

```
(%i1) kill(all)$
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```
(%i1) y(x) := a*x^3 + b*x^2 + c*x + d;
      dydx: diff(y(x),x)$
      m(x) := ''dydx;
```

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(%o1) y(x):=a x^3+b x^2+c x+d
```

```
(%o3) m(x):=3 a x^2+2 b x+c
```

```
(%i4) q1: y1=y(x1);
      q2: y2=y(x2);
      q3: m1=m(x1);
      q4: m2=m(x2);
```

```
(%o4) y1=a x1^3+b x1^2+c x1+d
```

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(%o5) y2=a x2^3+b x2^2+c x2+d
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(%o6) m1=3 a x1^2+2 b x1+c
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(%o7) m2=3 a x2^2+2 b x2+c
```

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(%i8) p: solve([q1,q2,q3,q4],[a,b,c,d])$
      p[1][1]; p[1][2]; p[1][3]; p[1][4];
```

```
(%o9) a=-\frac{-2 y2+2 y1+(m2+m1) x2+(-m2-m1) x1}{-x2^3+3 x1 x2^2-3 x1^2 x2+x1^3}
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```
(%o10) b=\frac{-3 x2 y2+x1 ((m2-m1) x2-3 y2)+(3 x2+3 x1) y1+(m2+2 m1) x2^2+(-2 m2-m1) x1^2}{-x2^3+3 x1 x2^2-3 x1^2 x2+x1^3}
```

```
(%o11) c=-\frac{x1 ((2 m2+m1) x2^2-6 x2 y2)+6 x1 x2 y1+m1 x2^3+(-m2-2 m1) x1^2 x2-m2 x1^3}{-x2^3+3 x1 x2^2-3 x1^2 x2+x1^3}
```

```
(%o12) d=\frac{x1^2 ((m2-m1) x2^2-3 x2 y2)+x1^3 (y2-m2 x2)+(3 x1 x2^2-x2^3) y1+m1 x1 x2^3}{-x2^3+3 x1 x2^2-3 x1^2 x2+x1^3}
```