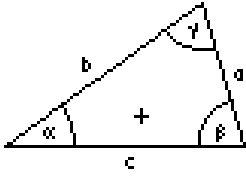
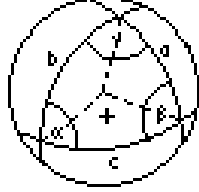
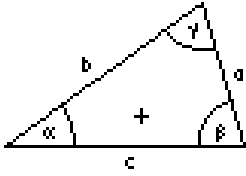
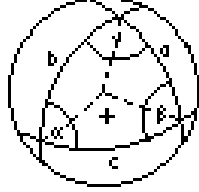
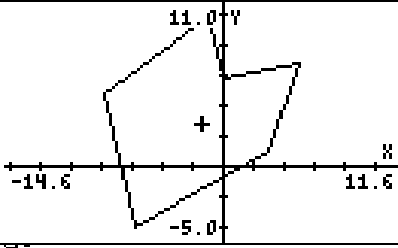


GEOMETRY

<p>AGEO: Isec2: intersection of points and lines (2s)</p> <p>Dist2: distance (1s)</p>	<pre> 7: 6: 5: (1 2) 4: (1-t 1+t) 3: () 2: (1-t 1+t) 1: (2-3t 4+5t) (8 -6) Point Line2 Circle Isec2 Dist2 Graph </pre>	<pre> 7: 6: (1 2) 5: (1-t 1+t) 4: 1 3: sqrt(2) 2: (1-t 1+t) 1: (2-3t 4+5t) 0 Point Line2 Circle Isec2 Dist2 Graph </pre>
<p>AGEO: Graph2: graph of point, line, curve (4s)</p> <p>Angle2: angle between lines (1.2s)</p>		<pre> 7: 6: 5: (2-3t 4+5t) 4: (1-t 1+t) 3: ACOS(4*sqrt(17)/17) Angle L←n PCURV EQAT SPAR EQ </pre>
<p>AGEO: L↔N: list to normal form (1.2s)</p> <p>various curves</p>	<pre> 7: 6: 5: (1-t 1+t) 4: x1+x2-2=0 Angle L←n PCURV EQAT SPAR EQ </pre>	<pre> 7: 6: (a*cos(t) b*sin(t)) 5: (a*cosh(t) b*sinh(t)) 4: (t a.t^2) 3: (a*cos(t)^2+1*cos(t) a*cos(t)*sin(t) 2: (a*(t^2-1) a*t*(t^2-1)) 1: (t^2+1 t^2+1) Epic Hypoc Strop Cisso Cartl Troch </pre>
<p>AGEO: Isec3: intersection between points, lines, planes (3s)</p> <p>Dist3: distance between point, line, plane (3s)</p>	<pre> 7: 6: (1 2 3) 5: (-2+5t 8-1t 5+2t) 4: () 3: (-2+5t 8-1t 5+2t) 2: (-1-3/2*u+2*v u v) 1: (3 6 3) Point Line3 Plane Isec3 Dist3 Angle </pre>	<pre> 7: 6: (1 2 3) 5: (-2+5t 8-1t 5+2t) 4: sqrt(35430)/30 3: (1 2 3) 2: (-1-3/2*u+2*v u v) 1: 2*sqrt(23)/23 Point Line3 Plane Isec3 Dist3 Angle </pre>
<p>AGEO: Angle3: angle between line and plane (3.6s)</p> <p>between line and line (2s)</p>	<pre> 7: 6: (-2+5t 8-1t 5+2t) 5: (-1-3/2*u+2*v u v) 4: 3: 2: 1: 2*ACOS(sqrt(870)/870)-pi Point Line3 Plane Isec3 Dist3 Angle </pre>	<pre> 7: 6: (-2+5t 8-1t 5+2t) 5: (1+t 2+t 3+t) 4: 3: 2: 1: ACOS(sqrt(110)/5) Point Line3 Plane Isec3 Dist3 Angle </pre>
<p>AGEO: P↔N: parameter to normal form (2s)</p> <p>various parametric surfaces</p>	<pre> RAD WYZ DEC R= 'X' GEOMETRY AGE0 R32 USR 4: 3: 2: (-1-3/2*u+2*v u v) 1: x1+3/2*x2+-2*x3+1=0 P←n P←L P←n PSURF EQ Help </pre>	<pre> 7: 6: zCOS(u)*SIN(v)+r SIN(u)*SIN(v)+r t 5: zCOS(u)*COS(v)+a SIN(u)*COS(v)+a t 4: zCOS(u)*r SIN(u)*r u 3: zCOS(u)+t SIN(u)+t a t 2: zCOS(u)*(a+b*cos(u)) SIN(u)*(a+b t 1: (COS(u)*(2+v*cos(u/2)) SIN(u)*(2+v SPHER ELLIP CYLIN CONE TORUS MOES </pre>
<p>AGEO: Solve: intersection of curves with start values (2s)</p> <p>F0: function values</p>	<pre> 7: 6: (1-t 1+t) 5: (3-COS(t) 3-SIN(t)) 4: (0 0) 3: (2.87082869339 -.870) 2: (3 3) 1: (-.87082869339 2.870) Help Solve F0 TrLat Crota Srota </pre>	<pre> 7: 6: (-2+5t 8-1t 5+2t) 5: (8 6 9) 4: 3: (-1-3/2*u+2*v u v) 2: (2 3) 1: (2 2 3) Help Solve F0 TrLat Crota Srota </pre>
<p>AGEO: Trlate: translation (1s) Crota: rotation of curve (1s)</p> <p>Transform: with matrix A</p>	<pre> 7: 6: (3-COS(t) 3-SIN(t)) 5: (1 2) 4: (3-COS(t)+1 3-SIN(t)+2) 3: (1-t 1+t) 2: (0 0) 1: pi/2 (-t+1) -t-1) Help Solve F0 TrLat Crota Srota </pre>	<pre> 7: 6: (1-t 1+t) 5: [1 2] 4: [3 4] 3: (t+3 t+7) Scale TrFor HP48 </pre>

<p>PTRIGO: PTriangle: calculate plane triangle (13s)</p>	<pre> 4: 3: 2: 1: { a=3 { b=4 { c=4.9999999999 { α=36.8698976459 { β=53.1301023542 { A=6. PTRex PTRad PTgrd Hsolu V-Hed Vpung </pre> 	<pre> 4: 3: 2: 1: { a=7 { α=43 { β=50 { γ=26.9999999997 { b=10.2498879068 { c=7.86264515553 { A=27.4815438576 STex STrad STgrd Hsolu V-Hed Vpung </pre> 
<p>PTRIGO: PTgraph: graph of plane triangle</p> <p>STgraph: graph of spherical triangle</p>		
<p>STRIGO: STriangle: calculate spherical Euler triangle (13s)</p>	<pre> 5: 4: 3: 2: 1: { a=52.5 { b=107.8 { c=141.010217381 { α=51.7157331591 { β=70.397036838 Hsolu V-Hed Vpung CST Helps EPAR </pre>	<pre> 5: 4: 3: 2: 1: { a=38.4 { α=42.9 { β=69.1847973521 { b=58.5316512975 { c=65.8510919413 STex STrad DistA Dxkm STard STeqn </pre>
<p>STRIGO: DistAngle: distance, angles of 2 points with {λ1 φ1 λ2 φ2},</p> <p>Dxkm: ° to km on earth (1s)</p>	<pre> RAD XYZ DEC R= 'X' \GEOMETRY STRIG03 USR 7: 6: 5: 4: 3: 2: 1: { 13+46/60 51+16/60 76+55/60 43+18/60 { c=4694.1km α=75 β=56 γ=633 { c=4103.1km α=64 β=37 γ=403 STex STrad DistA Dxkm STard STeqn </pre>	<pre> RAD XYZ DEC R= 'X' \GEOMETRY STRIG03 USR 7: 6: 5: 4: 3: 2: 1: { a=53 { a=5893.6km { c=3000.1km { c=26.9784172662 STex STrad DistA Dxkm STard STeqn </pre>
<p>STRIGO: Steqn: spherical triangle equations</p> <p>two examples</p>	<pre> RAD XYZ DEC R= 'X' \EOM 7: 6: 5: 4: 3: 2: 1: { spherical triangle eqns { side cosine: { 'COS(a) { angle cosine: { 'COS(α) { sine: { 'SIN(a)~SIN(b) { half angle: { 's=(a+b) { half side: { 'α=(α+β+γ) { Neper: { 'TAN(α/2)*COS CANCL OK </pre>	<pre> 5: 4: 3: 2: 1: { COS(a)=COS(b)*COS(c)+SIN(b)*SIN { COS(b)=COS(c)*COS(a)+SIN(c)*SI { COS(c)=COS(a)*COS(b)+SIN(a)*SI { COS(α)=-COS(β)*COS(γ)+SIN(β)*SI { COS(β)=-COS(γ)*COS(α)+SIN(γ)*S { COS(γ)=-COS(α)*COS(β)+SIN(α)*SI STex STrad DistA Dxkm STard STeqn </pre>
<p>PLANE: polygon data</p> <p>Polygon: calculate and draw polygon. picture(1s)</p>	<pre> 3: 2: 1: { 3. 1. { 5. 7. { 0. 6. { -1. 10. { -8. 5. { -6. -4. Help Fo+pr E0AT Polyg Cells Hells </pre>	
<p>PLANE: Polygon: centre of mass, circumference, area (1s)</p> <p>Cellipse: circumference, area (1s)</p>	<pre> 5: 4: 3: 2: 1: { XCM:(-1.16666666667) { YCM:4.16666666667 { C:43.6641803248 { A:97.5 Help Fo+pr E0AT Polyg Cells Hells </pre>	<pre> 5: 4: 3: 2: 1: { Cellipse:(√10*π) { Aellipse:(2*π) Cellr Acellr Ccellr Arect Atri EPAR </pre>
<p>SOLID: Vicos,Aicos: volume, area of icosaeader, dodecaeder (0.6s)</p> <p>Vtrcone: volume truncated cone (0.5s)</p>	<pre> 6: 5: 4: 3: 2: 1: { a { Aicosaeader:(5*√3*a^2) { Vicosaeader:(15+5*√5)*a^3/12 { Adodecaeder:(3*√25+10*√5)*a^2 { Vdodecaeder:(1/4)*a^3*(15+7*√5) Help Fo+pr Aicos Vicos Adode Vdode </pre>	<pre> RAD XYZ DEC R= 'X' \GEOMETRY SOLID3 USR 5: 4: 3: 2: 1: { h { r1 { r2 { Vtrcone:(h*r1^2+h*r2*r1+h*r2^2)*π/3 Apara Vpara AcyL VcyL Atrco Vtrco </pre>