

$$y^2 = x^3 - 3x^2 + 3$$

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> restart;
unassign('x','y','a1','b1','a2','b2','a3','b3','a4','b4','a5','b5');
eqns:= y^2-x^3+3*x^2-3=0:a1:=1: b1:=1: a1, b1;
y:=(3*a1^2-6*a1)*(x-a1)/(2*b1)+b1: t1:=y: sol:=[solve(eqns,x)];
a2:=sol[1]: b2:=(3*a1^2-6*a1)*(a2-a1)/(2*b1)+b1: a2, b2;

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$$1, 1$$

$$t1 := -\frac{3}{2}x + \frac{5}{2}$$

$$sol := \left[\frac{13}{4}, 1, 1 \right]$$

$$\frac{13}{4}, \frac{-19}{8}$$

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> y:=(3*a2^2-6*a2)*(x-a2)/(2*b2)+b2: t2:=y: sol:=[solve(eqns,x)];
aa1:=sol[1]: bb1:=(3*a2^2-6*a2)*(aa1-a2)/(2*b2)+b2: aa1,bb1;

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$$t2 := -\frac{195}{76}x + \frac{1813}{304}$$

$$sol := \left[\frac{17809}{5776}, \frac{13}{4}, \frac{13}{4} \right]$$

$$\frac{17809}{5776}, \frac{-854783}{438976}$$

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> y:=-b2+(-b2-b1)*(x-a2)/(a2-a1): p2:=y: sol:=[solve(eqns,x)];
a3:=sol[3]: b3:=-b2+(-b2-b1)*(a3-a2)/(a2-a1): a3,b3;

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$$p2 := \frac{7}{18} + \frac{11}{18}x$$

$$sol := \left[1, \frac{13}{4}, \frac{-71}{81} \right]$$

$$\frac{-71}{81}, \frac{-107}{729}$$

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> y:=b3+(b3-b2)*(x-a3)/(a3-a2): p4:=y: sol:=[solve(eqns,x)];
a4:=sol[3]: b4:=b3+(b3-b2)*(a4-a3)/(a3-a2): a4,b4;

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$$p4 := -\frac{14923}{24066} - \frac{12995}{24066}x$$

$$sol := \left[\frac{13}{4}, \frac{-71}{81}, \frac{1641193}{1787569} \right]$$

$$\frac{1641193}{1787569}, \frac{-2666844179}{2389979753}$$

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> y:=bb1+(bb1-b4)*(x-aa1)/(aa1-a4): p5:=y: sol:=[solve(eqns,x)];

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a5:=sol[3]: b5:=bb1+(bb1-b4)*(a5-aa1)/(aa1-a4): a5,b5;
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$$p5 := -\frac{1733901924398533}{2271565275611436} - \frac{872233472887895}{2271565275611436}x$$

$$sol := \left[\frac{17809}{5776}, \frac{1641193}{1787569}, \frac{-426769122128641680527}{499758792156170515809} \right]$$

$$\frac{-426769122128641680527}{499758792156170515809} - \frac{4864488622791473479562279219161}{11172250506273568451869495807377}$$

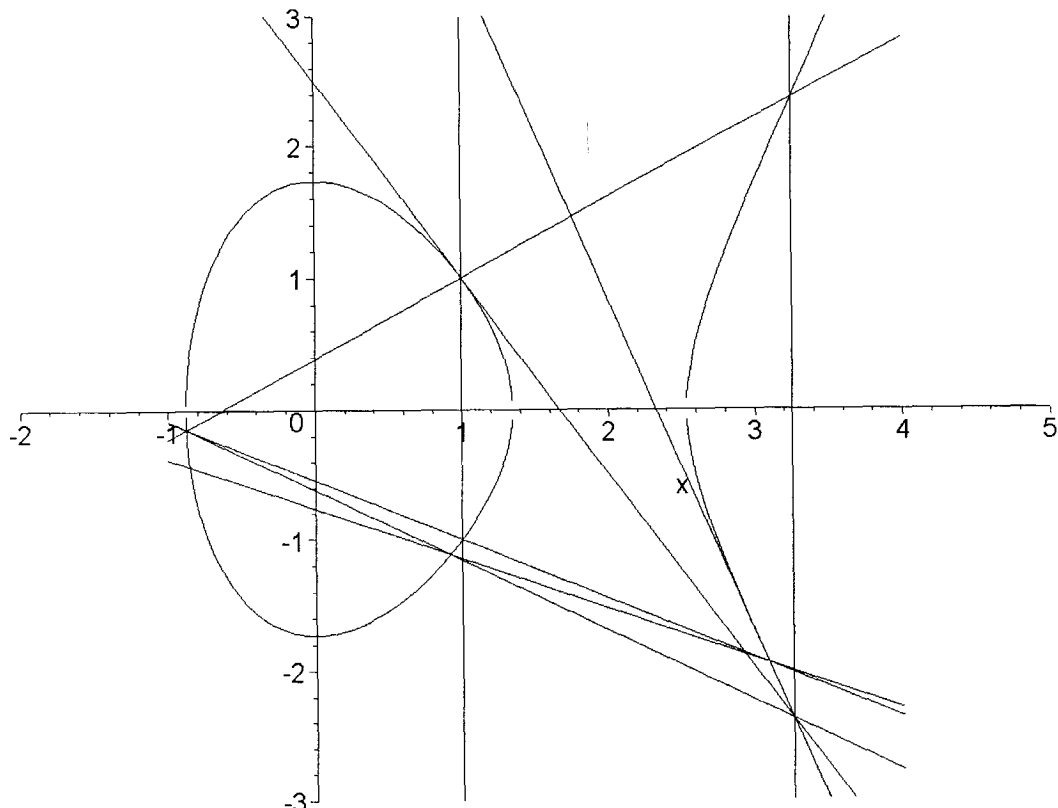
```
> y:=bb1+(bb1-b3)*(x-aa1)/(aa1-a3): p6:=y; sol:=solve(eqns,x);
a6:=sol[3]: b6:=bb1+(bb1-b3)*(a6-aa1)/(aa1-a3): a6,b6;
```

$$p6 := -\frac{373}{684} - \frac{311}{684}x$$

$$sol := \left[1, \frac{-71}{81}, \frac{17809}{5776} \right]$$

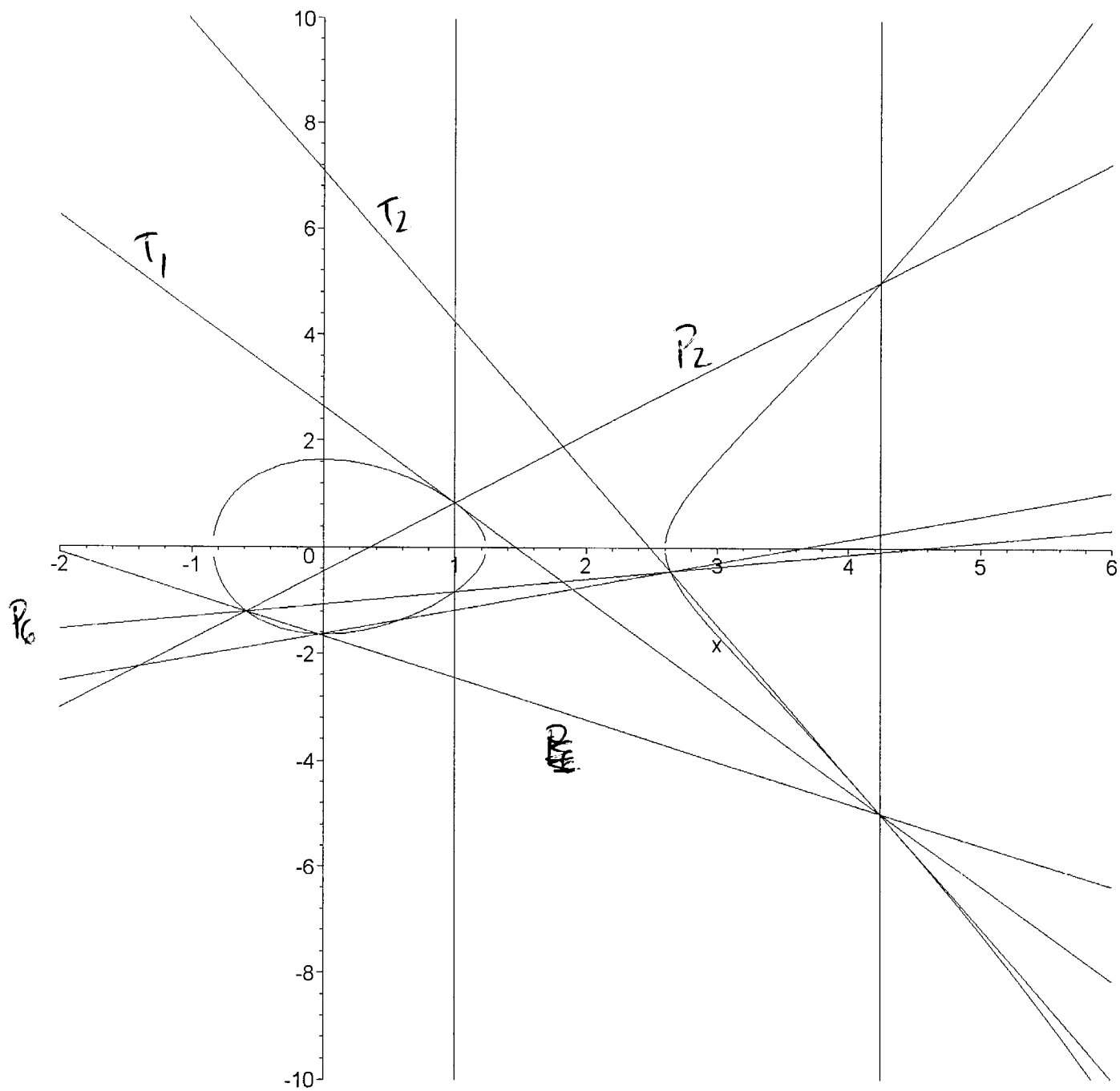
$$\frac{17809}{5776} - \frac{854783}{438976}$$

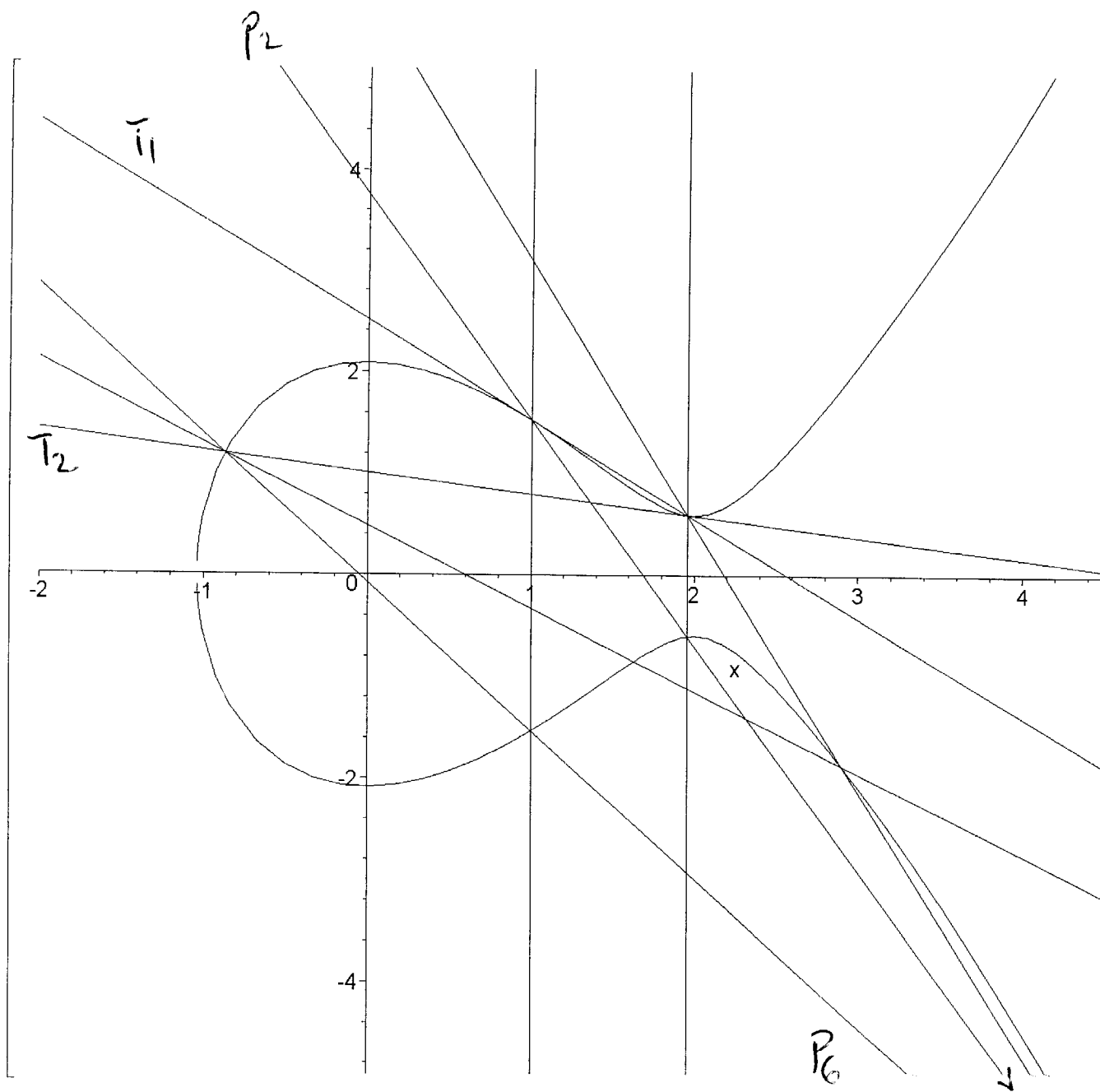
```
> plot([(x^3 - 3*x^2 + 3)^(1/2), -(x^3 - 3*x^2 +
3)^(1/2), t1, t2, p2, p4, p5, p6, 99999999*(x-a1), 99999999*(x-a2)], x=-1..
4, view=[-2..5, -3..3], color=black);
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