left(-1329. + \right. \\
&\qquad \left. s \left(-67.2378 + s \left(586.163 + s \left(17.0677 + s \left(-86.022 + s \left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) + \\
&\quad r \left(-11.7828 + s \left(-184.642 + s \left(-0.423864 + s \left(103.159 + \right.\right.\right.\right. \\
&\qquad \left.\left.\left.\left. s \left(0.0811638 + s \left(-18.3103 + s \left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) + \\
&\quad s \left(281.022 + s \left(-1353.73 + s \left(-114.256 + s \left(296.578 + s \left(15.3937 + \right.\right.\right.\right. \\
&\qquad \left.\left.\left.\left. s \left(-28.8278 + s \left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right) - \\
&\left(85.5902\, r^{15}\right) \Big/ \left(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + r^7 \left(0.0749944 - 0.284433\, s\right) + \right.\right. \\
&\quad r^6 \left(-27.5999 + s \left(0.314255 + 4.10709\, s\right)\right) + \\
&\quad r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + \\
&\quad r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + \\
&\quad r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + \\
&\quad r^2 \left(-1329. + \right. \\
&\qquad \left. s \left(-67.2378 + s \left(586.163 + s \left(17.0677 + s \left(-86.022 + s \left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) + \\
&\quad r \left(-11.7828 + s \left(-184.642 + s \left(-0.423864 + s \left(103.159 + \right.\right.\right.\right. \\
&\qquad \left.\left.\left.\left. s \left(0.0811638 + s \left(-18.3103 + s \left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) + \\
&\quad s \left(281.022 + s \left(-1353.73 + s \left(-114.256 + s \left(296.578 + s \left(15.3937 + \right.\right.\right.\right. \\
&\qquad \left.\left.\left.\left. s \left(-28.8278 + s \left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right) + \\
&\left(74.8456\, r^{16}\right) \Big/ \left(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + r^7 \left(0.0749944 - 0.284433\, s\right) + \right.\right. \\
&\quad r^6 \left(-27.5999 + s \left(0.314255 + 4.10709\, s\right)\right) + \\
&\quad r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + \\
&\quad r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + \\
&\quad r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + \\
&\quad r^2 \left(-1329. + \right.
\end{aligned}
$$

$$
\begin{aligned}
&s\left(-67.2378+s\left(586.163+s\left(17.0677+s\left(-86.022+s\left(-1.05891+4.20947\,s\right)\right)\right)\right)\right)+\\
&r\left(-11.7828+s\left(-184.642+s\left(-0.423864+s\left(103.159+\right.\right.\right.\right.\\
&\qquad\left.\left.\left.\left.s\left(0.0811638+s\left(-18.3103+s\left(0.0337737+1.04901\,s\right)\right)\right)\right)\right)\right)\right)+\\
&s\left(281.022+s\left(-1353.73+s\left(-114.256+s\left(296.578+s\left(15.3937+\right.\right.\right.\right.\\
&\qquad\left.\left.\left.\left.s\left(-28.8278+s\left(-0.686583+1.05119\,s\right)\right)\right)\right)\right)\right)\right)\Big)-\\
&\left(17\,614.6\,s\right)\Big/\Big(\left(6.8541-1.\,r^2-1.\,s^2\right)^4\left(2308.24+1.\,r^8+r^7\left(0.0749944-0.284433\,s\right)+\\
&r^6\left(-27.5999+s\left(0.314255+4.10709\,s\right)\right)+\\
&r^5\left(-1.11986+s\left(-0.0312747+\left(-0.18738+0.480139\,s\right)s\right)\right)+\\
&r^4\left(286.959+s\left(1.67402+s\left(-84.7941+s\left(-0.0580727+6.26538\,s\right)\right)\right)\right)+\\
&r^3\left(5.87158+s\left(40.5156+s\left(1.50515+s\left(-18.3416+s\left(-0.228601+1.81358\,s\right)\right)\right)\right)\right)+\\
&r^2\left(-1329.+\right.\\
&\qquad s\left(-67.2378+s\left(586.163+s\left(17.0677+s\left(-86.022+s\left(-1.05891+4.20947\,s\right)\right)\right)\right)\right)+\\
&r\left(-11.7828+s\left(-184.642+s\left(-0.423864+s\left(103.159+\right.\right.\right.\right.\\
&\qquad\left.\left.\left.\left.s\left(0.0811638+s\left(-18.3103+s\left(0.0337737+1.04901\,s\right)\right)\right)\right)\right)\right)\right)+\\
&s\left(281.022+s\left(-1353.73+s\left(-114.256+s\left(296.578+s\left(15.3937+\right.\right.\right.\right.\\
&\qquad\left.\left.\left.\left.s\left(-28.8278+s\left(-0.686583+1.05119\,s\right)\right)\right)\right)\right)\right)\right)\Big)+\\
&\left(3.45862\times10^6\,r\,s\right)\Big/\Big(\left(6.8541-1.\,r^2-1.\,s^2\right)^4\left(2308.24+1.\,r^8+r^7\left(0.0749944-0.284433\,s\right)+\\
&r^6\left(-27.5999+s\left(0.314255+4.10709\,s\right)\right)+\\
&r^5\left(-1.11986+s\left(-0.0312747+\left(-0.18738+0.480139\,s\right)s\right)\right)+\\
&r^4\left(286.959+s\left(1.67402+s\left(-84.7941+s\left(-0.0580727+6.26538\,s\right)\right)\right)\right)+\\
&r^3\left(5.87158+s\left(40.5156+s\left(1.50515+s\left(-18.3416+s\left(-0.228601+1.81358\,s\right)\right)\right)\right)\right)+\\
&r^2\left(-1329.+\right.\\
&\qquad s\left(-67.2378+s\left(586.163+s\left(17.0677+s\left(-86.022+s\left(-1.05891+4.20947\,s\right)\right)\right)\right)\right)+\\
&r\left(-11.7828+s\left(-184.642+s\left(-0.423864+s\left(103.159+\right.\right.\right.\right.\\
&\qquad\left.\left.\left.\left.s\left(0.0811638+s\left(-18.3103+s\left(0.0337737+1.04901\,s\right)\right)\right)\right)\right)\right)\right)+\\
&s\left(281.022+s\left(-1353.73+s\left(-114.256+s\left(296.578+s\left(15.3937+\right.\right.\right.\right.\\
&\qquad\left.\left.\left.\left.s\left(-28.8278+s\left(-0.686583+1.05119\,s\right)\right)\right)\right)\right)\right)\right)\Big)-\\
&\left(1.37028\times10^6\,r^2\,s\right)\Big/\Big(\left(6.8541-1.\,r^2-1.\,s^2\right)^4\left(2308.24+1.\,r^8+r^7\left(0.0749944-0.284433\,s\right)+\\
&r^6\left(-27.5999+s\left(0.314255+4.10709\,s\right)\right)+\\
&r^5\left(-1.11986+s\left(-0.0312747+\left(-0.18738+0.480139\,s\right)s\right)\right)+\\
&r^4\left(286.959+s\left(1.67402+s\left(-84.7941+s\left(-0.0580727+6.26538\,s\right)\right)\right)\right)+\\
&r^3\left(5.87158+s\left(40.5156+s\left(1.50515+s\left(-18.3416+s\left(-0.228601+1.81358\,s\right)\right)\right)\right)\right)+\\
&r^2\left(-1329.+\right.\\
&\qquad s\left(-67.2378+s\left(586.163+s\left(17.0677+s\left(-86.022+s\left(-1.05891+4.20947\,s\right)\right)\right)\right)\right)+\\
&r\left(-11.7828+s\left(-184.642+s\left(-0.423864+s\left(103.159+\right.\right.\right.\right.\\
&\qquad\left.\left.\left.\left.s\left(0.0811638+s\left(-18.3103+s\left(0.0337737+1.04901\,s\right)\right)\right)\right)\right)\right)\right)+\\
&s\left(281.022+s\left(-1353.73+s\left(-114.256+s\left(296.578+s\left(15.3937+\right.\right.\right.\right.\\
&\qquad\left.\left.\left.\left.s\left(-28.8278+s\left(-0.686583+1.05119\,s\right)\right)\right)\right)\right)\right)\right)\Big)-\\
&\left(7.54544\times10^6\,r^3\,s\right)\Big/\Big(\left(6.8541-1.\,r^2-1.\,s^2\right)^4\left(2308.24+1.\,r^8+r^7\left(0.0749944-0.284433\,s\right)+\\
&r^6\left(-27.5999+s\left(0.314255+4.10709\,s\right)\right)+\\
&r^5\left(-1.11986+s\left(-0.0312747+\left(-0.18738+0.480139\,s\right)s\right)\right)+\\
&r^4\left(286.959+s\left(1.67402+s\left(-84.7941+s\left(-0.0580727+6.26538\,s\right)\right)\right)\right)+\\
&r^3\left(5.87158+s\left(40.5156+s\left(1.50515+s\left(-18.3416+s\left(-0.228601+1.81358\,s\right)\right)\right)\right)\right)+\\
&r^2\left(-1329.+\right.\\
&\qquad s\left(-67.2378+s\left(586.163+s\left(17.0677+s\left(-86.022+s\left(-1.05891+4.20947\,s\right)\right)\right)\right)\right)+\\
&r\left(-11.7828+s\left(-184.642+s\left(-0.423864+s\left(103.159+\right.\right.\right.\right.\\
&\qquad\left.\left.\left.\left.s\left(0.0811638+s\left(-18.3103+s\left(0.0337737+1.04901\,s\right)\right)\right)\right)\right)\right)\right)+\\
&s\left(281.022+s\left(-1353.73+s\left(-114.256+s\left(296.578+s\left(15.3937+\right.\right.\right.\right.
\end{aligned}
$$

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                s (-28.8278 + s (-0.686583 + 1.05119 s)))))))))) +
(3.91906 × 10^6 r^4 s) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
    r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
    r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
    r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
    r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
    r^2 (-1329. +
      s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s)))))) +
    r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
          s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s))))))) +
    s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
          s (-28.8278 + s (-0.686583 + 1.05119 s)))))))) +
(4.1951 × 10^6 r^5 s) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
    r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
    r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
    r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
    r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
    r^2 (-1329. +
      s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s)))))) +
    r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
          s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s))))))) +
    s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
          s (-28.8278 + s (-0.686583 + 1.05119 s)))))))) -
(2.36859 × 10^6 r^6 s) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
    r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
    r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
    r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
    r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
    r^2 (-1329. +
      s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s)))))) +
    r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
          s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s))))))) +
    s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
          s (-28.8278 + s (-0.686583 + 1.05119 s)))))))) -
(1.01087 × 10^6 r^7 s) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
    r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
    r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
    r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
    r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
    r^2 (-1329. +
      s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s)))))) +
    r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
          s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s))))))) +
    s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
          s (-28.8278 + s (-0.686583 + 1.05119 s)))))))) +
(580198. r^8 s) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
    r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
```

$$
\begin{aligned}
&r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + \\
&r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + \\
&r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + \\
&r^2 \left(-1329. + \right. \\
&\quad \left. s \left(-67.2378 + s \left(586.163 + s \left(17.0677 + s \left(-86.022 + s \left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) + \\
&r \left(-11.7828 + s \left(-184.642 + s \left(-0.423864 + s \left(103.159 + \right.\right.\right.\right. \\
&\qquad \left.\left.\left.\left. s \left(0.0811638 + s \left(-18.3103 + s \left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) + \\
&s \left(281.022 + s \left(-1353.73 + s \left(-114.256 + s \left(296.578 + s \left(15.3937 + \right.\right.\right.\right. \\
&\qquad \left.\left.\left.\left. s \left(-28.8278 + s \left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right)\Big) + \\
&\left(138\,131.\, r^9\, s\right) \Big/ \Big(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + r^7 \left(0.0749944 - 0.284433\, s\right) + \right. \\
&\quad r^6 \left(-27.5999 + s \left(0.314255 + 4.10709\, s\right)\right) + \\
&\quad r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + \\
&\quad r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + \\
&\quad r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + \\
&\quad r^2 \left(-1329. + \right. \\
&\qquad \left. s \left(-67.2378 + s \left(586.163 + s \left(17.0677 + s \left(-86.022 + s \left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) + \\
&\quad r \left(-11.7828 + s \left(-184.642 + s \left(-0.423864 + s \left(103.159 + \right.\right.\right. \\
&\qquad \left.\left.\left. s \left(0.0811638 + s \left(-18.3103 + s \left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) + \\
&\quad s \left(281.022 + s \left(-1353.73 + s \left(-114.256 + s \left(296.578 + s \left(15.3937 + \right.\right.\right. \\
&\qquad \left.\left.\left. s \left(-28.8278 + s \left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right)\Big) - \\
&\left(68\,497.7\, r^{10}\, s\right) \Big/ \Big(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + r^7 \left(0.0749944 - 0.284433\, s\right) + \right. \\
&\quad r^6 \left(-27.5999 + s \left(0.314255 + 4.10709\, s\right)\right) + \\
&\quad r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + \\
&\quad r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + \\
&\quad r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + \\
&\quad r^2 \left(-1329. + \right. \\
&\qquad \left. s \left(-67.2378 + s \left(586.163 + s \left(17.0677 + s \left(-86.022 + s \left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) + \\
&\quad r \left(-11.7828 + s \left(-184.642 + s \left(-0.423864 + s \left(103.159 + \right.\right.\right. \\
&\qquad \left.\left.\left. s \left(0.0811638 + s \left(-18.3103 + s \left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) + \\
&\quad s \left(281.022 + s \left(-1353.73 + s \left(-114.256 + s \left(296.578 + s \left(15.3937 + \right.\right.\right. \\
&\qquad \left.\left.\left. s \left(-28.8278 + s \left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right)\Big) - \\
&\left(13\,388.2\, r^{11}\, s\right) \Big/ \Big(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + r^7 \left(0.0749944 - 0.284433\, s\right) + \right. \\
&\quad r^6 \left(-27.5999 + s \left(0.314255 + 4.10709\, s\right)\right) + \\
&\quad r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + \\
&\quad r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + \\
&\quad r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + \\
&\quad r^2 \left(-1329. + \right. \\
&\qquad \left. s \left(-67.2378 + s \left(586.163 + s \left(17.0677 + s \left(-86.022 + s \left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) + \\
&\quad r \left(-11.7828 + s \left(-184.642 + s \left(-0.423864 + s \left(103.159 + \right.\right.\right. \\
&\qquad \left.\left.\left. s \left(0.0811638 + s \left(-18.3103 + s \left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) + \\
&\quad s \left(281.022 + s \left(-1353.73 + s \left(-114.256 + s \left(296.578 + s \left(15.3937 + \right.\right.\right. \\
&\qquad \left.\left.\left. s \left(-28.8278 + s \left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right)\Big) + \\
&\left(4026.51\, r^{12}\, s\right) \Big/ \Big(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + r^7 \left(0.0749944 - 0.284433\, s\right) + \right. \\
&\quad r^6 \left(-27.5999 + s \left(0.314255 + 4.10709\, s\right)\right) + \\
&\quad r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + \\
&\quad r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + \\
&\quad r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + \\
&\quad r^2 \left(-1329. + \right.
\end{aligned}
$$

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    s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s))))) +
  r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
        s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s))))))) +
  s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
        s (-28.8278 + s (-0.686583 + 1.05119 s)))))))) +
(898.559 r^13 s) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
  r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
  r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
  r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
  r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
  r^2 (-1329. +
    s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s))))) +
  r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
        s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s))))))) +
  s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
        s (-28.8278 + s (-0.686583 + 1.05119 s)))))))) -
(103.894 r^14 s) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
  r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
  r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
  r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
  r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
  r^2 (-1329. +
    s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s))))) +
  r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
        s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s))))))) +
  s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
        s (-28.8278 + s (-0.686583 + 1.05119 s)))))))) -
(26.4843 r^15 s) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
  r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
  r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
  r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
  r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
  r^2 (-1329. +
    s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s))))) +
  r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
        s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s))))))) +
  s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
        s (-28.8278 + s (-0.686583 + 1.05119 s)))))))) -
(58 120.4 s^2) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
  r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
  r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
  r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
  r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
  r^2 (-1329. +
    s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s))))) +
  r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
        s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s))))))) +
  s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
```

$$
\begin{aligned}
&\qquad\qquad s\left(-28.8278+s\left(-0.686583+1.05119\,s\right)\right)\Big)\Big)\Big)\Big)\Big)\Big)\Big)\Big)\Big) - \\
&\left(3.33871\times 10^6\, r\, s^2\right) \Big/ \Big(\left(6.8541-1.\,r^2-1.\,s^2\right)^4 \left(2308.24+1.\,r^8+r^7\left(0.0749944-0.284433\,s\right)+\right. \\
&\quad r^6\left(-27.5999+s\left(0.314255+4.10709\,s\right)\right)+ \\
&\quad r^5\left(-1.11986+s\left(-0.0312747+\left(-0.18738+0.480139\,s\right)s\right)\right)+ \\
&\quad r^4\left(286.959+s\left(1.67402+s\left(-84.7941+s\left(-0.0580727+6.26538\,s\right)\right)\right)\right)+ \\
&\quad r^3\left(5.87158+s\left(40.5156+s\left(1.50515+s\left(-18.3416+s\left(-0.228601+1.81358\,s\right)\right)\right)\right)\right)+ \\
&\quad r^2\left(-1329.+\right. \\
&\qquad s\left(-67.2378+s\left(586.163+s\left(17.0677+s\left(-86.022+s\left(-1.05891+4.20947\,s\right)\right)\right)\right)\right)+ \\
&\quad r\left(-11.7828+s\left(-184.642+s\left(-0.423864+s\left(103.159+\right.\right.\right. \\
&\qquad\qquad s\left(0.0811638+s\left(-18.3103+s\left(0.0337737+1.04901\,s\right)\right)\right)\Big)\Big)\Big)\Big)+ \\
&\quad s\left(281.022+s\left(-1353.73+s\left(-114.256+s\left(296.578+s\left(15.3937+\right.\right.\right. \\
&\qquad\qquad s\left(-28.8278+s\left(-0.686583+1.05119\,s\right)\right)\Big)\Big)\Big)\Big)\Big)\Big)\Big)\Big)\Big)\Big) + \\
&\left(2.06327\times 10^6\, r^2\, s^2\right) \Big/ \Big(\left(6.8541-1.\,r^2-1.\,s^2\right)^4 \left(2308.24+1.\,r^8+\right. \\
&\quad r^7\left(0.0749944-0.284433\,s\right)+r^6\left(-27.5999+s\left(0.314255+4.10709\,s\right)\right)+ \\
&\quad r^5\left(-1.11986+s\left(-0.0312747+\left(-0.18738+0.480139\,s\right)s\right)\right)+ \\
&\quad r^4\left(286.959+s\left(1.67402+s\left(-84.7941+s\left(-0.0580727+6.26538\,s\right)\right)\right)\right)+ \\
&\quad r^3\left(5.87158+s\left(40.5156+s\left(1.50515+s\left(-18.3416+s\left(-0.228601+1.81358\,s\right)\right)\right)\right)\right)+ \\
&\quad r^2\left(-1329.+\right. \\
&\qquad s\left(-67.2378+s\left(586.163+s\left(17.0677+s\left(-86.022+s\left(-1.05891+4.20947\,s\right)\right)\right)\right)\right)+ \\
&\quad r\left(-11.7828+s\left(-184.642+s\left(-0.423864+s\left(103.159+\right.\right.\right. \\
&\qquad\qquad s\left(0.0811638+s\left(-18.3103+s\left(0.0337737+1.04901\,s\right)\right)\right)\Big)\Big)\Big)\Big)+ \\
&\quad s\left(281.022+s\left(-1353.73+s\left(-114.256+s\left(296.578+s\left(15.3937+\right.\right.\right. \\
&\qquad\qquad s\left(-28.8278+s\left(-0.686583+1.05119\,s\right)\right)\Big)\Big)\Big)\Big)\Big)\Big)\Big)\Big)\Big)\Big) + \\
&\left(8.31525\times 10^6\, r^3\, s^2\right) \Big/ \Big(\left(6.8541-1.\,r^2-1.\,s^2\right)^4 \left(2308.24+1.\,r^8+\right. \\
&\quad r^7\left(0.0749944-0.284433\,s\right)+r^6\left(-27.5999+s\left(0.314255+4.10709\,s\right)\right)+ \\
&\quad r^5\left(-1.11986+s\left(-0.0312747+\left(-0.18738+0.480139\,s\right)s\right)\right)+ \\
&\quad r^4\left(286.959+s\left(1.67402+s\left(-84.7941+s\left(-0.0580727+6.26538\,s\right)\right)\right)\right)+ \\
&\quad r^3\left(5.87158+s\left(40.5156+s\left(1.50515+s\left(-18.3416+s\left(-0.228601+1.81358\,s\right)\right)\right)\right)\right)+ \\
&\quad r^2\left(-1329.+\right. \\
&\qquad s\left(-67.2378+s\left(586.163+s\left(17.0677+s\left(-86.022+s\left(-1.05891+4.20947\,s\right)\right)\right)\right)\right)+ \\
&\quad r\left(-11.7828+s\left(-184.642+s\left(-0.423864+s\left(103.159+\right.\right.\right. \\
&\qquad\qquad s\left(0.0811638+s\left(-18.3103+s\left(0.0337737+1.04901\,s\right)\right)\right)\Big)\Big)\Big)\Big)+ \\
&\quad s\left(281.022+s\left(-1353.73+s\left(-114.256+s\left(296.578+s\left(15.3937+\right.\right.\right. \\
&\qquad\qquad s\left(-28.8278+s\left(-0.686583+1.05119\,s\right)\right)\Big)\Big)\Big)\Big)\Big)\Big)\Big)\Big)\Big)\Big) - \\
&\left(4.79952\times 10^6\, r^4\, s^2\right) \Big/ \Big(\left(6.8541-1.\,r^2-1.\,s^2\right)^4 \left(2308.24+1.\,r^8+\right. \\
&\quad r^7\left(0.0749944-0.284433\,s\right)+r^6\left(-27.5999+s\left(0.314255+4.10709\,s\right)\right)+ \\
&\quad r^5\left(-1.11986+s\left(-0.0312747+\left(-0.18738+0.480139\,s\right)s\right)\right)+ \\
&\quad r^4\left(286.959+s\left(1.67402+s\left(-84.7941+s\left(-0.0580727+6.26538\,s\right)\right)\right)\right)+ \\
&\quad r^3\left(5.87158+s\left(40.5156+s\left(1.50515+s\left(-18.3416+s\left(-0.228601+1.81358\,s\right)\right)\right)\right)\right)+ \\
&\quad r^2\left(-1329.+\right. \\
&\qquad s\left(-67.2378+s\left(586.163+s\left(17.0677+s\left(-86.022+s\left(-1.05891+4.20947\,s\right)\right)\right)\right)\right)+ \\
&\quad r\left(-11.7828+s\left(-184.642+s\left(-0.423864+s\left(103.159+\right.\right.\right. \\
&\qquad\qquad s\left(0.0811638+s\left(-18.3103+s\left(0.0337737+1.04901\,s\right)\right)\right)\Big)\Big)\Big)\Big)+ \\
&\quad s\left(281.022+s\left(-1353.73+s\left(-114.256+s\left(296.578+s\left(15.3937+\right.\right.\right. \\
&\qquad\qquad s\left(-28.8278+s\left(-0.686583+1.05119\,s\right)\right)\Big)\Big)\Big)\Big)\Big)\Big)\Big)\Big)\Big)\Big) - \\
&\left(5.48481\times 10^6\, r^5\, s^2\right) \Big/ \Big(\left(6.8541-1.\,r^2-1.\,s^2\right)^4 \left(2308.24+1.\,r^8+\right. \\
&\quad r^7\left(0.0749944-0.284433\,s\right)+r^6\left(-27.5999+s\left(0.314255+4.10709\,s\right)\right)+
\end{aligned}
$$

$$
\begin{aligned}
&r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + \\
&r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + \\
&r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + \\
&r^2 \left(-1329. + \right. \\
&\quad \left. s \left(-67.2378 + s \left(586.163 + s \left(17.0677 + s \left(-86.022 + s \left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) + \\
&r \left(-11.7828 + s \left(-184.642 + s \left(-0.423864 + s \left(103.159 + \right.\right.\right. \\
&\qquad \left.\left.\left. s \left(0.0811638 + s \left(-18.3103 + s \left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) + \\
&s \left(281.022 + s \left(-1353.73 + s \left(-114.256 + s \left(296.578 + s \left(15.3937 + \right.\right.\right.\right. \\
&\qquad \left.\left.\left.\left. s \left(-28.8278 + s \left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right)\right) + \\
&\left(3.24074 \times 10^6\, r^6\, s^2\right) \Big/ \left(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + \right.\right. \\
&r^7 \left(0.0749944 - 0.284433\, s\right) + \\
&r^6 \left(-27.5999 + s \left(0.314255 + 4.10709\, s\right)\right) + \\
&r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + \\
&r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + \\
&r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + \\
&r^2 \left(-1329. + \right. \\
&\quad \left. s \left(-67.2378 + s \left(586.163 + s \left(17.0677 + s \left(-86.022 + s \left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) + \\
&r \left(-11.7828 + s \left(-184.642 + s \left(-0.423864 + s \left(103.159 + \right.\right.\right. \\
&\qquad \left.\left.\left. s \left(0.0811638 + s \left(-18.3103 + s \left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) + \\
&s \left(281.022 + s \left(-1353.73 + s \left(-114.256 + s \left(296.578 + s \left(15.3937 + \right.\right.\right.\right. \\
&\qquad \left.\left.\left.\left. s \left(-28.8278 + s \left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right)\right) + \\
&\left(1.54125 \times 10^6\, r^7\, s^2\right) \Big/ \left(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + \right.\right. \\
&r^7 \left(0.0749944 - 0.284433\, s\right) + \\
&r^6 \left(-27.5999 + s \left(0.314255 + 4.10709\, s\right)\right) + \\
&r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + \\
&r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + \\
&r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + \\
&r^2 \left(-1329. + \right. \\
&\quad \left. s \left(-67.2378 + s \left(586.163 + s \left(17.0677 + s \left(-86.022 + s \left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) + \\
&r \left(-11.7828 + s \left(-184.642 + s \left(-0.423864 + s \left(103.159 + \right.\right.\right. \\
&\qquad \left.\left.\left. s \left(0.0811638 + s \left(-18.3103 + s \left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) + \\
&s \left(281.022 + s \left(-1353.73 + s \left(-114.256 + s \left(296.578 + s \left(15.3937 + \right.\right.\right.\right. \\
&\qquad \left.\left.\left.\left. s \left(-28.8278 + s \left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right)\right) - \\
&\left(965\,460.\, r^8\, s^2\right) \Big/ \left(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + r^7 \left(0.0749944 - 0.284433\, s\right) + \right.\right. \\
&r^6 \left(-27.5999 + s \left(0.314255 + 4.10709\, s\right)\right) + \\
&r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + \\
&r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + \\
&r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + \\
&r^2 \left(-1329. + \right. \\
&\quad \left. s \left(-67.2378 + s \left(586.163 + s \left(17.0677 + s \left(-86.022 + s \left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) + \\
&r \left(-11.7828 + s \left(-184.642 + s \left(-0.423864 + s \left(103.159 + \right.\right.\right. \\
&\qquad \left.\left.\left. s \left(0.0811638 + s \left(-18.3103 + s \left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) + \\
&s \left(281.022 + s \left(-1353.73 + s \left(-114.256 + s \left(296.578 + s \left(15.3937 + \right.\right.\right.\right. \\
&\qquad \left.\left.\left.\left. s \left(-28.8278 + s \left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right)\right) - \\
&\left(206\,309.\, r^9\, s^2\right) \Big/ \left(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + r^7 \left(0.0749944 - 0.284433\, s\right) + \right.\right. \\
&r^6 \left(-27.5999 + s \left(0.314255 + 4.10709\, s\right)\right) + \\
&r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + \\
&r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) +
\end{aligned}
$$

$$
\begin{aligned}
&r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + \\
&r^2 \left(-1329. + \right. \\
&\quad \left. s \left(-67.2378 + s \left(586.163 + s \left(17.0677 + s \left(-86.022 + s \left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) + \\
&r \left(-11.7828 + s \left(-184.642 + s \left(-0.423864 + s \left(103.159 + \right.\right.\right. \\
&\qquad \left.\left.\left. s \left(0.0811638 + s \left(-18.3103 + s \left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) + \\
&s \left(281.022 + s \left(-1353.73 + s \left(-114.256 + s \left(296.578 + s \left(15.3937 + \right.\right.\right.\right. \\
&\qquad \left.\left.\left.\left. s \left(-28.8278 + s \left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right)\right) + \\
&\left(142\,642.\, r^{10} s^2\right) \Big/ \left(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + r^7 \left(0.0749944 - 0.284433\, s\right) + \right.\right. \\
&\quad r^6 \left(-27.5999 + s \left(0.314255 + 4.10709\, s\right)\right) + \\
&\quad r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + \\
&\quad r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + \\
&\quad r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + \\
&\quad r^2 \left(-1329. + \right. \\
&\qquad \left. s \left(-67.2378 + s \left(586.163 + s \left(17.0677 + s \left(-86.022 + s \left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) + \\
&\quad r \left(-11.7828 + s \left(-184.642 + s \left(-0.423864 + s \left(103.159 + \right.\right.\right. \\
&\qquad \left.\left.\left. s \left(0.0811638 + s \left(-18.3103 + s \left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) + \\
&\quad s \left(281.022 + s \left(-1353.73 + s \left(-114.256 + s \left(296.578 + s \left(15.3937 + \right.\right.\right.\right. \\
&\qquad \left.\left.\left.\left. s \left(-28.8278 + s \left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right)\right) + \\
&\left(12\,340.6\, r^{11} s^2\right) \Big/ \left(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + r^7 \left(0.0749944 - 0.284433\, s\right) + \right.\right. \\
&\quad r^6 \left(-27.5999 + s \left(0.314255 + 4.10709\, s\right)\right) + \\
&\quad r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + \\
&\quad r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + \\
&\quad r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + \\
&\quad r^2 \left(-1329. + \right. \\
&\qquad \left. s \left(-67.2378 + s \left(586.163 + s \left(17.0677 + s \left(-86.022 + s \left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) + \\
&\quad r \left(-11.7828 + s \left(-184.642 + s \left(-0.423864 + s \left(103.159 + \right.\right.\right. \\
&\qquad \left.\left.\left. s \left(0.0811638 + s \left(-18.3103 + s \left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) + \\
&\quad s \left(281.022 + s \left(-1353.73 + s \left(-114.256 + s \left(296.578 + s \left(15.3937 + \right.\right.\right.\right. \\
&\qquad \left.\left.\left.\left. s \left(-28.8278 + s \left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right)\right) - \\
&\left(10\,146.6\, r^{12} s^2\right) \Big/ \left(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + r^7 \left(0.0749944 - 0.284433\, s\right) + \right.\right. \\
&\quad r^6 \left(-27.5999 + s \left(0.314255 + 4.10709\, s\right)\right) + \\
&\quad r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + \\
&\quad r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + \\
&\quad r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + \\
&\quad r^2 \left(-1329. + \right. \\
&\qquad \left. s \left(-67.2378 + s \left(586.163 + s \left(17.0677 + s \left(-86.022 + s \left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) + \\
&\quad r \left(-11.7828 + s \left(-184.642 + s \left(-0.423864 + s \left(103.159 + \right.\right.\right. \\
&\qquad \left.\left.\left. s \left(0.0811638 + s \left(-18.3103 + s \left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) + \\
&\quad s \left(281.022 + s \left(-1353.73 + s \left(-114.256 + s \left(296.578 + s \left(15.3937 + \right.\right.\right.\right. \\
&\qquad \left.\left.\left.\left. s \left(-28.8278 + s \left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right)\right) - \\
&\left(227.752\, r^{13} s^2\right) \Big/ \left(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + r^7 \left(0.0749944 - 0.284433\, s\right) + \right.\right. \\
&\quad r^6 \left(-27.5999 + s \left(0.314255 + 4.10709\, s\right)\right) + \\
&\quad r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + \\
&\quad r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + \\
&\quad r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + \\
&\quad r^2 \left(-1329. + \right. \\
&\qquad \left. s \left(-67.2378 + s \left(586.163 + s \left(17.0677 + s \left(-86.022 + s \left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) + \\
&\quad r \left(-11.7828 + s \left(-184.642 + s \left(-0.423864 + s \left(103.159 + \right.\right.\right.
\end{aligned}
$$

$$
\begin{aligned}
&\quad s\,\left(0.0811638 + s\,\left(-18.3103 + s\,\left(0.0337737 + 1.04901\,s\right)\right)\right)\Big)\Big)\Big)\Big)\Big)\Big) + \\
&s\,\left(281.022 + s\,\left(-1353.73 + s\,\left(-114.256 + s\,\left(296.578 + s\,\left(15.3937 + \right.\right.\right.\right. \\
&\qquad \left.\left.\left.\left.s\,\left(-28.8278 + s\,\left(-0.686583 + 1.05119\,s\right)\right)\right)\right)\right)\right)\right)\Big) + \\
&\left(271.503\,r^{14}\,s^2\right) \Big/ \Big(\left(6.8541 - 1.\,r^2 - 1.\,s^2\right)^4\,\left(2308.24 + 1.\,r^8 + r^7\,\left(0.0749944 - 0.284433\,s\right) + \right. \\
&\quad r^6\,\left(-27.5999 + s\,\left(0.314255 + 4.10709\,s\right)\right) + \\
&\quad r^5\,\left(-1.11986 + s\,\left(-0.0312747 + \left(-0.18738 + 0.480139\,s\right)\,s\right)\right) + \\
&\quad r^4\,\left(286.959 + s\,\left(1.67402 + s\,\left(-84.7941 + s\,\left(-0.0580727 + 6.26538\,s\right)\right)\right)\right) + \\
&\quad r^3\,\left(5.87158 + s\,\left(40.5156 + s\,\left(1.50515 + s\,\left(-18.3416 + s\,\left(-0.228601 + 1.81358\,s\right)\right)\right)\right)\right) + \\
&\quad r^2\,\left(-1329. + \right. \\
&\qquad s\,\left(-67.2378 + s\,\left(586.163 + s\,\left(17.0677 + s\,\left(-86.022 + s\,\left(-1.05891 + 4.20947\,s\right)\right)\right)\right)\right) + \\
&\quad r\,\left(-11.7828 + s\,\left(-184.642 + s\,\left(-0.423864 + s\,\left(103.159 + \right.\right.\right. \\
&\qquad \left.\left.\left.s\,\left(0.0811638 + s\,\left(-18.3103 + s\,\left(0.0337737 + 1.04901\,s\right)\right)\right)\right)\right)\right)\right) + \\
&\quad s\,\left(281.022 + s\,\left(-1353.73 + s\,\left(-114.256 + s\,\left(296.578 + s\,\left(15.3937 + \right.\right.\right.\right. \\
&\qquad \left.\left.\left.\left.s\,\left(-28.8278 + s\,\left(-0.686583 + 1.05119\,s\right)\right)\right)\right)\right)\right)\right)\Big) - \\
&\left(9766.25\,s^3\right) \Big/ \Big(\left(6.8541 - 1.\,r^2 - 1.\,s^2\right)^4\,\left(2308.24 + 1.\,r^8 + r^7\,\left(0.0749944 - 0.284433\,s\right) + \right. \\
&\quad r^6\,\left(-27.5999 + s\,\left(0.314255 + 4.10709\,s\right)\right) + \\
&\quad r^5\,\left(-1.11986 + s\,\left(-0.0312747 + \left(-0.18738 + 0.480139\,s\right)\,s\right)\right) + \\
&\quad r^4\,\left(286.959 + s\,\left(1.67402 + s\,\left(-84.7941 + s\,\left(-0.0580727 + 6.26538\,s\right)\right)\right)\right) + \\
&\quad r^3\,\left(5.87158 + s\,\left(40.5156 + s\,\left(1.50515 + s\,\left(-18.3416 + s\,\left(-0.228601 + 1.81358\,s\right)\right)\right)\right)\right) + \\
&\quad r^2\,\left(-1329. + \right. \\
&\qquad s\,\left(-67.2378 + s\,\left(586.163 + s\,\left(17.0677 + s\,\left(-86.022 + s\,\left(-1.05891 + 4.20947\,s\right)\right)\right)\right)\right) + \\
&\quad r\,\left(-11.7828 + s\,\left(-184.642 + s\,\left(-0.423864 + s\,\left(103.159 + \right.\right.\right. \\
&\qquad \left.\left.\left.s\,\left(0.0811638 + s\,\left(-18.3103 + s\,\left(0.0337737 + 1.04901\,s\right)\right)\right)\right)\right)\right)\right) + \\
&\quad s\,\left(281.022 + s\,\left(-1353.73 + s\,\left(-114.256 + s\,\left(296.578 + s\,\left(15.3937 + \right.\right.\right.\right. \\
&\qquad \left.\left.\left.\left.s\,\left(-28.8278 + s\,\left(-0.686583 + 1.05119\,s\right)\right)\right)\right)\right)\right)\right)\Big) - \\
&\left(1.5017 \times 10^6\,r\,s^3\right) \Big/ \Big(\left(6.8541 - 1.\,r^2 - 1.\,s^2\right)^4\,\left(2308.24 + 1.\,r^8 + r^7\,\left(0.0749944 - 0.284433\,s\right) + \right. \\
&\quad r^6\,\left(-27.5999 + s\,\left(0.314255 + 4.10709\,s\right)\right) + \\
&\quad r^5\,\left(-1.11986 + s\,\left(-0.0312747 + \left(-0.18738 + 0.480139\,s\right)\,s\right)\right) + \\
&\quad r^4\,\left(286.959 + s\,\left(1.67402 + s\,\left(-84.7941 + s\,\left(-0.0580727 + 6.26538\,s\right)\right)\right)\right) + \\
&\quad r^3\,\left(5.87158 + s\,\left(40.5156 + s\,\left(1.50515 + s\,\left(-18.3416 + s\,\left(-0.228601 + 1.81358\,s\right)\right)\right)\right)\right) + \\
&\quad r^2\,\left(-1329. + \right. \\
&\qquad s\,\left(-67.2378 + s\,\left(586.163 + s\,\left(17.0677 + s\,\left(-86.022 + s\,\left(-1.05891 + 4.20947\,s\right)\right)\right)\right)\right) + \\
&\quad r\,\left(-11.7828 + s\,\left(-184.642 + s\,\left(-0.423864 + s\,\left(103.159 + \right.\right.\right. \\
&\qquad \left.\left.\left.s\,\left(0.0811638 + s\,\left(-18.3103 + s\,\left(0.0337737 + 1.04901\,s\right)\right)\right)\right)\right)\right)\right) + \\
&\quad s\,\left(281.022 + s\,\left(-1353.73 + s\,\left(-114.256 + s\,\left(296.578 + s\,\left(15.3937 + \right.\right.\right.\right. \\
&\qquad \left.\left.\left.\left.s\,\left(-28.8278 + s\,\left(-0.686583 + 1.05119\,s\right)\right)\right)\right)\right)\right)\right)\Big) + \\
&\left(782\,459.\,r^2\,s^3\right) \Big/ \Big(\left(6.8541 - 1.\,r^2 - 1.\,s^2\right)^4\,\left(2308.24 + 1.\,r^8 + r^7\,\left(0.0749944 - 0.284433\,s\right) + \right. \\
&\quad r^6\,\left(-27.5999 + s\,\left(0.314255 + 4.10709\,s\right)\right) + \\
&\quad r^5\,\left(-1.11986 + s\,\left(-0.0312747 + \left(-0.18738 + 0.480139\,s\right)\,s\right)\right) + \\
&\quad r^4\,\left(286.959 + s\,\left(1.67402 + s\,\left(-84.7941 + s\,\left(-0.0580727 + 6.26538\,s\right)\right)\right)\right) + \\
&\quad r^3\,\left(5.87158 + s\,\left(40.5156 + s\,\left(1.50515 + s\,\left(-18.3416 + s\,\left(-0.228601 + 1.81358\,s\right)\right)\right)\right)\right) + \\
&\quad r^2\,\left(-1329. + \right. \\
&\qquad s\,\left(-67.2378 + s\,\left(586.163 + s\,\left(17.0677 + s\,\left(-86.022 + s\,\left(-1.05891 + 4.20947\,s\right)\right)\right)\right)\right) + \\
&\quad r\,\left(-11.7828 + s\,\left(-184.642 + s\,\left(-0.423864 + s\,\left(103.159 + \right.\right.\right. \\
&\qquad \left.\left.\left.s\,\left(0.0811638 + s\,\left(-18.3103 + s\,\left(0.0337737 + 1.04901\,s\right)\right)\right)\right)\right)\right)\right) + \\
&\quad s\,\left(281.022 + s\,\left(-1353.73 + s\,\left(-114.256 + s\,\left(296.578 + s\,\left(15.3937 + \right.\right.\right.\right. \\
&\qquad \left.\left.\left.\left.s\,\left(-28.8278 + s\,\left(-0.686583 + 1.05119\,s\right)\right)\right)\right)\right)\right)\right)\Big) +
\end{aligned}
$$

$$
\begin{aligned}
&\left(3.14892\times 10^6\, r^3\, s^3\right) \Big/ \Big(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + \right.\\
&\quad r^7\left(0.0749944 - 0.284433\, s\right) +\\
&\quad r^6\left(-27.5999 + s\left(0.314255 + 4.10709\, s\right)\right) +\\
&\quad r^5\left(-1.11986 + s\left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) +\\
&\quad r^4\left(286.959 + s\left(1.67402 + s\left(-84.7941 + s\left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) +\\
&\quad r^3\left(5.87158 + s\left(40.5156 + s\left(1.50515 + s\left(-18.3416 + s\left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) +\\
&\quad r^2\left(-1329. +\right.\\
&\qquad \left. s\left(-67.2378 + s\left(586.163 + s\left(17.0677 + s\left(-86.022 + s\left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) +\\
&\quad r\left(-11.7828 + s\left(-184.642 + s\left(-0.423864 + s\left(103.159 + \right.\right.\right.\right.\\
&\qquad \left.\left.\left.\left. s\left(0.0811638 + s\left(-18.3103 + s\left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) +\\
&\quad s\left(281.022 + s\left(-1353.73 + s\left(-114.256 + s\left(296.578 + s\left(15.3937 + \right.\right.\right.\right.\\
&\qquad \left.\left.\left.\left. s\left(-28.8278 + s\left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right)\Big) -\\
&\left(1.93873\times 10^6\, r^4\, s^3\right) \Big/ \Big(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + \right.\\
&\quad r^7\left(0.0749944 - 0.284433\, s\right) +\\
&\quad r^6\left(-27.5999 + s\left(0.314255 + 4.10709\, s\right)\right) +\\
&\quad r^5\left(-1.11986 + s\left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) +\\
&\quad r^4\left(286.959 + s\left(1.67402 + s\left(-84.7941 + s\left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) +\\
&\quad r^3\left(5.87158 + s\left(40.5156 + s\left(1.50515 + s\left(-18.3416 + s\left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) +\\
&\quad r^2\left(-1329. +\right.\\
&\qquad \left. s\left(-67.2378 + s\left(586.163 + s\left(17.0677 + s\left(-86.022 + s\left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) +\\
&\quad r\left(-11.7828 + s\left(-184.642 + s\left(-0.423864 + s\left(103.159 + \right.\right.\right.\right.\\
&\qquad \left.\left.\left.\left. s\left(0.0811638 + s\left(-18.3103 + s\left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) +\\
&\quad s\left(281.022 + s\left(-1353.73 + s\left(-114.256 + s\left(296.578 + s\left(15.3937 + \right.\right.\right.\right.\\
&\qquad \left.\left.\left.\left. s\left(-28.8278 + s\left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right)\Big) -\\
&\left(1.45391\times 10^6\, r^5\, s^3\right) \Big/ \Big(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + \right.\\
&\quad r^7\left(0.0749944 - 0.284433\, s\right) +\\
&\quad r^6\left(-27.5999 + s\left(0.314255 + 4.10709\, s\right)\right) +\\
&\quad r^5\left(-1.11986 + s\left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) +\\
&\quad r^4\left(286.959 + s\left(1.67402 + s\left(-84.7941 + s\left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) +\\
&\quad r^3\left(5.87158 + s\left(40.5156 + s\left(1.50515 + s\left(-18.3416 + s\left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) +\\
&\quad r^2\left(-1329. +\right.\\
&\qquad \left. s\left(-67.2378 + s\left(586.163 + s\left(17.0677 + s\left(-86.022 + s\left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) +\\
&\quad r\left(-11.7828 + s\left(-184.642 + s\left(-0.423864 + s\left(103.159 + \right.\right.\right.\right.\\
&\qquad \left.\left.\left.\left. s\left(0.0811638 + s\left(-18.3103 + s\left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) +\\
&\quad s\left(281.022 + s\left(-1353.73 + s\left(-114.256 + s\left(296.578 + s\left(15.3937 + \right.\right.\right.\right.\\
&\qquad \left.\left.\left.\left. s\left(-28.8278 + s\left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right)\Big) +\\
&\left(1.0358\times 10^6\, r^6\, s^3\right) \Big/ \Big(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + r^7\left(0.0749944 - 0.284433\, s\right) + \right.\\
&\quad r^6\left(-27.5999 + s\left(0.314255 + 4.10709\, s\right)\right) +\\
&\quad r^5\left(-1.11986 + s\left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) +\\
&\quad r^4\left(286.959 + s\left(1.67402 + s\left(-84.7941 + s\left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) +\\
&\quad r^3\left(5.87158 + s\left(40.5156 + s\left(1.50515 + s\left(-18.3416 + s\left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) +\\
&\quad r^2\left(-1329. +\right.\\
&\qquad \left. s\left(-67.2378 + s\left(586.163 + s\left(17.0677 + s\left(-86.022 + s\left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) +\\
&\quad r\left(-11.7828 + s\left(-184.642 + s\left(-0.423864 + s\left(103.159 + \right.\right.\right.\right.\\
&\qquad \left.\left.\left.\left. s\left(0.0811638 + s\left(-18.3103 + s\left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) +\\
&\quad s\left(281.022 + s\left(-1353.73 + s\left(-114.256 + s\left(296.578 + s\left(15.3937 + \right.\right.\right.\right.\\
&\qquad \left.\left.\left.\left. s\left(-28.8278 + s\left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right)\Big) +
\end{aligned}
$$

$$\left(231\,389.\, r^7 s^3\right) \Big/ \left(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + r^7 \left(0.0749944 - 0.284433\, s\right) + r^6 \left(-27.5999 + s \left(0.314255 + 4.10709\, s\right)\right) + r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + r^2 \left(-1329. + s \left(-67.2378 + s \left(586.163 + s \left(17.0677 + s \left(-86.022 + s \left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) + r \left(-11.7828 + s \left(-184.642 + s \left(-0.423864 + s \left(103.159 + s \left(0.0811638 + s \left(-18.3103 + s \left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) + s \left(281.022 + s \left(-1353.73 + s \left(-114.256 + s \left(296.578 + s \left(15.3937 + s \left(-28.8278 + s \left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right)\right)\right) -$$

$$\left(212\,287.\, r^8 s^3\right) \Big/ \left(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + r^7 \left(0.0749944 - 0.284433\, s\right) + r^6 \left(-27.5999 + s \left(0.314255 + 4.10709\, s\right)\right) + r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + r^2 \left(-1329. + s \left(-67.2378 + s \left(586.163 + s \left(17.0677 + s \left(-86.022 + s \left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) + r \left(-11.7828 + s \left(-184.642 + s \left(-0.423864 + s \left(103.159 + s \left(0.0811638 + s \left(-18.3103 + s \left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) + s \left(281.022 + s \left(-1353.73 + s \left(-114.256 + s \left(296.578 + s \left(15.3937 + s \left(-28.8278 + s \left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right)\right)\right) -$$

$$\left(11\,994.3\, r^9 s^3\right) \Big/ \left(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + r^7 \left(0.0749944 - 0.284433\, s\right) + r^6 \left(-27.5999 + s \left(0.314255 + 4.10709\, s\right)\right) + r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + r^2 \left(-1329. + s \left(-67.2378 + s \left(586.163 + s \left(17.0677 + s \left(-86.022 + s \left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) + r \left(-11.7828 + s \left(-184.642 + s \left(-0.423864 + s \left(103.159 + s \left(0.0811638 + s \left(-18.3103 + s \left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) + s \left(281.022 + s \left(-1353.73 + s \left(-114.256 + s \left(296.578 + s \left(15.3937 + s \left(-28.8278 + s \left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right)\right)\right) +$$

$$\left(19\,531.3\, r^{10} s^3\right) \Big/ \left(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + r^7 \left(0.0749944 - 0.284433\, s\right) + r^6 \left(-27.5999 + s \left(0.314255 + 4.10709\, s\right)\right) + r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + r^2 \left(-1329. + s \left(-67.2378 + s \left(586.163 + s \left(17.0677 + s \left(-86.022 + s \left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) + r \left(-11.7828 + s \left(-184.642 + s \left(-0.423864 + s \left(103.159 + s \left(0.0811638 + s \left(-18.3103 + s \left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) + s \left(281.022 + s \left(-1353.73 + s \left(-114.256 + s \left(296.578 + s \left(15.3937 + s \left(-28.8278 + s \left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right)\right)\right) -$$

$$\left(289.476\, r^{11} s^3\right) \Big/ \left(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + r^7 \left(0.0749944 - 0.284433\, s\right) + r^6 \left(-27.5999 + s \left(0.314255 + 4.10709\, s\right)\right) + r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) +$$

$$
\begin{aligned}
&r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + \\
&r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + \\
&r^2 \left(-1329. + \right. \\
&\quad \left. s \left(-67.2378 + s \left(586.163 + s \left(17.0677 + s \left(-86.022 + s \left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) + \\
&r \left(-11.7828 + s \left(-184.642 + s \left(-0.423864 + s \left(103.159 + \right.\right.\right.\right. \\
&\quad \left.\left.\left.\left. s \left(0.0811638 + s \left(-18.3103 + s \left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) + \\
&s \left(281.022 + s \left(-1353.73 + s \left(-114.256 + s \left(296.578 + s \left(15.3937 + \right.\right.\right.\right. \\
&\quad \left.\left.\left.\left. s \left(-28.8278 + s \left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right)\Big) - \\
&\left(720.794\, r^{12} s^3\right) \Big/ \Big(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + r^7 \left(0.0749944 - 0.284433\, s\right) + \right. \\
&\quad r^6 \left(-27.5999 + s \left(0.314255 + 4.10709\, s\right)\right) + \\
&\quad r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + \\
&\quad r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + \\
&\quad r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + \\
&\quad r^2 \left(-1329. + \right. \\
&\quad\quad \left. s \left(-67.2378 + s \left(586.163 + s \left(17.0677 + s \left(-86.022 + s \left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) + \\
&\quad r \left(-11.7828 + s \left(-184.642 + s \left(-0.423864 + s \left(103.159 + \right.\right.\right. \\
&\quad\quad \left.\left.\left. s \left(0.0811638 + s \left(-18.3103 + s \left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) + \\
&\quad s \left(281.022 + s \left(-1353.73 + s \left(-114.256 + s \left(296.578 + s \left(15.3937 + \right.\right.\right. \\
&\quad\quad \left.\left.\left. s \left(-28.8278 + s \left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right)\Big) + \\
&\left(44.0297\, r^{13} s^3\right) \Big/ \Big(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + r^7 \left(0.0749944 - 0.284433\, s\right) + \right. \\
&\quad r^6 \left(-27.5999 + s \left(0.314255 + 4.10709\, s\right)\right) + \\
&\quad r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + \\
&\quad r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + \\
&\quad r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + \\
&\quad r^2 \left(-1329. + \right. \\
&\quad\quad \left. s \left(-67.2378 + s \left(586.163 + s \left(17.0677 + s \left(-86.022 + s \left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) + \\
&\quad r \left(-11.7828 + s \left(-184.642 + s \left(-0.423864 + s \left(103.159 + \right.\right.\right. \\
&\quad\quad \left.\left.\left. s \left(0.0811638 + s \left(-18.3103 + s \left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) + \\
&\quad s \left(281.022 + s \left(-1353.73 + s \left(-114.256 + s \left(296.578 + s \left(15.3937 + \right.\right.\right. \\
&\quad\quad \left.\left.\left. s \left(-28.8278 + s \left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right)\Big) + \\
&\left(17\,371.1\, s^4\right) \Big/ \Big(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + r^7 \left(0.0749944 - 0.284433\, s\right) + \right. \\
&\quad r^6 \left(-27.5999 + s \left(0.314255 + 4.10709\, s\right)\right) + \\
&\quad r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + \\
&\quad r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + \\
&\quad r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + \\
&\quad r^2 \left(-1329. + \right. \\
&\quad\quad \left. s \left(-67.2378 + s \left(586.163 + s \left(17.0677 + s \left(-86.022 + s \left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) + \\
&\quad r \left(-11.7828 + s \left(-184.642 + s \left(-0.423864 + s \left(103.159 + \right.\right.\right. \\
&\quad\quad \left.\left.\left. s \left(0.0811638 + s \left(-18.3103 + s \left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) + \\
&\quad s \left(281.022 + s \left(-1353.73 + s \left(-114.256 + s \left(296.578 + s \left(15.3937 + \right.\right.\right. \\
&\quad\quad \left.\left.\left. s \left(-28.8278 + s \left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right)\Big) + \\
&\left(490\,729.\, r\, s^4\right) \Big/ \Big(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + r^7 \left(0.0749944 - 0.284433\, s\right) + \right. \\
&\quad r^6 \left(-27.5999 + s \left(0.314255 + 4.10709\, s\right)\right) + \\
&\quad r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + \\
&\quad r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + \\
&\quad r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + \\
&\quad r^2 \left(-1329. + \right. \\
&\quad\quad \left. s \left(-67.2378 + s \left(586.163 + s \left(17.0677 + s \left(-86.022 + s \left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) +
\end{aligned}
$$

```
      r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
                  s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s)))))))) +
      s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
                  s (-28.8278 + s (-0.686583 + 1.05119 s))))))))) -
(368 682. r^2 s^4) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
      r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
      r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
      r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
      r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
      r^2 (-1329. +
        s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s)))))) +
      r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
                  s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s)))))))) +
      s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
                  s (-28.8278 + s (-0.686583 + 1.05119 s))))))))) -
(1.19906 × 10^6 r^3 s^4) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 +
      r^7 (0.0749944 - 0.284433 s) +
      r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
      r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
      r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
      r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
      r^2 (-1329. +
        s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s)))))) +
      r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
                  s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s)))))))) +
      s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
                  s (-28.8278 + s (-0.686583 + 1.05119 s))))))))) +
(750 674. r^4 s^4) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
      r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
      r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
      r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
      r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
      r^2 (-1329. +
        s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s)))))) +
      r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
                  s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s)))))))) +
      s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
                  s (-28.8278 + s (-0.686583 + 1.05119 s))))))))) +
(691 999. r^5 s^4) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
      r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
      r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
      r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
      r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
      r^2 (-1329. +
        s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s)))))) +
      r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
                  s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s)))))))) +
      s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
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$$s\left(-28.8278+s\left(-0.686583+1.05119\,s\right)\right)\Big)\Big)\Big)\Big)\Big)\Big)\Big)\Big)\Big) -$$

$$\left(438\,751.\,r^6\,s^4\right)\Big/\Big(\left(6.8541-1.\,r^2-1.\,s^2\right)^4\left(2308.24+1.\,r^8+r^7\left(0.0749944-0.284433\,s\right)+r^6\left(-27.5999+s\left(0.314255+4.10709\,s\right)\right)+r^5\left(-1.11986+s\left(-0.0312747+\left(-0.18738+0.480139\,s\right)s\right)\right)+r^4\left(286.959+s\left(1.67402+s\left(-84.7941+s\left(-0.0580727+6.26538\,s\right)\right)\right)\right)+r^3\left(5.87158+s\left(40.5156+s\left(1.50515+s\left(-18.3416+s\left(-0.228601+1.81358\,s\right)\right)\right)\right)\right)+r^2\left(-1329.+s\left(-67.2378+s\left(586.163+s\left(17.0677+s\left(-86.022+s\left(-1.05891+4.20947\,s\right)\right)\right)\right)\right)\right)+r\left(-11.7828+s\left(-184.642+s\left(-0.423864+s\left(103.159+s\left(0.0811638+s\left(-18.3103+s\left(0.0337737+1.04901\,s\right)\right)\right)\right)\right)\right)\right)+s\left(281.022+s\left(-1353.73+s\left(-114.256+s\left(296.578+s\left(15.3937+s\left(-28.8278+s\left(-0.686583+1.05119\,s\right)\right)\right)\right)\right)\right)\right)\right) -$$

$$\left(147\,436.\,r^7\,s^4\right)\Big/\Big(\left(6.8541-1.\,r^2-1.\,s^2\right)^4\left(2308.24+1.\,r^8+r^7\left(0.0749944-0.284433\,s\right)+r^6\left(-27.5999+s\left(0.314255+4.10709\,s\right)\right)+r^5\left(-1.11986+s\left(-0.0312747+\left(-0.18738+0.480139\,s\right)s\right)\right)+r^4\left(286.959+s\left(1.67402+s\left(-84.7941+s\left(-0.0580727+6.26538\,s\right)\right)\right)\right)+r^3\left(5.87158+s\left(40.5156+s\left(1.50515+s\left(-18.3416+s\left(-0.228601+1.81358\,s\right)\right)\right)\right)\right)+r^2\left(-1329.+s\left(-67.2378+s\left(586.163+s\left(17.0677+s\left(-86.022+s\left(-1.05891+4.20947\,s\right)\right)\right)\right)\right)\right)+r\left(-11.7828+s\left(-184.642+s\left(-0.423864+s\left(103.159+s\left(0.0811638+s\left(-18.3103+s\left(0.0337737+1.04901\,s\right)\right)\right)\right)\right)\right)\right)+s\left(281.022+s\left(-1353.73+s\left(-114.256+s\left(296.578+s\left(15.3937+s\left(-28.8278+s\left(-0.686583+1.05119\,s\right)\right)\right)\right)\right)\right)\right)\right) +$$

$$\left(102\,648.\,r^8\,s^4\right)\Big/\Big(\left(6.8541-1.\,r^2-1.\,s^2\right)^4\left(2308.24+1.\,r^8+r^7\left(0.0749944-0.284433\,s\right)+r^6\left(-27.5999+s\left(0.314255+4.10709\,s\right)\right)+r^5\left(-1.11986+s\left(-0.0312747+\left(-0.18738+0.480139\,s\right)s\right)\right)+r^4\left(286.959+s\left(1.67402+s\left(-84.7941+s\left(-0.0580727+6.26538\,s\right)\right)\right)\right)+r^3\left(5.87158+s\left(40.5156+s\left(1.50515+s\left(-18.3416+s\left(-0.228601+1.81358\,s\right)\right)\right)\right)\right)+r^2\left(-1329.+s\left(-67.2378+s\left(586.163+s\left(17.0677+s\left(-86.022+s\left(-1.05891+4.20947\,s\right)\right)\right)\right)\right)\right)+r\left(-11.7828+s\left(-184.642+s\left(-0.423864+s\left(103.159+s\left(0.0811638+s\left(-18.3103+s\left(0.0337737+1.04901\,s\right)\right)\right)\right)\right)\right)\right)+s\left(281.022+s\left(-1353.73+s\left(-114.256+s\left(296.578+s\left(15.3937+s\left(-28.8278+s\left(-0.686583+1.05119\,s\right)\right)\right)\right)\right)\right)\right)\right) +$$

$$\left(11\,462.4\,r^9\,s^4\right)\Big/\Big(\left(6.8541-1.\,r^2-1.\,s^2\right)^4\left(2308.24+1.\,r^8+r^7\left(0.0749944-0.284433\,s\right)+r^6\left(-27.5999+s\left(0.314255+4.10709\,s\right)\right)+r^5\left(-1.11986+s\left(-0.0312747+\left(-0.18738+0.480139\,s\right)s\right)\right)+r^4\left(286.959+s\left(1.67402+s\left(-84.7941+s\left(-0.0580727+6.26538\,s\right)\right)\right)\right)+r^3\left(5.87158+s\left(40.5156+s\left(1.50515+s\left(-18.3416+s\left(-0.228601+1.81358\,s\right)\right)\right)\right)\right)+r^2\left(-1329.+s\left(-67.2378+s\left(586.163+s\left(17.0677+s\left(-86.022+s\left(-1.05891+4.20947\,s\right)\right)\right)\right)\right)\right)+r\left(-11.7828+s\left(-184.642+s\left(-0.423864+s\left(103.159+s\left(0.0811638+s\left(-18.3103+s\left(0.0337737+1.04901\,s\right)\right)\right)\right)\right)\right)\right)+s\left(281.022+s\left(-1353.73+s\left(-114.256+s\left(296.578+s\left(15.3937+s\left(-28.8278+s\left(-0.686583+1.05119\,s\right)\right)\right)\right)\right)\right)\right)\right) -$$

$$\left(10\,007.\,r^{10}\,s^4\right)\Big/\Big(\left(6.8541-1.\,r^2-1.\,s^2\right)^4\left(2308.24+1.\,r^8+r^7\left(0.0749944-0.284433\,s\right)+r^6\left(-27.5999+s\left(0.314255+4.10709\,s\right)\right)+$$

$$
\begin{aligned}
&r^5\left(-1.11986+s\left(-0.0312747+\left(-0.18738+0.480139\,s\right)s\right)\right)+\\
&r^4\left(286.959+s\left(1.67402+s\left(-84.7941+s\left(-0.0580727+6.26538\,s\right)\right)\right)\right)+\\
&r^3\left(5.87158+s\left(40.5156+s\left(1.50515+s\left(-18.3416+s\left(-0.228601+1.81358\,s\right)\right)\right)\right)\right)+\\
&r^2\left(-1329.+\right.\\
&\quad\left.s\left(-67.2378+s\left(586.163+s\left(17.0677+s\left(-86.022+s\left(-1.05891+4.20947\,s\right)\right)\right)\right)\right)\right)+\\
&r\left(-11.7828+s\left(-184.642+s\left(-0.423864+s\left(103.159+\right.\right.\right.\right.\\
&\qquad\left.\left.\left.\left.s\left(0.0811638+s\left(-18.3103+s\left(0.0337737+1.04901\,s\right)\right)\right)\right)\right)\right)\right)+\\
&s\left(281.022+s\left(-1353.73+s\left(-114.256+s\left(296.578+s\left(15.3937+\right.\right.\right.\right.\\
&\qquad\left.\left.\left.\left.s\left(-28.8278+s\left(-0.686583+1.05119\,s\right)\right)\right)\right)\right)\right)\right)\Big)-\\
&\left(163.877\,r^{11}\,s^4\right)\Big/\Big(\left(6.8541-1.\,r^2-1.\,s^2\right)^4\left(2308.24+1.\,r^8+r^7\left(0.0749944-0.284433\,s\right)+\right.\\
&\quad r^6\left(-27.5999+s\left(0.314255+4.10709\,s\right)\right)+\\
&\quad r^5\left(-1.11986+s\left(-0.0312747+\left(-0.18738+0.480139\,s\right)s\right)\right)+\\
&\quad r^4\left(286.959+s\left(1.67402+s\left(-84.7941+s\left(-0.0580727+6.26538\,s\right)\right)\right)\right)+\\
&\quad r^3\left(5.87158+s\left(40.5156+s\left(1.50515+s\left(-18.3416+s\left(-0.228601+1.81358\,s\right)\right)\right)\right)\right)+\\
&\quad r^2\left(-1329.+\right.\\
&\qquad\left.s\left(-67.2378+s\left(586.163+s\left(17.0677+s\left(-86.022+s\left(-1.05891+4.20947\,s\right)\right)\right)\right)\right)\right)+\\
&\quad r\left(-11.7828+s\left(-184.642+s\left(-0.423864+s\left(103.159+\right.\right.\right.\right.\\
&\qquad\left.\left.\left.\left.s\left(0.0811638+s\left(-18.3103+s\left(0.0337737+1.04901\,s\right)\right)\right)\right)\right)\right)\right)+\\
&\quad s\left(281.022+s\left(-1353.73+s\left(-114.256+s\left(296.578+s\left(15.3937+\right.\right.\right.\right.\\
&\qquad\left.\left.\left.\left.s\left(-28.8278+s\left(-0.686583+1.05119\,s\right)\right)\right)\right)\right)\right)\right)\Big)+\\
&\left(318.469\,r^{12}\,s^4\right)\Big/\Big(\left(6.8541-1.\,r^2-1.\,s^2\right)^4\left(2308.24+1.\,r^8+r^7\left(0.0749944-0.284433\,s\right)+\right.\\
&\quad r^6\left(-27.5999+s\left(0.314255+4.10709\,s\right)\right)+\\
&\quad r^5\left(-1.11986+s\left(-0.0312747+\left(-0.18738+0.480139\,s\right)s\right)\right)+\\
&\quad r^4\left(286.959+s\left(1.67402+s\left(-84.7941+s\left(-0.0580727+6.26538\,s\right)\right)\right)\right)+\\
&\quad r^3\left(5.87158+s\left(40.5156+s\left(1.50515+s\left(-18.3416+s\left(-0.228601+1.81358\,s\right)\right)\right)\right)\right)+\\
&\quad r^2\left(-1329.+\right.\\
&\qquad\left.s\left(-67.2378+s\left(586.163+s\left(17.0677+s\left(-86.022+s\left(-1.05891+4.20947\,s\right)\right)\right)\right)\right)\right)+\\
&\quad r\left(-11.7828+s\left(-184.642+s\left(-0.423864+s\left(103.159+\right.\right.\right.\right.\\
&\qquad\left.\left.\left.\left.s\left(0.0811638+s\left(-18.3103+s\left(0.0337737+1.04901\,s\right)\right)\right)\right)\right)\right)\right)+\\
&\quad s\left(281.022+s\left(-1353.73+s\left(-114.256+s\left(296.578+s\left(15.3937+\right.\right.\right.\right.\\
&\qquad\left.\left.\left.\left.s\left(-28.8278+s\left(-0.686583+1.05119\,s\right)\right)\right)\right)\right)\right)\right)\Big)+\\
&\left(4266.88\,s^5\right)\Big/\Big(\left(6.8541-1.\,r^2-1.\,s^2\right)^4\left(2308.24+1.\,r^8+r^7\left(0.0749944-0.284433\,s\right)+\right.\\
&\quad r^6\left(-27.5999+s\left(0.314255+4.10709\,s\right)\right)+\\
&\quad r^5\left(-1.11986+s\left(-0.0312747+\left(-0.18738+0.480139\,s\right)s\right)\right)+\\
&\quad r^4\left(286.959+s\left(1.67402+s\left(-84.7941+s\left(-0.0580727+6.26538\,s\right)\right)\right)\right)+\\
&\quad r^3\left(5.87158+s\left(40.5156+s\left(1.50515+s\left(-18.3416+s\left(-0.228601+1.81358\,s\right)\right)\right)\right)\right)+\\
&\quad r^2\left(-1329.+\right.\\
&\qquad\left.s\left(-67.2378+s\left(586.163+s\left(17.0677+s\left(-86.022+s\left(-1.05891+4.20947\,s\right)\right)\right)\right)\right)\right)+\\
&\quad r\left(-11.7828+s\left(-184.642+s\left(-0.423864+s\left(103.159+\right.\right.\right.\right.\\
&\qquad\left.\left.\left.\left.s\left(0.0811638+s\left(-18.3103+s\left(0.0337737+1.04901\,s\right)\right)\right)\right)\right)\right)\right)+\\
&\quad s\left(281.022+s\left(-1353.73+s\left(-114.256+s\left(296.578+s\left(15.3937+\right.\right.\right.\right.\\
&\qquad\left.\left.\left.\left.s\left(-28.8278+s\left(-0.686583+1.05119\,s\right)\right)\right)\right)\right)\right)\right)\Big)+\\
&\left(216\,962.\,r\,s^5\right)\Big/\Big(\left(6.8541-1.\,r^2-1.\,s^2\right)^4\left(2308.24+1.\,r^8+r^7\left(0.0749944-0.284433\,s\right)+\right.\\
&\quad r^6\left(-27.5999+s\left(0.314255+4.10709\,s\right)\right)+\\
&\quad r^5\left(-1.11986+s\left(-0.0312747+\left(-0.18738+0.480139\,s\right)s\right)\right)+\\
&\quad r^4\left(286.959+s\left(1.67402+s\left(-84.7941+s\left(-0.0580727+6.26538\,s\right)\right)\right)\right)+\\
&\quad r^3\left(5.87158+s\left(40.5156+s\left(1.50515+s\left(-18.3416+s\left(-0.228601+1.81358\,s\right)\right)\right)\right)\right)+\\
&\quad r^2\left(-1329.+\right.
\end{aligned}
$$

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      s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s))))) +
   r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
         s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s)))))) +
   s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
         s (-28.8278 + s (-0.686583 + 1.05119 s)))))))) -
(142613. r^2 s^5) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
   r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
   r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
   r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
   r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
   r^2 (-1329. +
      s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s))))) +
   r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
         s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s)))))) +
   s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
         s (-28.8278 + s (-0.686583 + 1.05119 s)))))))) -
(438135. r^3 s^5) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
   r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
   r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
   r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
   r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
   r^2 (-1329. +
      s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s))))) +
   r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
         s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s)))))) +
   s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
         s (-28.8278 + s (-0.686583 + 1.05119 s)))))))) +
(311074. r^4 s^5) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
   r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
   r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
   r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
   r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
   r^2 (-1329. +
      s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s))))) +
   r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
         s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s)))))) +
   s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
         s (-28.8278 + s (-0.686583 + 1.05119 s)))))))) +
(158780. r^5 s^5) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
   r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
   r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
   r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
   r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
   r^2 (-1329. +
      s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s))))) +
   r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
         s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s)))))) +
   s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
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                s (-28.8278 + s (-0.686583 + 1.05119 s)))))))))) -
(142464. r^6 s^5) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
    r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
    r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
    r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
    r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
    r^2 (-1329. +
       s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s)))))) +
    r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
                s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s))))))) +
    s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
                s (-28.8278 + s (-0.686583 + 1.05119 s)))))))) -
(9419.74 r^7 s^5) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
    r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
    r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
    r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
    r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
    r^2 (-1329. +
       s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s)))))) +
    r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
                s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s))))))) +
    s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
                s (-28.8278 + s (-0.686583 + 1.05119 s)))))))) +
(21695.5 r^8 s^5) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
    r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
    r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
    r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
    r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
    r^2 (-1329. +
       s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s)))))) +
    r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
                s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s))))))) +
    s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
                s (-28.8278 + s (-0.686583 + 1.05119 s)))))))) -
(1613.05 r^9 s^5) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
    r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
    r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
    r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
    r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
    r^2 (-1329. +
       s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s)))))) +
    r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
                s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s))))))) +
    s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
                s (-28.8278 + s (-0.686583 + 1.05119 s)))))))) -
(1141.52 r^10 s^5) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
    r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
```

$$
\begin{aligned}
&r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + \\
&r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + \\
&r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + \\
&r^2 \left(-1329. + \right. \\
&\quad \left. s \left(-67.2378 + s \left(586.163 + s \left(17.0677 + s \left(-86.022 + s \left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) + \\
&r \left(-11.7828 + s \left(-184.642 + s \left(-0.423864 + s \left(103.159 + \right.\right.\right.\right. \\
&\qquad \left.\left.\left.\left. s \left(0.0811638 + s \left(-18.3103 + s \left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) + \\
&s \left(281.022 + s \left(-1353.73 + s \left(-114.256 + s \left(296.578 + s \left(15.3937 + \right.\right.\right.\right. \\
&\qquad \left.\left.\left.\left. s \left(-28.8278 + s \left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right)\Big) + \\
&\left(167.512\, r^{11} s^5\right) \Big/ \Big(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + r^7 \left(0.0749944 - 0.284433\, s\right) + \right. \\
&\quad r^6 \left(-27.5999 + s \left(0.314255 + 4.10709\, s\right)\right) + \\
&\quad r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + \\
&\quad r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + \\
&\quad r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + \\
&\quad r^2 \left(-1329. + \right. \\
&\qquad \left. s \left(-67.2378 + s \left(586.163 + s \left(17.0677 + s \left(-86.022 + s \left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) + \\
&\quad r \left(-11.7828 + s \left(-184.642 + s \left(-0.423864 + s \left(103.159 + \right.\right.\right. \\
&\qquad \left.\left.\left. s \left(0.0811638 + s \left(-18.3103 + s \left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) + \\
&\quad s \left(281.022 + s \left(-1353.73 + s \left(-114.256 + s \left(296.578 + s \left(15.3937 + \right.\right.\right. \\
&\qquad \left.\left.\left. s \left(-28.8278 + s \left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right)\Big) - \\
&\left(1311.32\, s^6\right) \Big/ \Big(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + r^7 \left(0.0749944 - 0.284433\, s\right) + \right. \\
&\quad r^6 \left(-27.5999 + s \left(0.314255 + 4.10709\, s\right)\right) + \\
&\quad r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + \\
&\quad r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + \\
&\quad r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + \\
&\quad r^2 \left(-1329. + \right. \\
&\qquad \left. s \left(-67.2378 + s \left(586.163 + s \left(17.0677 + s \left(-86.022 + s \left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) + \\
&\quad r \left(-11.7828 + s \left(-184.642 + s \left(-0.423864 + s \left(103.159 + \right.\right.\right. \\
&\qquad \left.\left.\left. s \left(0.0811638 + s \left(-18.3103 + s \left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) + \\
&\quad s \left(281.022 + s \left(-1353.73 + s \left(-114.256 + s \left(296.578 + s \left(15.3937 + \right.\right.\right. \\
&\qquad \left.\left.\left. s \left(-28.8278 + s \left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right)\Big) - \\
&\left(23\,955.2\, r\, s^6\right) \Big/ \Big(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + r^7 \left(0.0749944 - 0.284433\, s\right) + \right. \\
&\quad r^6 \left(-27.5999 + s \left(0.314255 + 4.10709\, s\right)\right) + \\
&\quad r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + \\
&\quad r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + \\
&\quad r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + \\
&\quad r^2 \left(-1329. + \right. \\
&\qquad \left. s \left(-67.2378 + s \left(586.163 + s \left(17.0677 + s \left(-86.022 + s \left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) + \\
&\quad r \left(-11.7828 + s \left(-184.642 + s \left(-0.423864 + s \left(103.159 + \right.\right.\right. \\
&\qquad \left.\left.\left. s \left(0.0811638 + s \left(-18.3103 + s \left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) + \\
&\quad s \left(281.022 + s \left(-1353.73 + s \left(-114.256 + s \left(296.578 + s \left(15.3937 + \right.\right.\right. \\
&\qquad \left.\left.\left. s \left(-28.8278 + s \left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right)\Big) + \\
&\left(21\,441.5\, r^2 s^6\right) \Big/ \Big(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + r^7 \left(0.0749944 - 0.284433\, s\right) + \right. \\
&\quad r^6 \left(-27.5999 + s \left(0.314255 + 4.10709\, s\right)\right) + \\
&\quad r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + \\
&\quad r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + \\
&\quad r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + \\
&\quad r^2 \left(-1329. + \right.
\end{aligned}
$$

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      s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s))))) +
   r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
            s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s))))))) +
   s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
            s (-28.8278 + s (-0.686583 + 1.05119 s)))))))) +
(57519.5 r^3 s^6) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
   r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
   r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
   r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
   r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
   r^2 (-1329. +
      s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s))))) +
   r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
            s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s))))))) +
   s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
            s (-28.8278 + s (-0.686583 + 1.05119 s)))))))) -
(38506.4 r^4 s^6) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
   r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
   r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
   r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
   r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
   r^2 (-1329. +
      s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s))))) +
   r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
            s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s))))))) +
   s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
            s (-28.8278 + s (-0.686583 + 1.05119 s)))))))) -
(28028.6 r^5 s^6) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
   r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
   r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
   r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
   r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
   r^2 (-1329. +
      s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s))))) +
   r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
            s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s))))))) +
   s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
            s (-28.8278 + s (-0.686583 + 1.05119 s)))))))) +
(19059.2 r^6 s^6) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
   r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
   r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
   r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
   r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
   r^2 (-1329. +
      s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s))))) +
   r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
            s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s))))))) +
   s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
```

```
                s (-28.8278 + s (-0.686583 + 1.05119 s)))))))))) +
(3726.29 r^7 s^6) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
    r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
    r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
    r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
    r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
    r^2 (-1329. +
       s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s)))))) +
    r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
              s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s))))))) +
    s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
                s (-28.8278 + s (-0.686583 + 1.05119 s)))))))) -
(3103.29 r^8 s^6) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
    r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
    r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
    r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
    r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
    r^2 (-1329. +
       s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s)))))) +
    r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
              s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s))))))) +
    s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
                s (-28.8278 + s (-0.686583 + 1.05119 s)))))))) -
(21.7154 r^9 s^6) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
    r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
    r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
    r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
    r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
    r^2 (-1329. +
       s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s)))))) +
    r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
              s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s))))))) +
    s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
                s (-28.8278 + s (-0.686583 + 1.05119 s)))))))) +
(121.812 r^10 s^6) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
    r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
    r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
    r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
    r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
    r^2 (-1329. +
       s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s)))))) +
    r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
              s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s))))))) +
    s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
                s (-28.8278 + s (-0.686583 + 1.05119 s)))))))) -
(359.938 s^7) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
    r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
```

$$
\begin{aligned}
&r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + \\
&r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + \\
&r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + \\
&r^2 \left(-1329. + \right. \\
&\quad \left. s \left(-67.2378 + s \left(586.163 + s \left(17.0677 + s \left(-86.022 + s \left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) + \\
&r \left(-11.7828 + s \left(-184.642 + s \left(-0.423864 + s \left(103.159 + \right.\right.\right.\right. \\
&\qquad \left.\left.\left.\left. s \left(0.0811638 + s \left(-18.3103 + s \left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) + \\
&s \left(281.022 + s \left(-1353.73 + s \left(-114.256 + s \left(296.578 + s \left(15.3937 + \right.\right.\right.\right. \\
&\qquad \left.\left.\left.\left. s \left(-28.8278 + s \left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right) - \\
&\left(10\,430.\, r\, s^7\right) \Big/ \left(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + r^7 \left(0.0749944 - 0.284433\, s\right) + \right.\right. \\
&\quad r^6 \left(-27.5999 + s \left(0.314255 + 4.10709\, s\right)\right) + \\
&\quad r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + \\
&\quad r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + \\
&\quad r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + \\
&\quad r^2 \left(-1329. + \right. \\
&\qquad \left. s \left(-67.2378 + s \left(586.163 + s \left(17.0677 + s \left(-86.022 + s \left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) + \\
&\quad r \left(-11.7828 + s \left(-184.642 + s \left(-0.423864 + s \left(103.159 + \right.\right.\right.\right. \\
&\qquad \left.\left.\left.\left. s \left(0.0811638 + s \left(-18.3103 + s \left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) + \\
&\quad s \left(281.022 + s \left(-1353.73 + s \left(-114.256 + s \left(296.578 + s \left(15.3937 + \right.\right.\right.\right. \\
&\qquad \left.\left.\left.\left. s \left(-28.8278 + s \left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right)\right) + \\
&\left(8400.77\, r^2\, s^7\right) \Big/ \left(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + r^7 \left(0.0749944 - 0.284433\, s\right) + \right.\right. \\
&\quad r^6 \left(-27.5999 + s \left(0.314255 + 4.10709\, s\right)\right) + \\
&\quad r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + \\
&\quad r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + \\
&\quad r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + \\
&\quad r^2 \left(-1329. + \right. \\
&\qquad \left. s \left(-67.2378 + s \left(586.163 + s \left(17.0677 + s \left(-86.022 + s \left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) + \\
&\quad r \left(-11.7828 + s \left(-184.642 + s \left(-0.423864 + s \left(103.159 + \right.\right.\right.\right. \\
&\qquad \left.\left.\left.\left. s \left(0.0811638 + s \left(-18.3103 + s \left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) + \\
&\quad s \left(281.022 + s \left(-1353.73 + s \left(-114.256 + s \left(296.578 + s \left(15.3937 + \right.\right.\right.\right. \\
&\qquad \left.\left.\left.\left. s \left(-28.8278 + s \left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right)\right) + \\
&\left(20\,335.4\, r^3\, s^7\right) \Big/ \left(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + r^7 \left(0.0749944 - 0.284433\, s\right) + \right.\right. \\
&\quad r^6 \left(-27.5999 + s \left(0.314255 + 4.10709\, s\right)\right) + \\
&\quad r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + \\
&\quad r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + \\
&\quad r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + \\
&\quad r^2 \left(-1329. + \right. \\
&\qquad \left. s \left(-67.2378 + s \left(586.163 + s \left(17.0677 + s \left(-86.022 + s \left(-1.05891 + 4.20947\, s\right)\right)\right)\right)\right)\right) + \\
&\quad r \left(-11.7828 + s \left(-184.642 + s \left(-0.423864 + s \left(103.159 + \right.\right.\right.\right. \\
&\qquad \left.\left.\left.\left. s \left(0.0811638 + s \left(-18.3103 + s \left(0.0337737 + 1.04901\, s\right)\right)\right)\right)\right)\right)\right) + \\
&\quad s \left(281.022 + s \left(-1353.73 + s \left(-114.256 + s \left(296.578 + s \left(15.3937 + \right.\right.\right.\right. \\
&\qquad \left.\left.\left.\left. s \left(-28.8278 + s \left(-0.686583 + 1.05119\, s\right)\right)\right)\right)\right)\right)\right)\right) - \\
&\left(16\,242.7\, r^4\, s^7\right) \Big/ \left(\left(6.8541 - 1.\, r^2 - 1.\, s^2\right)^4 \left(2308.24 + 1.\, r^8 + r^7 \left(0.0749944 - 0.284433\, s\right) + \right.\right. \\
&\quad r^6 \left(-27.5999 + s \left(0.314255 + 4.10709\, s\right)\right) + \\
&\quad r^5 \left(-1.11986 + s \left(-0.0312747 + \left(-0.18738 + 0.480139\, s\right) s\right)\right) + \\
&\quad r^4 \left(286.959 + s \left(1.67402 + s \left(-84.7941 + s \left(-0.0580727 + 6.26538\, s\right)\right)\right)\right) + \\
&\quad r^3 \left(5.87158 + s \left(40.5156 + s \left(1.50515 + s \left(-18.3416 + s \left(-0.228601 + 1.81358\, s\right)\right)\right)\right)\right) + \\
&\quad r^2 \left(-1329. + \right.
\end{aligned}
$$

```
      s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s))))) +
   r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
            s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s)))))) +
   s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
            s (-28.8278 + s (-0.686583 + 1.05119 s))))))))) -
(5225.99 r^5 s^7) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
   r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
   r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
   r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
   r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
   r^2 (-1329. +
      s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s))))) +
   r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
            s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s)))))) +
   s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
            s (-28.8278 + s (-0.686583 + 1.05119 s))))))))) +
(6111.06 r^6 s^7) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
   r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
   r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
   r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
   r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
   r^2 (-1329. +
      s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s))))) +
   r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
            s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s)))))) +
   s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
            s (-28.8278 + s (-0.686583 + 1.05119 s))))))))) -
(425.014 r^7 s^7) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
   r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
   r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
   r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
   r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
   r^2 (-1329. +
      s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s))))) +
   r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
            s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s)))))) +
   s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
            s (-28.8278 + s (-0.686583 + 1.05119 s))))))))) -
(524.616 r^8 s^7) / ((6.8541 - 1. r^2 - 1. s^2)^4 (2308.24 + 1. r^8 + r^7 (0.0749944 - 0.284433 s) +
   r^6 (-27.5999 + s (0.314255 + 4.10709 s)) +
   r^5 (-1.11986 + s (-0.0312747 + (-0.18738 + 0.480139 s) s)) +
   r^4 (286.959 + s (1.67402 + s (-84.7941 + s (-0.0580727 + 6.26538 s)))) +
   r^3 (5.87158 + s (40.5156 + s (1.50515 + s (-18.3416 + s (-0.228601 + 1.81358 s))))) +
   r^2 (-1329. +
      s (-67.2378 + s (586.163 + s (17.0677 + s (-86.022 + s (-1.05891 + 4.20947 s))))) +
   r (-11.7828 + s (-184.642 + s (-0.423864 + s (103.159 +
            s (0.0811638 + s (-18.3103 + s (0.0337737 + 1.04901 s)))))) +
   s (281.022 + s (-1353.73 + s (-114.256 + s (296.578 + s (15.3937 +
```

$$s\left(-28.8278+s\left(-0.686583+1.05119\,s\right)\right)\Big)\Big)\Big)\Big)\Big)\Big)\Big)\Big)+$$
$$\left(96.9983\,r^9\,s^7\right)\Big/\Big(\left(6.8541-1.\,r^2-1.\,s^2\right)^4\left(2308.24+1.\,r^8+r^7\left(0.0749944-0.284433\,s\right)+\right.$$
$$r^6\left(-27.5999+s\left(0.314255+4.10709\,s\right)\right)+$$
$$r^5\left(-1.11986+s\left(-0.0312747+\left(-0.18738+0.480139\,s\right)\,s\right)\right)+$$
$$r^4\left(286.959+s\left(1.67402+s\left(-84.7941+s\left(-0.0580727+6.26538\,s\right)\right)\right)\right)+$$
$$r^3\left(5.87158+s\left(40.5156+s\left(1.50515+s\left(-18.3416+s\left(-0.228601+1.81358\,s\right)\right)\right)\right)\right)+$$
$$r^2\left(-1329.+\right.$$
$$s\left(-67.2378+s\left(586.163+s\left(17.0677+s\left(-86.022+s\left(-1.05891+4.20947\,s\right)\right)\right)\right)\right)+$$
$$r\left(-11.7828+s\left(-184.642+s\left(-0.423864+s\left(103.159+\right.\right.\right.\right.$$
$$s\left(0.0811638+s\left(-18.3103+s\left(0.0337737+1.04901\,s\right)\right)\right)\right)\right)+$$
$$s\left(281.022+s\left(-1353.73+s\left(-114.256+s\left(296.578+s\left(15.3937+\right.\right.\right.\right.$$
$$\left.\left.\left.\left.s\left(-28.8278+s\left(-0.686583+1.05119\,s\right)\right)\right)\right)\right)\right)\right)\right)\Big)$$

Elemento 4 nós clássico

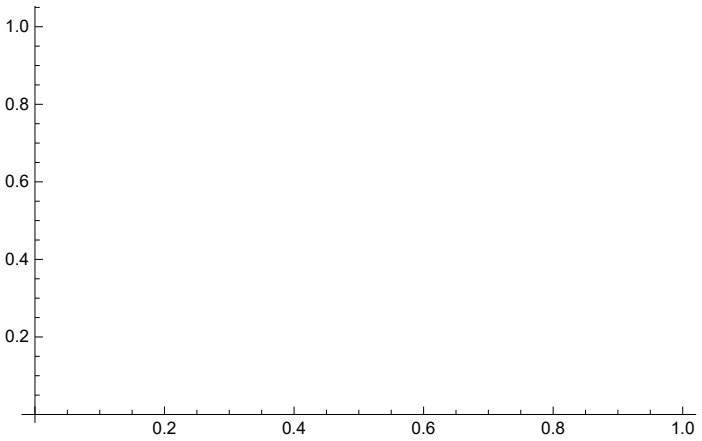
Funções de Forma e Derivadas

In[63]:=
```
n = 4;
dn1 = {-(1 - s)/4, (1 - s)/4, (1 + s)/4, -(1 + s)/4};
dn2 = {-(1 - r)/4, (1 - r)/4, (1 + r)/4, -(1 + r)/4};
```

Matriz Jacobiana ($\partial_{\xi} x$)

In[77]:=
```
x = {x1, x2, x3, x4};
y = {y1, y2, y3, y4};
Thread[{x, y}];
ListPlot[%]
dxDxi1 = Sum[dn1[[i]] * x[[i]], {i, 1, n}]
dyDxi1 = Sum[dn1[[i]] * y[[i]], {i, 1, n}]
dxDxi2 = Sum[dn2[[i]] * x[[i]], {i, 1, n}]
dyDxi2 = Sum[dn2[[i]] * y[[i]], {i, 1, n}]
J = {{dxDxi1, dyDxi1}, {dxDxi2, dyDxi2}};
detJ2 = Det[J] // FullSimplify
detJ = dxDxi1 * dyDxi2 - dyDxi1 * dxDxi2 // FullSimplify
```

Out[80]=



Out[81]= $\frac{1}{4}\left(-1+s\right)\,x1+\frac{1}{4}\left(1-s\right)\,x2+\frac{1}{4}\left(1+s\right)\,x3+\frac{1}{4}\left(-1-s\right)\,x4$

Out[82]= $\frac{1}{4}\left(-1+s\right)\,y1+\frac{1}{4}\left(1-s\right)\,y2+\frac{1}{4}\left(1+s\right)\,y3+\frac{1}{4}\left(-1-s\right)\,y4$

Out[83]= $\frac{1}{4}\left(-1+r\right)\,x1+\frac{1}{4}\left(1-r\right)\,x2+\frac{1}{4}\left(1+r\right)\,x3+\frac{1}{4}\left(-1-r\right)\,x4$

Out[84]= $\frac{1}{4}\left(-1+r\right)\,y1+\frac{1}{4}\left(1-r\right)\,y2+\frac{1}{4}\left(1+r\right)\,y3+\frac{1}{4}\left(-1-r\right)\,y4$

Out[86]= $\frac{1}{8}\left(r-s\right)\,\left(\left(x3-x4\right)\,\left(y1-y2\right)-\left(x1-x2\right)\,\left(y3-y4\right)\right)$

Out[87]= $\frac{1}{8}\left(r-s\right)\,\left(\left(x3-x4\right)\,\left(y1-y2\right)-\left(x1-x2\right)\,\left(y3-y4\right)\right)$

$B^T.B\,\mathrm{detJ}$

In[88]:=
```
dNdx = 1/detJ (dyDxi2 * dn1[[4]] - dyDxi1 * dn2[[4]]);
dNdy = 1/detJ (-dxDxi2 * dn1[[3]] + dxDxi1 * dn2[[3]]);
oi = dNdx * dNdy * detJ // FullSimplify
```

Out[90]= $\frac{\left(r-s\right)\,\left(x1-x2\right)\,\left(y1-y2\right)}{8\,\left(\left(x3-x4\right)\,\left(y1-y2\right)-\left(x1-x2\right)\,\left(y3-y4\right)\right)}$