

```
(%i3) [a,b,c,d] = solve([
    y_1 = a·x_1^3 + b·x_1^2 + c·x_1 + d,
    y_2 = a·x_2^3 + b·x_2^2 + c·x_2 + d,
    y_3 = a·x_3^3 + b·x_3^2 + c·x_3 + d,
    y_4 = a·x_4^3 + b·x_4^2 + c·x_4 + d],[a,b,c,d]);
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(%o3) [a,b,c,d]=[ [a=(x1 (x2^2 (y4-y3)-x3^2 y4+x4^2 y3+(x3^2-x4^2) y2)+x2 (x3^2 y4-x4^2 y3)+x1^2
(x3 y4+x2 (y3-y4)-x4 y3+(x4-x3) y2)+x2^2 (x4 y3-x3 y4)+(x3 x4^2-x3^2 x4) y2+
(x2 (x4^2-x3^2)-x3 x4^2+x3^2 x4+x2^2 (x3-x4)) y1)/(x1 (x2^2 (x4^3-x3^3)-x3^2 x4^3+x3^3 x4^2+x2^3 (x3^2-x4^2))+x2
(x3^2 x4^3-x3^3 x4^2)+x1^2 (x3 x4^3+x2 (x3^3-x4^3)+x2^3 (x4-x3)-x3^3 x4)+x2^2 (x3^3 x4-x3 x4^3)+x1^3
(x2 (x4^2-x3^2)-x3 x4^2+x3^2 x4+x2^2 (x3-x4))),b=-(x1
(x2^3 (y4-y3)-x3^3 y4+x4^3 y3+(x3^3-x4^3) y2)+x2 (x3^3 y4-x4^3 y3)+x1^3 (x3 y4+x2 (y3-y4)-x4 y3+(x4-x3) y2)+x2^3
(x4 y3-x3 y4)+(x3 x4^3-x3^3 x4) y2+(x2 (x4^3-x3^3)-x3 x4^3+x3^3 x4+x2^3 (x3-x4)) y1)/(x1
(x2^2 (x4^3-x3^3)-x3^2 x4^3+x3^3 x4^2+x2^3 (x3^2-x4^2))+x2 (x3^2 x4^3-x3^3 x4^2)+x1^2
(x3 x4^3+x2 (x3^3-x4^3)+x2^3 (x4-x3)-x3^3 x4)+x2^2 (x3^3 x4-x3 x4^3)+x1^3 (x2 (x4^2-x3^2)-x3 x4^2+x3^2 x4+x2^2 (x3-x4)))+
x2^3 (x3 x4^2-x3^2 x4)),c=(x1^2 (x2^3 (y4-y3)-x3^3 y4+x4^3 y3+(x3^3-x4^3) y2)+x2^2 (x3^3 y4-x4^3 y3)+x1^3
(x3^2 y4+x2^2 (y3-y4)-x4^2 y3+(x4^2-x3^2) y2)+x2^3 (x4^2 y3-x3^2 y4)+(x3^2 x4^3-x3^3 x4^2) y2+
(x2^2 (x4^3-x3^3)-x3^2 x4^3+x3^3 x4^2+x2^3 (x3^2-x4^2)) y1)/(x1 (x2^2 (x4^3-x3^3)-x3^2 x4^3+x3^3 x4^2+x2^3 (x3^2-x4^2))+x2
(x3^2 x4^3-x3^3 x4^2)+x1^2 (x3 x4^3+x2 (x3^3-x4^3)+x2^3 (x4-x3)-x3^3 x4)+x2^2 (x3^3 x4-x3 x4^3)+x1^3
(x2 (x4^2-x3^2)-x3 x4^2+x3^2 x4+x2^2 (x3-x4))),d=-(x1
(x2^2 (x3^3 y4-x4^3 y3)+x2^3 (x4^2 y3-x3^2 y4)+(x3^2 x4^3-x3^3 x4^2) y2)+x1^2
(x2 (x4^3 y3-x3^3 y4)+x2^3 (x3 y4-x4 y3)+(x3^3 x4-x3 x4^3) y2)+x1^3
(x2 (x3^2 y4-x4^2 y3)+x2^2 (x4 y3-x3 y4)+(x3 x4^2-x3^2 x4) y2)+
(x2 (x3^3 x4^2-x3^2 x4^3)+x2^2 (x3 x4^3-x3^3 x4)+x2^3 (x3^2 x4-x3 x4^2)) y1)/(x1
(x2^2 (x4^3-x3^3)-x3^2 x4^3+x3^3 x4^2+x2^3 (x3^2-x4^2))+x2 (x3^2 x4^3-x3^3 x4^2)+x1^2
(x3 x4^3+x2 (x3^3-x4^3)+x2^3 (x4-x3)-x3^3 x4)+x2^2 (x3^3 x4-x3 x4^3)+x1^3 (x2 (x4^2-x3^2)-x3 x4^2+x3^2 x4+x2^2 (x3-x4)))+
x2^3 (x3 x4^2-x3^2 x4))]]]
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