

> restart :

$$\begin{aligned}
 \text{eqt1} := & - \left(2 (x^2 + y^2 - x - y) (x + y + 1)^2 \left(\left(\frac{3}{4} + y^2 - \frac{5}{2} y \right) x^8 + \left(\frac{9}{2} + 2y^3 - \frac{19}{2} y^2 \right. \right. \right. \\
 & + \left. \frac{23}{2} y \right) x^7 + \left(-5 - y^4 - \frac{9}{2} y^3 + 9y^2 + \frac{13}{2} y \right) x^6 + \left(-13 - 4y^5 + \frac{33}{2} y^4 - \frac{47}{2} y^3 \right. \\
 & + \left. \frac{37}{2} y^2 - \frac{77}{2} y \right) x^5 + \left(\frac{7}{4} - y^6 + \frac{33}{2} y^5 - \frac{87}{2} y^4 + \frac{157}{2} y^3 - 51y^2 - 37y \right) x^4 \\
 & + \left(\frac{17}{2} + 2y^7 - \frac{9}{2} y^6 - \frac{47}{2} y^5 + \frac{157}{2} y^4 - 31y^3 - 19y^2 + 36y \right) x^3 + \left(\frac{5}{2} + y^8 \right. \\
 & - \left. \frac{19}{2} y^7 + 9y^6 + \frac{37}{2} y^5 - 51y^4 - 19y^3 + \frac{149}{2} y^2 + 37y \right) x^2 + \left(7y - \frac{5}{2} y^8 + \frac{23}{2} y^7 \right. \\
 & + \left. \frac{13}{2} y^6 - \frac{77}{2} y^5 - 37y^4 + 36y^3 + 37y^2 \right) x \\
 & + \left. \frac{3 (y + 1) (y - 1) \left(y^4 + 6y^3 - \frac{17}{3} y^2 - \frac{34}{3} y - \frac{10}{3} \right) y^2}{4} \right) (x^2 + 2xy + y^2 + 1) \\
 & / \left(\left(\left(\left(\frac{1}{2} + y \right) x^7 + \left(-\frac{1}{2} + y^2 - \frac{3}{2} y \right) x^6 + \left(-4 - y^3 - \frac{9}{2} y^2 - \frac{23}{2} y \right) x^5 - 2 \left(y \right. \right. \right. \right. \\
 & + \left. \frac{1}{4} \right) (y^3 - 3y^2 + 6y + 6) x^4 + \left(\frac{19}{2} - y^5 + \frac{11}{2} y^4 + 5y^3 + 23y^2 + \frac{41}{2} y \right) x^3 + \left(\frac{41}{2} \right. \\
 & + y^6 - \frac{9}{2} y^5 - \frac{21}{2} y^4 + 23y^3 + 63y^2 + \frac{117}{2} y \right) x^2 + \left(14 + 50y + y^7 - \frac{3}{2} y^6 - \frac{23}{2} y^5 \right. \\
 & - \left. 15y^4 + \frac{41}{2} y^3 + \frac{117}{2} y^2 \right) x + \frac{(y - 3) (y^2 + 2y + 2) (y^2 - 2y - 1) (y + 1)^2}{2} \Bigg) \\
 & (x^2 + (y - 1)x - 2y)^2 ((y - 2)x + y^2 - y)^2 = 0 :
 \end{aligned}$$

$$\begin{aligned}
 \text{eqt2} := & ((4y^2 - 10y + 1)x^{11} + (8y^3 - 32y^2 + 49y + 13)x^{10} + (-4y^4 - 30y^3 + 123y^2 \\
 & + 36y - 31)x^9 + (-20y^5 + 64y^4 - 29y^3 - 73y^2 - 258y - 61)x^8 + (-12y^6 + 140y^5 \\
 & - 282y^4 + 36y^3 - 871y^2 - 318y + 21)x^7 + (12y^7 - 262y^5 + 634y^4 - 1005y^3 - 122y^2 \\
 & + 427y + 119)x^6 + (20y^8 - 140y^7 + 10y^6 + 460y^5 - 673y^4 + 1366y^3 + 1959y^2 \\
 & + 878y + 191)x^5 + (4y^9 - 64y^8 + 254y^7 - 314y^6 - 865y^5 + 1860y^4 + 3373y^3 \\
 & + 2163y^2 + 838y + 125)x^4 + (-8y^{10} + 30y^9 + 169y^8 - 436y^7 - 641y^6 + 854y^5 \\
 & + 2339y^4 + 2200y^3 + 1269y^2 + 282y - 14)x^3 + (-4y^{11} + 32y^{10} - 11y^9 - 247y^8 \\
 & - 131y^7 + 434y^6 + 769y^5 + 769y^4 + 589y^3 + 60y^2 - 136y - 36)x^2 + (10y^{11} - 21y^{10} \\
 & - 96y^9 - 8y^8 + 274y^7 + 257y^6 + 10y^5 - 140y^4 - 290y^3 - 256y^2 - 84y - 8)x - y(y^2 \\
 & - 2y - 1)(y^5 + 12y^4 - 11y^3 + 2y^2 - 16y - 8)(y + 1)^3) / \left(2 \left(\left(\frac{1}{2} + y \right) x^7 + \left(-\frac{1}{2} \right. \right. \right.
 \end{aligned}$$

$$\begin{aligned}
& + y^2 - \frac{3}{2} y \Big) x^6 + \left(-4 - y^3 - \frac{9}{2} y^2 - \frac{23}{2} y \right) x^5 - 2 \left(y + \frac{1}{4} \right) (y^3 - 3y^2 + 6y + 6) x^4 \\
& + \left(\frac{19}{2} - y^5 + \frac{11}{2} y^4 + 5y^3 + 23y^2 + \frac{41}{2} y \right) x^3 + \left(\frac{41}{2} + y^6 - \frac{9}{2} y^5 - \frac{21}{2} y^4 + 23y^3 \right. \\
& + 63y^2 + \frac{117}{2} y \Big) x^2 + \left(14 + 50y + y^7 - \frac{3}{2} y^6 - \frac{23}{2} y^5 - 15y^4 + \frac{41}{2} y^3 + \frac{117}{2} y^2 \right) x \\
& + \frac{(y-3)(y^2+2y+2)(y^2-2y-1)(y+1)^2}{2} \Big) (x+y+1)^2 \cdot (x-y) \Big) = x+y+2 \cdot x
\end{aligned}$$

·y:

$$\begin{aligned}
\text{eqt3} := & \left((-2y+1)x^{14} + (-4y^2+2y+1)x^{13} + (2y^3+3y^2+28y-12)x^{12} + (10y^4 \right. \\
& - 20y^3 + 103y^2 - 10y - 26)x^{11} + (8y^5 - 39y^4 + 15y^3 + 72y^2 - 107y + 46)x^{10} + (\\
& - 2y^6 + 14y^5 - 174y^4 + 290y^3 - 715y^2 - 14y + 140)x^9 + (-12y^7 + 35y^6 - 79y^5 \\
& + 628y^4 - 1114y^3 - 538y^2 + 345y - 14)x^8 + (-12y^8 + 8y^7 + 106y^6 + 40y^5 + 228y^4 \\
& - 824y^3 + 1467y^2 - 74y - 230)x^7 + (-2y^9 + 35y^8 + 106y^7 - 736y^6 + 1350y^5 \\
& - 2796y^4 + 3829y^3 + 1280y^2 - 775y - 89)x^6 + (8y^{10} + 14y^9 - 79y^8 + 40y^7 \\
& + 1350y^6 - 5060y^5 + 3691y^4 + 1926y^3 - 1613y^2 + 8y + 135)x^5 + (10y^{11} - 39y^{10} \\
& - 174y^9 + 628y^8 + 228y^7 - 2796y^6 + 3691y^5 + 884y^4 - 4190y^3 - 431y^2 + 651y \\
& + 90)x^4 + (2y^{12} - 20y^{11} + 15y^{10} + 290y^9 - 1114y^8 - 824y^7 + 3829y^6 + 1926y^5 \\
& - 4190y^4 - 1256y^3 + 802y^2 + 140y - 16)x^3 + (-4y^{13} + 3y^{12} + 103y^{11} + 72y^{10} \\
& - 715y^9 - 538y^8 + 1467y^7 + 1280y^6 - 1613y^5 - 431y^4 + 802y^3 + 52y^2 - 136y - 22) \\
& x^2 - 2 \left(y^{11} - 2y^{10} - 11y^9 + 15y^8 + \frac{51}{2} y^7 - \frac{29}{2} y^6 - \frac{235}{2} y^5 + \frac{331}{2} y^4 + 90y^3 \right. \\
& - 46y^2 - 24y - 2 \Big) (y+1)^2 (y-1) x + y (y^2 - 2y - 1) (y^5 + y^4 - 6y^3 - 16y^2 + 6y \\
& + 4) (y-1)^2 (y+1)^4 \Big) / \left(2(-y+x+1)^2 (x+y+1)^2 \left(\left(\frac{1}{2} + y \right) x^7 + \left(-\frac{1}{2} + y^2 \right. \right. \right. \\
& - \frac{3}{2} y \Big) x^6 + \left(-4 - y^3 - \frac{9}{2} y^2 - \frac{23}{2} y \right) x^5 - 2 \left(y + \frac{1}{4} \right) (y^3 - 3y^2 + 6y + 6) x^4 \\
& + \left(\frac{19}{2} - y^5 + \frac{11}{2} y^4 + 5y^3 + 23y^2 + \frac{41}{2} y \right) x^3 + \left(\frac{41}{2} + y^6 - \frac{9}{2} y^5 - \frac{21}{2} y^4 + 23y^3 \right. \\
& + 63y^2 + \frac{117}{2} y \Big) x^2 + \left(14 + 50y + y^7 - \frac{3}{2} y^6 - \frac{23}{2} y^5 - 15y^4 + \frac{41}{2} y^3 + \frac{117}{2} y^2 \right) x \\
& + \frac{(y-3)(y^2+2y+2)(y^2-2y-1)(y+1)^2}{2} \Big) (-y+x-1)^2 (x-y) \Big) =
\end{aligned}$$

$$- \frac{(x^2 + y^2 - x - y) (x^4 + (-2y^2 + 2y - 1)x^2 + (2y^2 - 4y)x + y^4 - y^2)}{(x - y) (-y + x + 1)^2 (-y + x - 1)^2 (x + y + 1)} ;$$

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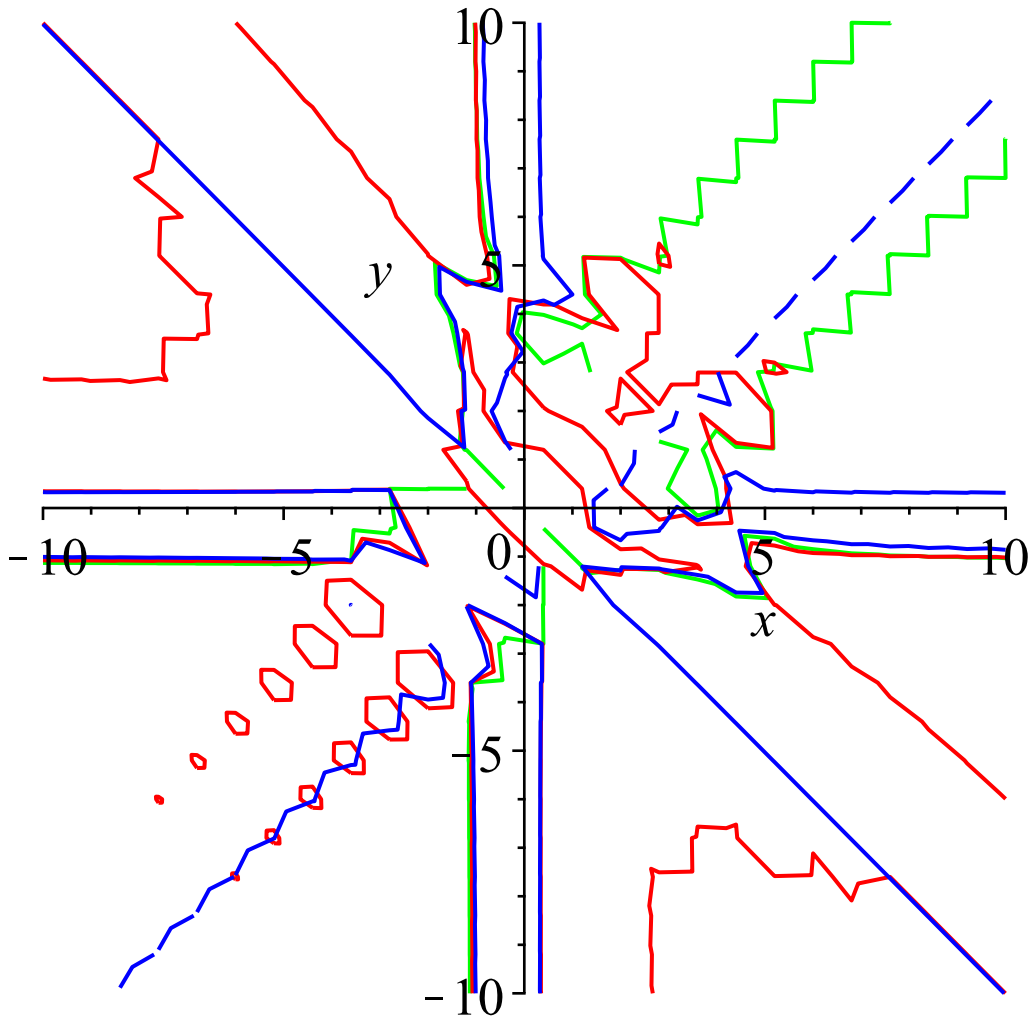
plots:-display( plots:-implicitplot(eqt3, x=-10..10, y=-10..10, color=green),
plots:-implicitplot(eqt1, x=-10..10, y=-10..10, color=red),
plots:-implicitplot(eqt2, x=-10..10, y=-10..10, color=blue) );

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sols := solve( {eqt1, eqt2, eqt3} );
rsols := remove(hastype, evalf(map(op, {allvalues( {sols} )})), nonreal);

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sols := ( )
rsols := ∅

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(1)