```
> restart;Digits:=30;with(geometry);_EnvHorizontalName := x;
  _EnvVerticalName := y;
```

$$Digits := 30$$

[*Apollonius*, *AreCollinear*, *AreConcurrent*, *AreConcyclic*, *AreConjugate*, *AreHarmonic*, *AreOrthogonal*, *AreParallel*, *ArePerpendicular*, *AreSimilar*, *AreTangent*, *CircleOfSimilitude*, *CrossProduct*, *CrossRatio*, *DefinedAs*, *Equation*, *EulerCircle*, *EulerLine*, *ExteriorAngle*, *ExternalBisector*, *FindAngle*, *GergonnePoint*, *GlideReflection*, *HorizontalCoord*, *HorizontalName*, *InteriorAngle*, *IsEquilateral*, *IsOnCircle*, *IsOnLine*, *IsRightTriangle*, *MajorAxis*, *MakeSquare*, *MinorAxis*, *NagelPoint*, *OnSegment*, *ParallelLine*, *PedalTriangle*, *PerpenBisector*, *PerpendicularLine*, *Polar*, *Pole*, *RadicalAxis*, *RadicalCenter*, *RegularPolygon*, *RegularStarPolygon*, *SensedMagnitude*, *SimsonLine*, *SpiralRotation*, *StretchReflection*, *StretchRotation*, *TangentLine*, *VerticalCoord*, *VerticalName*, *altitude*, *apothem*, *area*, *asymptotes*, *bisector*, *center*, *centroid*, *circle*, *circumcircle*, *conic*, *convexhull*, *coordinates*, *detail*, *diagonal*, *diameter*, *dilatation*, *directrix*, *distance*, *draw*, *dsegment*, *ellipse*, *excircle*, *expansion*, *foci*, *focus*, *form*, *homology*, *homothety*, *hyperbola*, *incircle*, *inradius*, *intersection*, *inversion*, *line*, *medial*, *median*, *method*, *midpoint*, *orthocenter*, *parabola*, *perimeter*, *point*, *powerpc*, *projection*, *radius*, *randpoint*, *reciprocation*, *reflection*, *rotation*, *segment*, *sides*, *similitude*, *slope*, *square*, *stretch*, *tangentpc*, *translation*, *triangle*, *vertex*, *vertices*]

$$_EnvHorizontalName := x$$

$$_EnvVerticalName := y$$

```
> tanto_slope_5:=proc(k,p1)
>   local p2, p3, sq, sl1, sl2, pp1;
>   p2:=evalf(k/p1);
>   sq:=evalf(sqrt(k));
>   sl1:=sq/p1;
>   sl2:=sq/p2;
>   pp1:= p1*2+1;
>   p3 := ((k/pp1)-1)/2;
>
>   line(Y,y=x,[x,y]);
>   line(_Y,y=-x,[x,y]);
>   line(SQh,y=sq,[x,y]);
>   line(SQv,x=sq,[x,y]);
>   line(P1h,y=p1,[x,y]);
>   line(P1v,x=p1,[x,y]);
>   line(P2h,y=p2,[x,y]);
>   line(P2v,x=p2,[x,y]);
>   line(LH,y=0,[x,y]);
>   line(LV,x=0,[x,y]);
>
>   point(KK,k,k);
>   point(K0,k,0);
>   point(SQP1,sq,0);
```

```
>   point(SQP1SQ,sq,sq);
>   point(SQP3SQ,sq,sq);
>
>   point(SQP2,sq*pp1,0);
>   point(SQP2SQ,sq*pp1,sq);
>   point(OO,0,0);
>
>   line(AA,[KK,SQP2]);
>   line(BB,[K0,SQP2SQ]);
>   intersection(PP3,AA,BB);
>   point(PP4,HorizontalCoord(PP3),-VerticalCoord(PP3));
>
  point(PP5,(sq*pp1)-(HorizontalCoord(PP3)-(sq*pp1)),VerticalCoord(P
  P3));
>   point(PP6,HorizontalCoord(PP5),-VerticalCoord(PP5));
>
>   circle(C1,[PP3,PP4,PP5]);
>
>   line(A,[KK,SQP1]);
>   line(B,[K0,SQP1SQ]);
>   intersection(P3,A,B);
>   point(P4,HorizontalCoord(P3),-VerticalCoord(P3));
>   point(P5,sq-(HorizontalCoord(P3)-sq),VerticalCoord(P3));
>   point(P6,HorizontalCoord(P5),-VerticalCoord(P5));
>
>   circle(C2,[P3,P4,P5]);
>
>   point(X0,(k/(sq-p1)),0);
>   line(BL1,[P4,X0]);
>   point(X1,(k/(sq-p3)),0);
>   line(BL2,[P4,X1]);
>
>   point(P7,coordinates(intersection(I1,BL1,LV)));
>   point(P8,coordinates(intersection(I2,BL2,LV)));
>   line(RL1,[P7,SQP1SQ]);
>   line(RL2,-slope(RL1)*x+slope(RL1)*sq=y,[x,y]);
>
>   point(X2,k/(p1+1),0);
>   point(X3,sq/(p1+1),0);
>   point(X4,k/(p1*2+1)/2,0);
>   line(ML1,[P3,X2]);
>   line(ML2,[X3,P5]);
>   line(ML3,[P8,P3]);
>
>   line(YL1,[PP3,PP6]);
>   line(YL2,[PP4,PP5]);
>
>   print( solve(Equation(BL1),y) );
>   print( solve(Equation(BL2),y) );
```

```
>   print( solve(Equation(RL2),y) );
>   print( solve({Equation(ML2),x=0}) );
>   print( solve({Equation(ML1),Equation(BL2)}) );
>   print( solve({Equation(ML1),Equation(Y)}) );
>   print( solve({Equation(BL2),x=k}) );
>   print( solve({Equation(ML3),x=k}) );
>   print( solve({Equation(BL1),x=k}) );
>   print( solve({Equation(ML1),x=k}) );
>   print( solve({Equation(ML3),Equation(BL1)}) );
>   print( solve({Equation(ML3),Equation(_Y)}) );
>   print( solve({Equation(ML3),Equation(Y)}) );
>   print( solve({Equation(ML1),Equation(_Y)}) );
>   print( solve({Equation(BL1),Equation(Y)}) );
>   print( solve({Equation(YL2),Equation(Y)}) );
>
>
>   draw([Y,_Y,SQh,SQv,P3,P4,P5,P6,PP3,PP4,PP5,PP6,
> #         A(colour=green),
> #         B(colour=green),
>          BL1(colour=blue),
>          BL2(colour=blue),
> #         RL2(colour=red),
>          ML1(colour=magenta),
> #         ML2(colour=magenta),
>          ML3(colour=magenta),
>          YL1(colour=yellow),
>          YL2(colour=yellow),
>          C1(colour=green),
>          C2(colour=green)
>        ],colour=black,axes=normal,view=[-k..k,-k..k]
>   );
>
> end proc:
> tanto_slope_5(33,1);
```

$$12.023773638989789407294590768 7 - 1.728713553878169054987550955 67\, x$$

$$-6.279210992451760747443979300 57 + 0.141674725900320135898905327379\, x$$

$$1.093070330817253582481326433 51\, x - 6.279210992451760747443979300 48$$

$$\{x = 0.,\ y = 12.023773638989789407294590768 2\}$$

$$\{y = -3.299999999999999999999999999 99,\ x = 21.028528366787747288753508922 5\}$$

$$\{x = 6.955330229242342055470943076 60,\ y = 6.955330229242342055470943076 60\}$$

$$\{x = 33.,\ y = -1.603945037741196262780103497 08\}$$

$$\{x = 33.,\ y = 31.396054962258803737219896502 9\}$$

$$\{x = 33.,\ y = -45.023773638989789407294590768 4\}$$

$$\{x = 33.,\ y = -12.023773638989789407294590768 8\}$$

$$\{x = 6.376483892574286242933718705 74,\ y = 1.000659507810793885748319424 78\}$$

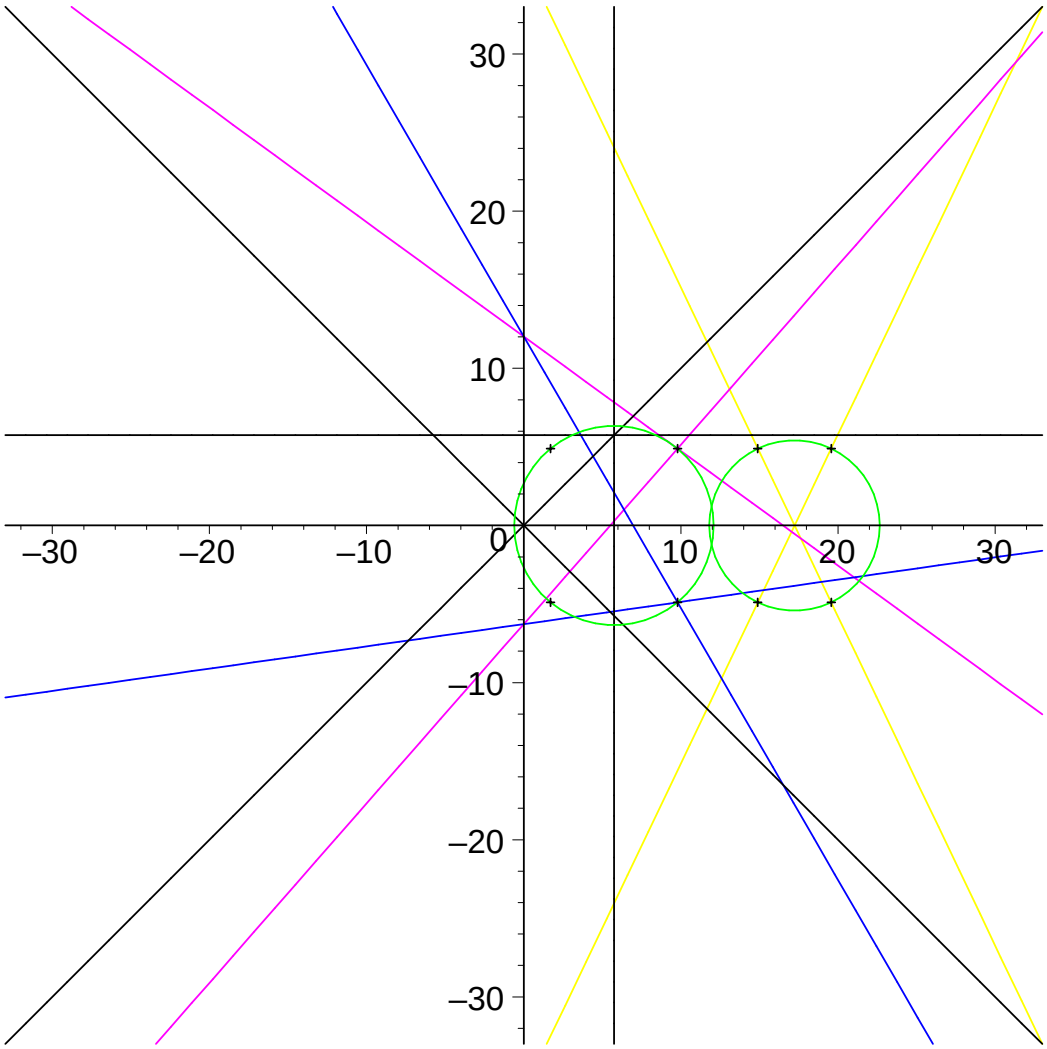
$\{x = 2.931916278655292756933867884 57, y = -2.931916278655292756933867884 57\}$

$\{y = 44.321320916969368221883772306 4, x = 44.321320916969368221883772306 4\}$

$\{x = -44.321320916969368221883772306 5, y = 44.321320916969368221883772306 5\}$

$\{x = 4.406389091995774927156382387 07, y = 4.406389091995774927156382387 07\}$

$\{y = 11.661978894427070525613179436 6, x = 11.661978894427070525613179436 6\}$



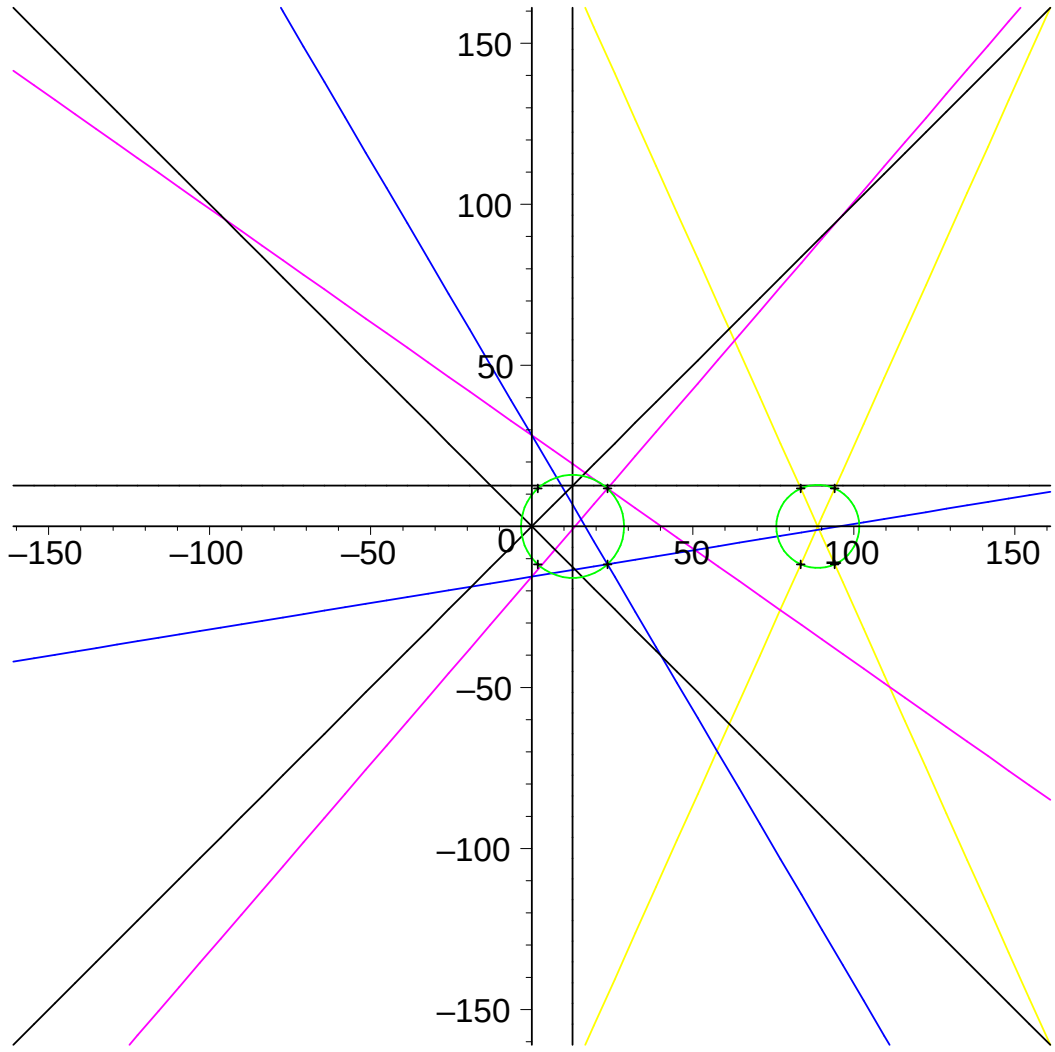

```
> tanto_slope_5(161,3);
```

$$28.302330214396185546528548322 2 - 1.703163483587482870721206169 48\, x$$

$$-15.613752673946665116633477557 63 + 0.163757963275527838484579546 069\, x$$

$$1.230536096278095023762110796 60\, x - 15.613752673946665116633477557 60$$

$$\{x = 0.,\ y = 28.302330214396185546528548320 8\}$$
$$\{x = 50.657511181958781604672697864 8,\ y = -7.318181818181818181818181818 09\}$$
$$\{y = 16.617506473765610402705246132 4,\ x = 16.617506473765610402705246132 4\}$$
$$\{x = 161.,\ y = 10.751279413413316829682531340 8\}$$
$$\{x = 161.,\ y = 171.751279413413316829682531339\}$$
$$\{y = -245.906990643188556395856449 64,\ x = 161.\}$$
$$\{y = -84.90699064318855663958564496 76,\ x = 161.\}$$
$$\{y = 2.212927311687137248969784726 77,\ x = 15.318202365256950966303238726 2\}$$
$$\{y = -7.216034759410124794371426139 21,\ x = 7.216034759410124794371426139 21\}$$
$$\{y = 95.346524600309319530279935309 3,\ x = 95.346524600309319530279935309 3\}$$
$$\{x = -95.346524600309319530279935303 3,\ y = 95.346524600309319530279935303 3\}$$
$$\{y = 10.470077147104311695629402250 4,\ x = 10.470077147104311695629402250 4\}$$
$$\{x = 61.326140800291124263792880282 9,\ y = 61.326140800291124263792880282 9\}$$




```
> tanto_slope_5(145,2);
```

$$20.591926782707357038488291244 - 1.426039864469807387003206025 72\, x$$

$$-8.550332203915061558360050214 65 - 0.115482875457062597411029288137\, x$$

$$0.710066440783012311672010042884\, x - 8.550332203915061558360050214 09$$

$$\{y = 20.591926782707357038488291244 1,\ x = 0.\}$$

$$\{x = 93.838683454734500663937316080 3,\ y = -19.387093198372886454173270374 4\}$$

$$\{x = 14.439937687410516628500673400 1,\ y = 14.439937687410516628500673400 1\}$$

$$\{x = 145.,\ y = -25.295349145189138182959296994 5\}$$

$$\{x = 145.,\ y = 119.704650854810861817040703005\}$$

$$\{x = 145., y = -186.18385356541471407697658248 6\}$$

$$\{x = 145., y = -41.183853565414714076976582490 2\}$$

$$\{x = 12.612655357647909959478813014 7, y = 2.605777445882741503240327680 55\}$$

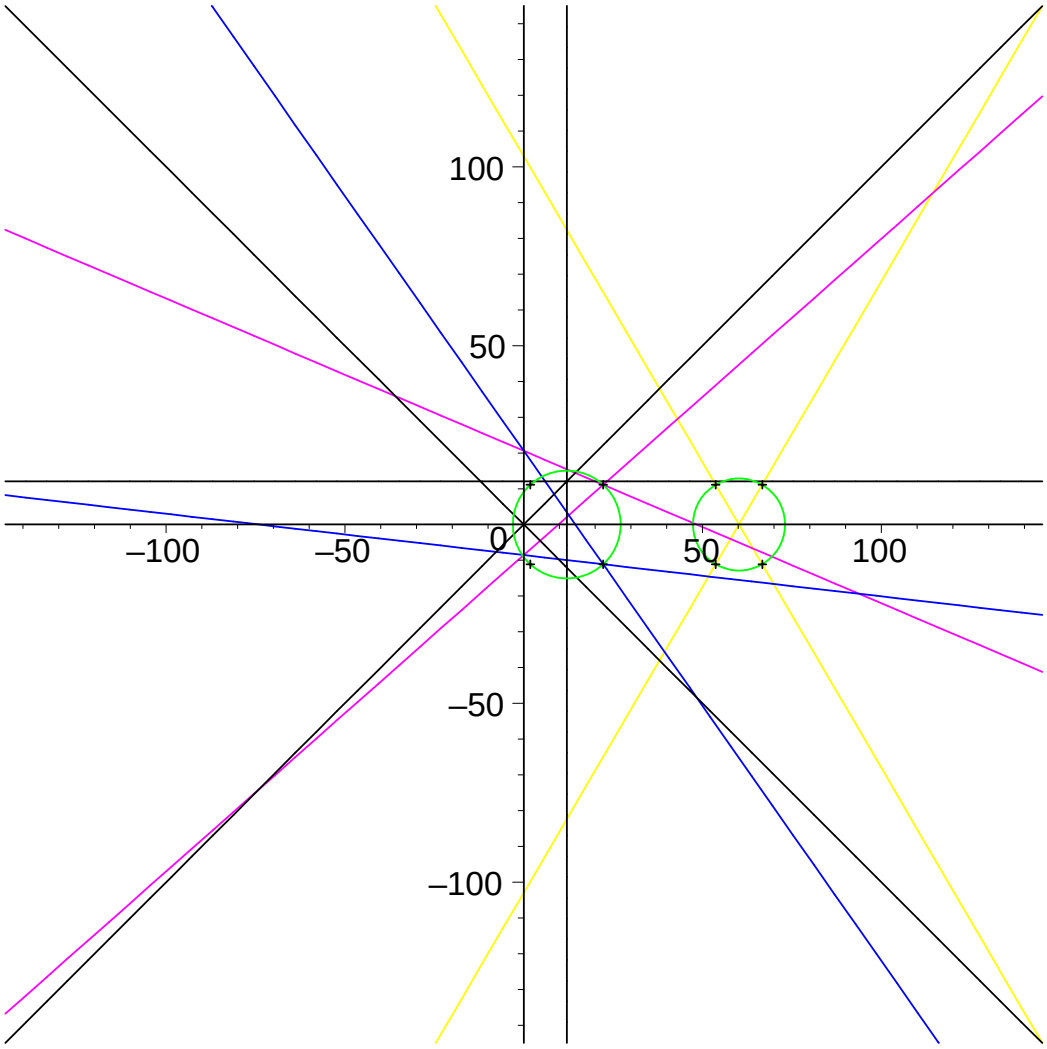
$$\{x = 4.537147523129471158357674455 28, y = -4.537147523129471158357674455 28\}$$

$$\{y = -74.039827724017310678795979396 7, x = -74.039827724017310678795979396 7\}$$

$$\{y = 35.876928566973862279241912955 8, x = -35.876928566973862279241912955 8\}$$

$$\{y = 8.4878765119581274750229564948 3, x = 8.4878765119581274750229564948 3\}$$

$$\{x = 37.991553404051943146280990079 5, y = 37.991553404051943146280990079 5\}$$




```
> tanto_slope_5(1403,11);
```

$$97.048819411579503981103588831 4 - 1.830068305729831823074300118 31\ x$$

$$-51.361678127787929661269140277 5 + 0.203919332775693873839442201479\ x$$

$$1.590964252648844327559075226 76\ x - 59.592177810923419533858730216 1$$

$$\{x = 0.,\ y = 97.048819411579503981103588853 8\}$$

$$\{y = -22.092692205598074602881717131 7,\ x = 143.532177767494962494815326739\}$$

$$\{x = 53.030162375757009734387314069 4,\ y = 53.030162375757009734387314069 4\}$$

$$\{y = 234.737145756510575335468268397,\ x = 1403.\}$$

$$\{x = 1403.,\ y = 1637.737145756510575335468268 40\}$$

$$\{x = 1403.,\ y = -2470.537013527374543792139477 16\}$$

$$\{x = 1403.,\ y = -1067.537013527374543792139477 12\}$$

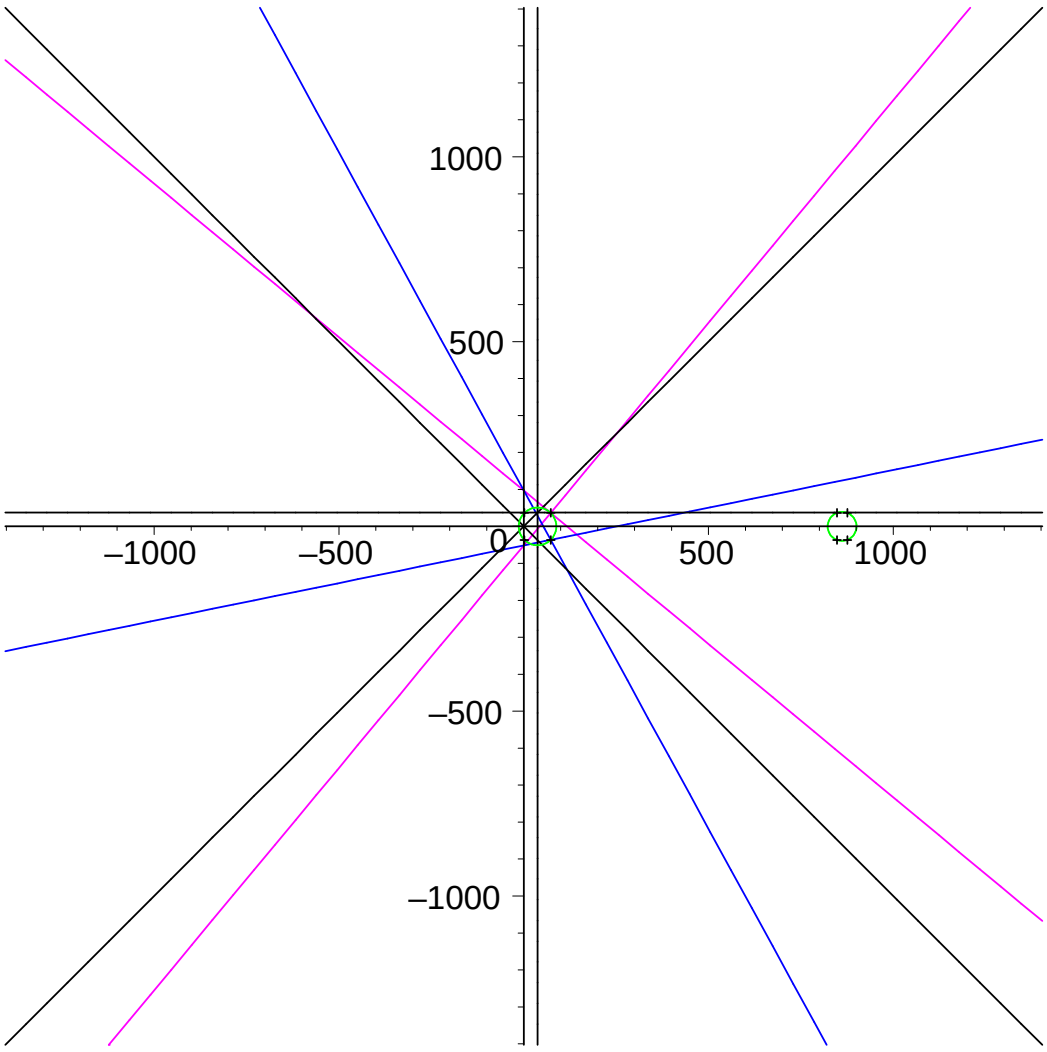
$$\{y = 7.529223373219812462186123379 97,\ x = 48.915986227442613467405888 2586\}$$

$$\{y = -23.304699661171907585240949815 0,\ x = 23.304699661171907585240949815 0\}$$

$$\{y = 251.872529341219848949092019281,\ x = 251.872529341219848949092019281\}$$

$$\{y = 571.104877335508351008340093430,\ x = -571.104877335508351008340093430\}$$

$$\{x = 34.292041367019967001563975151 6,\ y = 34.292041367019967001563975151 6\}$$




```
> tanto_slope_5(10403,50);
```

$$10454.247542953116264871841 1859 - 52.251237594021813852587 1287595\, x$$

$$-3427.787694839414499492380032 70 + 16.468438396800111476553 7371369\, x$$

$$101.49754896070986664924117 6563\, x - 10352.252445031696531573358 8329$$

$$\{y = 10454.247542953116264871841 4690,\ x = 0.\}$$

$$\{x = 204.99264112949932795938650 6212,\ y = -51.879012600901993893048 9125770\}$$

$$\{x = 200.07655367284948570215258 9897,\ y = 200.07655367284948570215258 9897\}$$

$$\{x = 10403.,\ y = 167893.37694707214519109 6147402\}$$

$$\{x = 10403.,\ y = 178296.37694707214519109 6147402\}$$

$$\{x = 10403., y = -533115.37714765581324359205929 9\}$$

$$\{x = 10403., y = -522712.37714765581324359205877 3\}$$

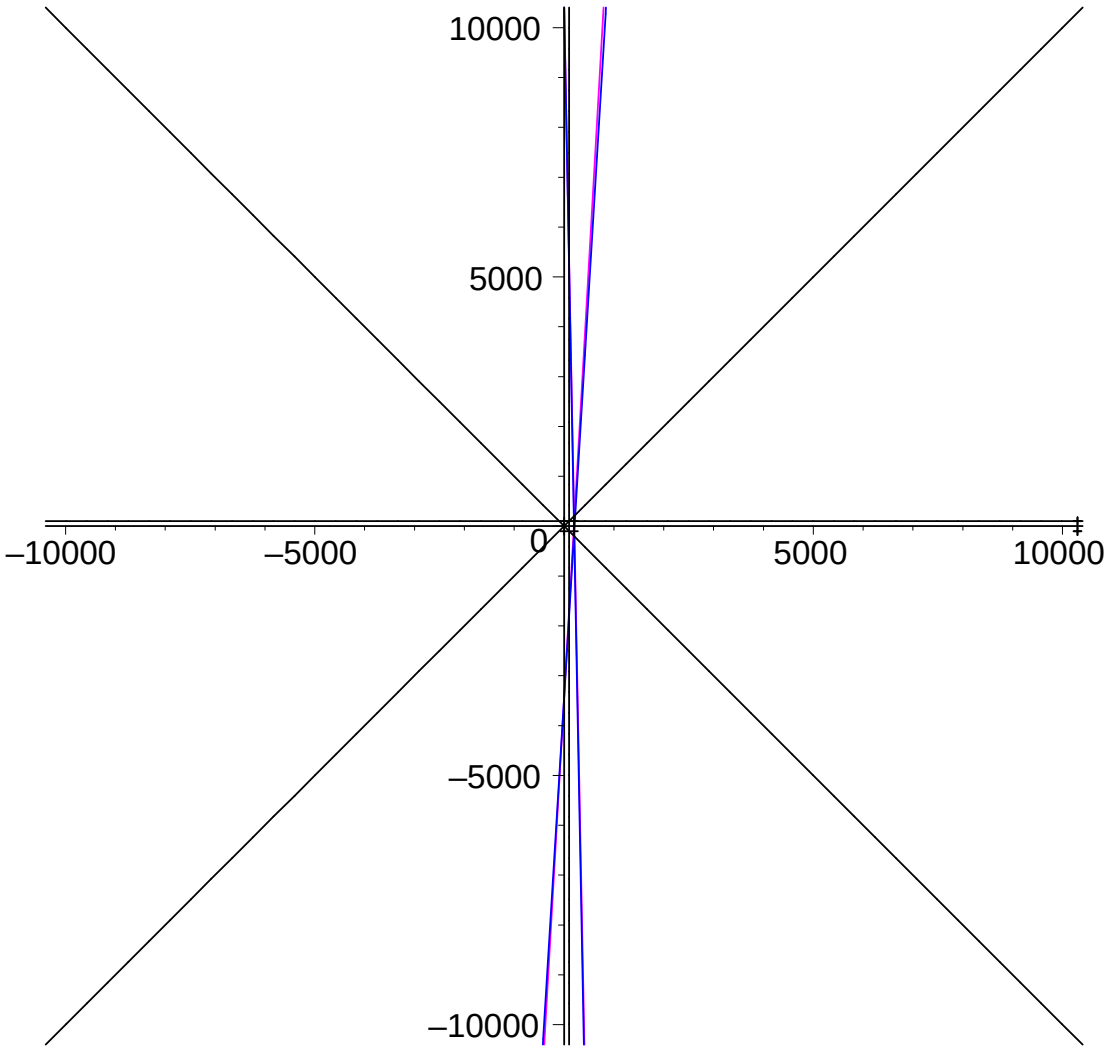
$$\{x = 199.11215937979971437371607884 8, y = 50.390795340462301704449603367 2\}$$

$$\{y = -185.60246519994466331322399995 6, x = 185.60246519994466331322399995 6\}$$

$$\{y = 208.14284950693615339187397772 9, x = 208.14284950693615339187397772 9\}$$

$$\{x = 208.03960347031961936100400897 4, y = -208.03960347031961936100400897 4\}$$

$$\{x = 196.31933482287273249738046015 5, y = 196.31933482287273249738046015 5\}$$




```
> Digits:=100;
```

$$Digits := 100$$

```
> evalf(1403/2);
```

```
701.50000000000000000000000000000000000000000000000000000000000000000000000000000\
    00000000000000000000000000
> evalf(1403/3);
467.66666666666666666666666666666666666666666666666666666666666666666666666666666\
    66666666666666666666666667
> evalf(1403/5);
280.60000000000000000000000000000000000000000000000000000000000000000000000000000\
    00000000000000000000000000
> evalf(1403/7);
200.42857142857142857142857142857142857142857142857142857142857142857142857142857\
    71428571428571428571428571
> evalf(1403/11);
127.54545454545454545454545454545454545454545454545454545454545454545454545454545\
    54545454545454545454545454
> evalf(1403/13);
107.92307692307692307692307692307692307692307692307692307692307692307692307692307\
    69230769230769230769230769
> evalf(1403/17);
82.52941176470588235294117647058823529411764705882352941176470588235294117647058\
    82352941176470588235294117
> evalf(1403/19);
73.84210526315789473684210526315789473684210526315789473684210526315789473684210526
> evalf(1403/23);
                                                61.
> evalf(1403/29);
48.37931034482758620689655172413793103448275862068965517241379310344827586206896\
    55172413793103448275862068
> evalf(1403/31);
45.25806451612903225806451612903225806451612903225806451612903225806451612903225\
    80645161290322580645161290
> evalf(1403/37);
37.91891891891891891891891891891891891891891891891891891891891891891891891891891\
    89189189189189189189189189
> evalf(1403/41);
34.21951219512195121951219512195121951219512195121951219512195121951219512195121\
    95121951219512195121951220
> evalf(1403/43);
32.62790697674418604651162790697674418604651162790697674418604651162790697674418\
    67441860465116279069767441
```

```
> evalf(1403/47);
29.851063829787234042553191489361702127659574468085106382978723404255319144\
    893617021276595744680851064
> evalf(1403/51);
27.509803921568627450980392156862745098039215686274509803921568627450980394\
    215686274509803921568627451
> evalf(1403/53);
26.471698113207547169811320754716981132075471698113207547169811320754716984\
    113207547169811320754716981
> evalf(1403/57);
24.614035087719298245614035087719298245614035087719298245614035087719298244\
    561403508771929824561403509
> evalf(1403/59);
23.779661016949152542372881355932203389830508474576271186440677966101694914\
    525423728813559322033898305
> evalf(1403/61);
                                    23.
>
```