## **Test Cases**

Note: the view of the bound triangulation is not included in the final system, but is included in the testing to point out possible errors. This debugging tool can be turned on by changing DEBUG\_BOUND\_TESSELLATION in SurfaceToSTL to 1.

Note: to make sure the tessellation is more accurate, use larger numbers and stretched surfaces

Used <a href="http://www.wolframalpha.com/widgets/view.jsp?id=f708f36bc40c46f8db505d43ca92053b">http://www.wolframalpha.com/widgets/view.jsp?id=f708f36bc40c46f8db505d43ca92053b</a> to test what 3D surfaces should look like and <a href="https://www.viewstl.com/">https://www.viewstl.com/</a> to see what the STL file actually produces.

	T	1. 15 1
Inputs	Expected Results	Actual Results
Solid name:	Invalid solid name, try again	Invalid solid name, try again
Solid name: "my solid"	Accept solid name	Accept solid name
Equation z=300	Accept equation	Accept equation
Resolution: -1	Invalid resolution, try again	Invalid resolution, try again
Resolution: 2	Accept resolution	Accept resolution
Bound choice: p	Invalid bound choice, try again	Invalid bound choice, try again
Bound choice: c	Accept bound choice (as c for circle)	Accept bound choice (as c for circle)
Radius: 0	Invalid radius, try again	Invalid radius, try again
Radius: 100	Accept radius	Accept radius
Center point: a,3	Invalid center point, try again	Invalid center point, try again
Center point: a	Invalid center point, try again	Invalid center point, try again
Center point: 1,3,	Invalid center point, try again	Invalid center point, try again
Center point: 100,	Invalid center point, try again	Invalid center point, try again
Center point: 100,100	Accept center point	Accept center point
•	2D display of bound	2D display of bound
	Output of ASCII my solid.stl	Output of ASCII my solid.stl
	Looks like cylinder	Looks like cylinder
Solid name: "my solid"	Accept solid name	Accept solid name
Equation z=z	Invalid equation, try again	Invalid equation, try again
Equation z=xy+	Invalid equation, try again	Invalid equation, try again
Equation z=In(x	Invalid equation, try again	Invalid equation, try again
Equation z=ln(x)+pi	Accept equation	Accept equation
Resolution: 9	Accept resolution	Accept resolution
Bound choice: circle	Accept bound choice (as c for circle)	Accept bound choice (as c for circle)
Radius: must_be_number	Invalid radius, try again	Invalid radius, try again
Radius: -100	Invalid radius, try again	Invalid radius, try again
Radius: 10	Accept radius	Accept radius
Center point: 11 , 11	Accept center point	Accept center point
•	2D display of bound	2D display of bound
	Output of ASCII my solid(1).stl	Output of ASCII my solid.stl
	Looks like a cylinder with a tapered	Looks like a cylinder with a tapered
	top toward one side.	top toward one side.
Solid name: "hemisphere"	Accept solid name	Accept solid name
Equation z=sqrt(-x^2-y^2+81)	Accept equation	Accept equation
Resolution: 7	Accept resolution	Accept resolution
Bound choice: circle	Accept bound choice (as c for circle)	Accept bound choice (as c for circle)
Radius: 9	Accept radius	Accept radius
Center point: 0,0	Accept center point	Accept center point

	2D display of bound	2D display of hound
	2D display of bound	2D display of bound
	Output of ASCII hemisphere.stl	Output of ASCII hemisphere.stl
C-11-1 ((	Looks like a hemisphere.	Looks like a hemisphere.
Solid name: "my shape"	Accept solid name	Accept solid name
Equation z=10*sin(x)+30	Accept equation	Accept equation
Resolution: 10	Accept resolution	Accept resolution
Bound choice: circle	Accept bound choice (as c for circle)	Accept bound choice (as c for circle)
Radius: 50	Accept radius	Accept radius
Center point: 0, 0	Accept center point	Accept center point
	2D display of bound	2D display of bound
	Output of ASCII my shape.stl	Output of ASCII my shape.stl
	Looks like high waves on a circle.	Looks like high waves on a circle, but
		the waves at the edge on opposite
		sides are not quite right.
Solid name:	Invalid solid name, try again	Invalid solid name, try again
"thissolidnameiswaytoolongb		
ecauseitisover80bytesandsoit		
shouldreportanerrorandnotall		
owittobeassigned"		
Solid name: "my-solid"	Accept solid name	Accept solid name
Equation z=forty	Invalid equation, try again	Invalid equation, try again
Equation z=-300	Accept equation	Accept equation
Resolution: 7.1	Invalid resolution, try again	Invalid resolution, try again
Resolution: 7	Accept resolution	Accept resolution
Bound choice: choice	Accept bound choice (as c for circle)	Accept bound choice (as c for circle)
Radius: 5	Accept radius	Accept radius
Center point: 0, 0	Accept center point	Accept center point
. ,	3D surface not above XY plane, try	3D surface not above XY plane, try
	again	again
Solid name: "my-solid"	Accept solid name	Accept solid name
Equation z=exp(x)/10	Accept equation	Accept equation
Resolution: 7	Accept resolution	Accept resolution
Bound choice: c	Accept bound choice (as c for circle)	Accept bound choice (as c for circle)
Radius: 5	Accept radius	Accept radius
Center point: 0, 0	Accept center point	Accept center point
center pentar e, e	2D display of bound	2D display of bound
	Output of ASCII my-solid.stl	Output of ASCII my-solid.stl
	Looks like a ramp starting at a point	Looks like a ramp starting at a point
	and going down to a flat circle.	and going down to a flat circle.
Solid name: "absolute value"	Accept solid name	Accept solid name
Equation z=abs(x-y)	Accept equation	Accept equation
Resolution: 7	Accept resolution	Accept resolution
Bound choice: c	Accept bound choice (as c for circle)	Accept bound choice (as c for circle)
Radius: 100	Accept adding choice (as a for circle)	Accept radius
Center point: 0, 0	Accept radius Accept center point	Accept radius Accept center point
center point. 0, 0	2D display of bound	2D display of bound
	Output of ASCII absolute value.stl	Output of ASCII absolute value.stl
	•	•
	Looks like cylinder with V-shaped	Looks like cylinder with V-shaped
	chunk cut out of it.	chunk cut out of it, but with small
Called manner "	Assert sellel o	bumps in the V.
Solid name: "cos over circle"	Accept solid name	Accept solid name
Equation z=cos(x+y)	Accept equation	Accept equation

Resolution: 7	Accept resolution	Accept resolution
Bound choice: c	Accept bound choice (as c for circle)	Accept bound choice (as c for circle)
Radius: 5	Accept radius	Accept radius
Center point: 0, 0	Accept center point	Accept center point
center point: 0, 0	2D display of bound	2D display of bound
	Output of ASCII cos over circle.stl	Output of ASCII cos over circle.stl
	Looks like one large wave in middle	Looks like one large wave in middle
	with two starting closer to the sides.	with two starting closer to the sides.
Solid name: "tan over circle"	Accept solid name	Accept solid name
Equation z=tany	Accept equation	Accept solid flame
Resolution: 10	Accept resolution	Accept resolution
Bound choice: circle	Accept bound choice (as c for circle)	Accept bound choice (as c for circle)
Radius: 1	Accept radius	Accept radius
	Accept radius Accept center point	Accept radius Accept center point
Center point: 0, 0	· · ·	
	2D display of bound	2D display of bound
	Output of ASCII tan over circle.stl	Output of ASCII tan over circle.stl
	Looks like flat half of circle bound	Looks like flat half of circle bound with
C !: 1	with concave up arc over other half.	concave up arc over other half.
Solid name: "300plusy"	Accept solid name	Accept solid name
Equation z=300+y	Accept equation	Accept equation
Resolution: 9	Accept resolution	Accept resolution
Bound choice: c	Accept bound choice (as c for circle)	Accept bound choice (as c for circle)
Radius: 300	Accept radius	Accept radius
Center point: -100,-100	Accept center point	Accept center point
	2D display of bound	2D display of bound
	Output of ASCII 300plusy.stl	Output of ASCII 300plusy.stl
	Looks like a cylinder with slanted top	Looks like cylinder with slanted top
	extending into the bound.	extending into the bound.
Solid name: "a\b.,](c"	Invalid solid name, try again	Invalid solid name, try again
Solid name: "b/a?>"	Invalid solid name, try again	Invalid solid name, try again
Solid name: "my-Solid 8"	Accept solid name	Accept solid name
Equation z=p	Invalid equation, try again	Invalid equation, try again
Equation z=cos(y+x)	Accept equation	Accept equation
Resolution: 0	Invalid resolution, try again	Invalid resolution, try again
Resolution: 10	Accept resolution	Accept resolution
Bound choice: r	Accept bound choice (r for rectangle)	Accept bound choice (r for rectangle)
Vertex 1: 1,1	Vertex accepted	Vertex accepted
Vertex 2: 2,2	Vertex accepted	Vertex accepted
Vertex 3: 1,3	Vertex accepted	Vertex accepted
Vertex 4: 1,2	Vertex accepted	Vertex accepted
	Does not form rectangle, try again	Does not form rectangle, try again
Vertex 1: -2,-2	Vertex accepted	Vertex accepted
Vertex 2: 2,2	Vertex accepted	Vertex accepted
Vertex 3: -2,2	Vertex accepted	Vertex accepted
Vertex 4: 2,-2	Vertex accepted	Vertex accepted
	2D display of bound	2D display of bound
	Output of ASCII my-Solid 8.stl	Output of ASCII my-Solid 8.stl
	Looks like a bird or stingray with flat	Looks like a bird or stingray with flat
i	"wings".	"wings".

Accept soil name   Accept soil	Calid warman (many markets als)	Account called manner	Accept callel name
Resolution: 9 Bound choice: r Accept bound choice (r for rectangle) Vertex 1: 0.0 Vertex 2: 0.5 Vertex 2: 0.5 Vertex 3: 0.0 Vertex 3: 0.0 Vertex 4: 10,5 Vertex 3: 0.0 Vertex 4: 10,5 Vertex 4: 10,5 Vertex 3: 0.0 Vertex 4: 10,5 Vertex 3: 0.0 Vertex 4: 10,5 Vertex 4: 10,5 Vertex 3: 0.0 Vertex 3: 0.0 Vertex 3: 0.0 Vertex 3: 0.0 Vertex 4: 10,10 Vertex 3: 0.0 Vertex 4: 10,10 Vertex 50,10 Vertex 50,10 Vertex 50,10 Vertex 60,10 Vertex 60,10 Vertex 70,10 Vert	Solid name: "my rectangle"	Accept solid name	Accept solid name
Bound choice: r Vertex 1: 0,0 Vertex 2: 0,5 Vertex 3: 10,0 Vertex 3: 10,0 Vertex 3: 10,0 Vertex 4: 10,5 Vertex 4: 10,5 Vertex 3: 10,0 Vertex 4: 10,5 Vertex 4: 10,5 Vertex 3: 10,0 Vertex 3: 10,0 Vertex 4: 10,5 Vertex 3: 10,0 Vertex 4: 10,-10 Vertex 4: 10,-10 Vertex 4: 10,-10 Vertex 4: 10,-10 Vertex 3: 10,0 Vertex 4: 10,-10 Vertex 5: 10,-10 Vertex 6: 10,-10 Vertex 7: 10,-10 Vertex 8: 10,-10 Vertex 8: 10,-10 Vertex 8: 10,-10 Vertex 9: 10,-10 Vertex 10,-10 V		_ · · · · · · · · · · · · · · · · · · ·	1
Vertex 1: 0,0   Vertex accepted   Dolisplay of bound   Output of ASCII my rectangle.stl   Looks like half of a ramp with pointed   line top.   Output of ASCII my rectangle.stl   Looks like half of a ramp with pointed   line top.   Output of ASCII my rectangle.stl   Looks like half of a ramp with pointed   line top.   Output of ASCII my rectangle.stl   Looks like half of a ramp with pointed   line top.   Output of ASCII my rectangle.stl   Looks like half of a ramp with pointed   Output of ASCII my rectangle.stl   Looks like accepted   Vertex acc		<u> </u>	
Vertex 2: 0,5   Vertex accepted   Vertex accepted   Vertex accepted   Vertex 4: 10,5   Vertex 3: 10,0   Vertex accepted   Vertex accepte			
Vertex 3: 10,0   Vertex accepted   2D display of bound   Output of ASCII my rectangle.stl   Looks like half of a ramp with pointed   line top.   Accept solid name   Accept equation   Accept resolution   Accept resolution   Accept bound choice r   Vertex accepted	•	•	•
Vertex 4: 10,5  Vertex accepted 2D display of bound Output of ASCII my rectangle.stl Looks like half of a ramp with pointed line top.  Solid name: "rectangle" Equation z=x/2 Accept equation Accept resolution Bound choice: r Vertex 1:-10,-10 Vertex accepted Vertex 3: -10,10 Vertex accepted Vertex 4: 10,-10 Vertex accepted Vertex 4: 10,-10 Vertex accepted Vertex 4: 10,-10 Vertex accepted Vertex 2: -20,30 Vertex accepted Vertex 3: -2,30 Vertex 4: -2,30 Vertex 4: -2,30 Vertex 3: -2,30 Vertex 4: -2,30 Vertex 3: -2,30 Vertex 4: -2,30 Vertex 4: -2,30 Vertex 4: -2,30 Vertex 5: -2,30 Vertex 6: -2,30 Vertex 7: -2,30 Vertex 8: -2,30 Vertex 8: -2,30 Vertex 9: -2,30 Vertex 9	-	•	-
2D display of bound   2D display of bound   2D output of ASCII my rectangle.stl   Looks like half of a ramp with pointed line top.	Vertex 3: 10,0	·	-
Output of ASCII my rectangle.stl Looks like half of a ramp with pointed line top.  Solid name: "rectangle" Equation z=x^2 Accept equation Bound choice: r Vertex 1:-10,-10 Vertex accepted Vertex 2: 10,10 Vertex accepted Vertex 3: -10,10 Vertex accepted Vertex 4: 10,-10 Vertex accepted Vertex 4: 10,-10 Vertex 4: 10,-10 Vertex accepted Vertex 4: 10,-10 Vertex 3: -10,10 Vertex accepted Vertex 4: 10,-10 Vertex accepted Vertex 4: 20 display of bound Output of ASCII rectangle.stl Looks like a very tall ramp with pointed line top reaching the bound in the middle.  Solid name: "sine" Equation z=10*sinx+30 Resolution: 8 Bound choice: r Vertex 1: -20,-30 Vertex accepted Vertex 3: 20,30 Vertex accepted Vertex 3: 20,30 Vertex accepted Vertex 4: 20,-30 Vertex accepted Vertex 4: 20,-30 Vertex accepted Vertex 4: 20,-30 Vertex accepted Vertex	Vertex 4: 10,5	<u>-</u>	•
Looks like half of a ramp with pointed line top.		1	1
Solid name: "rectangle"   Accept solid name			· · · · · · · · · · · · · · · · · · ·
Solid name: "rectangle"   Accept solid name   Accept equation   Accept equation   Accept equation   Accept solid name   Accept equation   Accept solid name   Accept equation   Accept solid name   Accept s		Looks like half of a ramp with pointed	Looks like half of a ramp with pointed
Equation z=x^2		line top.	line top.
Resolution: 8 Bound choice: r Vertex 1:-10,-10 Vertex accepted Vertex 2: 10,10 Vertex accepted Vertex 3: -10,10 Vertex accepted Vertex 3: -10,10 Vertex accepted Vertex 4: 10,-10 Vertex accepted Vertex 3: -10,10 Vertex accepted Vertex 4: 10,-10 Vertex accepted Vertex 3: 20:03 Vertex 4: 20,-30 Vertex 4: 20,-30 Vertex 3: 20:30 Vertex 4: 20,-30 Vertex 4: 20,-30 Vertex 4: 20,-30 Vertex accepted Vertex 3: 20:30 Vertex 4: 20,-30 Vertex 4: 20,-30 Vertex 3: 20:30 Vertex 4: 20:30 Vertex 4: 20:30 Vertex 4: 20:30 Vertex 3: 20:30 Vertex 3: 20:30 Vertex 4: 20:30 Vertex 4: 20:30 Vertex 3: 20:30 Vertex 3: 20:30 Vertex 4: 20:30 Vertex 4: 20:30 Vertex 3: 20:30 Vertex 4: 20:30 Vertex 3: 20:30 Vertex 4: 20:30 Vertex 3: 20:30 Vertex 3: 20:30 Vertex 3: 20:30 Vertex 4: 20:30 Vertex 4: 20:30 Vertex 3: 20:30 Vertex 3: 20:30 Vertex 4: 20:30 Vertex 4: 20:30 Vertex 3: 20:30 Vertex 3: 20:30 Vertex 4: 20:30 Vertex 4: 20:30 Vertex 3: 20:30 Vertex 3: 20:30 Vertex 4: 20:30 Vertex 4: 20:30 Vertex 3: 20:30 Vertex 3: 20:30 Vertex 4: 20:30 Vertex 4: 20:30 Vertex 4: 20:30 Vertex 4: 20:30 Vertex 3: 20:30 Vertex 4: 20:30 Vertex 3: 20:30 Vertex 4: 20:30 Vertex 4: 20:30 Vertex 4: 20:30 Vertex 3: 20:30 Vertex 3: 20:30 Vertex 3: 20:30 Vertex 4: 20:30 Vertex 3: 20:30 Vertex 3: 20:30 Vertex 3: 20:30 Vertex 3: 20:30 Vertex 4: 20:30 Vertex 3: 20:30 Vertex 3: 20:30 Vertex 4: 20:30 Vertex 3: 20:30 Vertex 4: 20:30 Ver	Solid name: "rectangle"	Accept solid name	Accept solid name
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Vertex 1:-10,-10 Vertex accepted Vertex 2: 10,10 Vertex accepted Vertex 3: 10,10 Vertex accepted Vertex 4: 10,-10 Vertex 4: 10,-10 Vertex accepted Vertex accepted Vertex accepted Vertex accepted 2D display of bound Output of ASCII rectangle.stl Looks like a very tall ramp with pointed line top reaching the bound in the middle.  Solid name: "sine" Accept solid name Accept equation Accept resolution Accept resolution Accept bound choice (r for rectangle) Vertex 2:-20,30 Vertex accepted Vertex 2: 1,1 Vertex accepted Vertex accepted Vertex accepted Vertex 3: -1,-1 Vertex accepted Vertex	Resolution: 8	Accept resolution	Accept resolution
Vertex 2: 10,10 Vertex 3: -10,10 Vertex accepted Vertex 3: -10,10 Vertex accepted Vertex accepted Vertex accepted Vertex accepted Vertex accepted 2D display of bound Output of ASCII rectangle.stl Looks like a very tall ramp with pointed line top reaching the bound in the middle.  Solid name: "sine" Accept equation Resolution: 8 Bound choice: r Vertex 1: -20,-30 Vertex accepted Vertex accepted Vertex 2: -20,30 Vertex accepted Vertex 2: -20,30 Vertex accepted Vertex 4: 20,-30 Vertex accepted Vertex 3: -20,30 Vertex accepted Vertex 4: 20,-30 Vertex accepted Vertex 4: 20,-30 Vertex accepted Vertex 4: 20,-30 Vertex accepted Vertex 3: -1,1 Vertex accepted Vertex 4: 1,-1 Vertex accepted Vertex acc	Bound choice: r	Accept bound choice (r for rectangle)	Accept bound choice (r for rectangle)
Vertex 3: -10,10 Vertex accepted Vertex accept	Vertex 1:-10,-10	Vertex accepted	Vertex accepted
Vertex 4: 10,-10  Vertex accepted 2D display of bound Output of ASCII rectangle.stl Looks like a very tall ramp with pointed line top reaching the bound in the middle.  Solid name: "sine" Equation z=10*sinx+30 Resolution: 8 Bound choice: r Vertex 1: -20,-30 Vertex accepted Vertex 2: -20,30 Vertex accepted Vertex 3: 20,30 Vertex accepted Vertex 4: 20,-30 Vertex accepted Vertex 4: 20,-30 Vertex accepted Vertex 4: 20,-30 Vertex accepted Vertex 2: -20,30 Vertex accepted Vertex 4: 20,-30 Vertex accepted Vertex 2: 1,1 Vertex accepted Vertex 3: -1,-1 Vertex accepted Vertex 3: -1,-1 Vertex accepted Vertex 4: 1,-1 Vertex accepted Vertex 3: -1,-1 Vertex accepted Vertex 4: 1,-1 Vertex accepted Vertex 3: -1,-1 Vertex accepted Vertex 4: 1,-1 Vertex accepted Vertex accepted Vertex accepted Vertex 3: -1,-1 Vertex accepted Verte	Vertex 2: 10,10	Vertex accepted	Vertex accepted
2D display of bound Output of ASCII rectangle.stl Looks like a very tall ramp with pointed line top reaching the bound in the middle.  Solid name: "sine" Accept solid name Equation z=10*sinx+30 Resolution: 8 Bound choice: r Vertex 1: -20,-30 Vertex accepted Vertex 2: -20,30 Vertex accepted Vertex 2: -20,30 Vertex accepted Vertex 4: 20,-30 Vertex accepted Vertex 4: 20,-30 Vertex accepted Vertex 1: -1,1 Vertex accepted Vertex accepted Vertex 2: -1,1 Vertex accepted Vertex 3: -1,-1 Vertex accepted Vertex acc	Vertex 3: -10,10	Vertex accepted	Vertex accepted
Output of ASCII rectangle.stl Looks like a very tall ramp with pointed line top reaching the bound in the middle.  Solid name: "sine" Equation z=10*sinx+30 Resolution: 8 Resolution: 8 Resolution: Accept bound choice (r for rectangle) Vertex 1: -20,-30 Vertex accepted Vertex 2: -20,30 Vertex accepted Vertex 3: 20,30 Vertex accepted Vertex 4: 20,-30 Vertex accepted Vertex 3: -1, 1 Vertex accepted Vertex accep	Vertex 4: 10,-10	Vertex accepted	Vertex accepted
Looks like a very tall ramp with pointed line top reaching the bound in the middle.  Solid name: "sine" Equation z=10*sinx+30 Resolution: 8 Bound choice: r Vertex 1: -20,-30 Vertex accepted Vertex accepted Vertex 3: 20,30 Vertex accepted Vertex 4: 20,-30 Vertex accepted Vertex 4: 20,-30 Vertex accepted Vertex 1: -1,1 Vertex accepted Vertex 2: 1,1 Vertex accepted Vertex accepted Vertex 3: -1,-1 Vertex accepted V		2D display of bound	2D display of bound
Looks like a very tall ramp with pointed line top reaching the bound in the middle.  Solid name: "sine" Equation z=10*sinx+30 Resolution: 8 Bound choice: r Vertex 1: -20,-30 Vertex accepted Vertex accepted Vertex 3: 20,30 Vertex accepted Vertex 4: 20,-30 Vertex accepted Vertex 4: 20,-30 Vertex accepted Vertex 1: -1,1 Vertex accepted Vertex 2: 1,1 Vertex accepted Vertex accepted Vertex 3: -1,-1 Vertex accepted V			1
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in the middle.  Solid name: "sine" Accept solid name Accept solid name Accept equation Accept equation Accept resolution Bound choice: r Vertex 1: -20,-30 Vertex accepted Vertex 2: -20,30 Vertex accepted Vertex 3: 20,30 Vertex accepted Vertex 4: 20,-30 Vertex accepted Vertex 4: 20,-30 Vertex accepted Very neat.  Solid name: "tany rectangle" Accept solid name Accept resolution Accept equation Acc		pointed line top reaching the bound	pointed line top reaching the bound in
Equation z=10*sinx+30 Resolution: 8 Bound choice: r Vertex 1: -20,-30 Vertex accepted Vertex 2: -20,30 Vertex accepted Vertex 4: 20,-30 Vertex accepted Vertex secepted Vertex secepted Vertex secepted Vertex 1: -1,1 Vertex accepted Vertex 2: 1,1 Vertex accepted Vertex 3: -1,-1 Vertex accepted Vertex 4: 1,-1 Vertex accepted Vertex 4: 1,-1 Vertex accepted Vertex 4: 1,-1 Vertex accepted Vertex a		in the middle.	the middle.
Resolution: 8 Bound choice: r Vertex 1: -20,-30 Vertex accepted Vertex 2: -20,30 Vertex accepted Vertex 3: 20,30 Vertex accepted Vertex 4: 20,-30 Vertex accepted Vertex 4: 20,-30 Vertex accepted Vertex 4: 20,-30 Vertex accepted 2D display of bound Output of ASCII sine.stl Looks like tall, neat ocean waves.  Solid name: "tany rectangle" Equation z=tany Resolution: 9 Bound choice: r Vertex accepted Vertex accepted Vertex accepted Vertex 1: -1,1 Vertex accepted Vertex accepted Vertex accepted Vertex 3: -1,-1 Vertex accepted Vertex 4: 1,-1 Vertex accepted Vertex acc	Solid name: "sine"	Accept solid name	Accept solid name
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Vertex 1: -20,-30 Vertex accepted Vertex 2: -20,30 Vertex accepted Vertex 3: 20,30 Vertex accepted 2D display of bound Output of ASCII sine.stl Looks like tall, neat ocean waves.  Solid name: "tany rectangle" Equation z=tany Resolution: 9 Bound choice: r Vertex accepted Vertex accepted Vertex accepted Vertex 1: -1,1 Vertex accepted Vertex accepted Vertex 2: 1,1 Vertex accepted Vertex 3: -1,-1 Vertex accepted Vertex 4: 1,-1 Vertex accepted	Resolution: 8	Accept resolution	Accept resolution
Vertex 1: -20,-30 Vertex accepted Vertex 2: -20,30 Vertex accepted Vertex 3: 20,30 Vertex accepted 2D display of bound Output of ASCII sine.stl Looks like tall, neat ocean waves.  Solid name: "tany rectangle" Equation z=tany Resolution: 9 Bound choice: r Vertex accepted Vertex accepted Vertex accepted Vertex 1: -1,1 Vertex accepted Vertex accepted Vertex 2: 1,1 Vertex accepted Vertex 3: -1,-1 Vertex accepted Vertex 4: 1,-1 Vertex accepted	Bound choice: r	Accept bound choice (r for rectangle)	Accept bound choice (r for rectangle)
Vertex 3: 20,30  Vertex accepted  Vertex 4: 20,-30  Vertex accepted  2D display of bound Output of ASCII sine.stl Looks like tall, neat ocean waves.  Solid name: "tany rectangle" Equation z=tany Resolution: 9  Bound choice: r Vertex accepted  Vertex accepted Accept bound choice (r for rectangle) Vertex 1: -1,1 Vertex accepted Vertex accepted Vertex accepted Vertex accepted Vertex 3: -1,-1 Vertex accepted Vertex accepted Vertex 4: 1,-1 Vertex accepted Vertex	Vertex 1: -20,-30	Vertex accepted	Vertex accepted
Vertex 4: 20,-30  Vertex accepted 2D display of bound Output of ASCII sine.stl Looks like tall, neat ocean waves.  Solid name: "tany rectangle" Equation z=tany Resolution: 9 Bound choice: r Vertex accepted Vertex 1: -1,1 Vertex accepted Vertex 2: 1,1 Vertex accepted Vertex 3: -1,-1 Vertex accepted Vertex 4: 1,-1 Vertex accepted Vertex 4: 1,-1 Vertex accepted Vertex 4: 1,-1 Vertex accepted Vertex	Vertex 2: -20,30	Vertex accepted	Vertex accepted
2D display of bound Output of ASCII sine.stl Looks like tall, neat ocean waves.  Solid name: "tany rectangle" Equation z=tany Resolution: 9 Bound choice: r Vertex 1: -1,1 Vertex accepted Vertex 2: 1,1 Vertex accepted Vertex 3: -1,-1 Vertex accepted Vertex 4: 1,-1 Vertex accepted Vertex 4: 1,-1  Vertex accepted Solid page  Ascept solid name Accept equation Accept bound choice (r for rectangle) Accept bound choice (r for rectangle) Vertex 2: 1,1 Vertex accepted Vertex accepte	Vertex 3: 20,30	Vertex accepted	Vertex accepted
Output of ASCII sine.stl Looks like tall, neat ocean waves.  Solid name: "tany rectangle"  Accept solid name Equation z=tany Resolution: 9 Bound choice: r Vertex 1: -1,1 Vertex accepted Vertex 2: 1,1 Vertex accepted Vertex 3: -1,-1 Vertex accepted Vertex 4: 1,-1 Vertex accepted Vertex 4: 1,-1  Vertex accepted Vertex	Vertex 4: 20,-30	Vertex accepted	Vertex accepted
Output of ASCII sine.stl Looks like tall, neat ocean waves.  Solid name: "tany rectangle"  Accept solid name Equation z=tany Resolution: 9 Bound choice: r Vertex 1: -1,1 Vertex accepted Vertex 2: 1,1 Vertex accepted Vertex 3: -1,-1 Vertex accepted Vertex 4: 1,-1 Vertex accepted Vertex 4: 1,-1  Vertex accepted Vertex	•	2D display of bound	2D display of bound
Looks like tall, neat ocean waves.  Solid name: "tany rectangle" Equation z=tany Resolution: 9 Bound choice: r Vertex 1: -1,1 Vertex accepted Vertex 2: 1,1 Vertex accepted Vertex 3: -1,-1 Vertex accepted Vertex 4: 1,-1 Vertex accepted Vertex 4: 1,-1  Vertex accepted Solid name: "" Invalid solid name, try again Accept solid name Accept solid name			
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Equation z=tany Resolution: 9 Accept equation Accept resolution Accept resolution Accept resolution Accept resolution Accept resolution Accept pound choice (r for rectangle) Vertex 1: -1,1 Vertex accepted Vertex 2: 1,1 Vertex accepted Vertex 3: -1,-1 Vertex accepted 2D display of bound Output of ASCII tany rectangle.stl Looks like half a ramp with pointed line top.  Solid name: "" Invalid solid name, try again Accept solid name Accept solid name			very neat.
Equation z=tany Resolution: 9 Accept equation Accept resolution Accept resolution Accept resolution Accept resolution Accept resolution Accept pound choice (r for rectangle) Vertex 1: -1,1 Vertex accepted Vertex 2: 1,1 Vertex accepted Vertex 3: -1,-1 Vertex accepted 2D display of bound Output of ASCII tany rectangle.stl Looks like half a ramp with pointed line top.  Solid name: "" Invalid solid name, try again Accept solid name Accept solid name	Solid name: "tany rectangle"	Accept solid name	Accept solid name
Resolution: 9 Bound choice: r Accept bound choice (r for rectangle) Vertex 1: -1,1 Vertex accepted Vertex 2: 1,1 Vertex accepted Vertex 3: -1,-1 Vertex accepted Vertex 4: 1,-1 Vertex accepted Vertex accepte		<u> </u>	Accept equation
Bound choice: r  Vertex 1: -1,1  Vertex accepted  Vertex 2: 1,1  Vertex accepted  Vertex 3: -1,-1  Vertex accepted  Vertex 4: 1,-1  Vertex accepted  Output of ASCII tany rectangle.stl  Looks like half a ramp with pointed line top.  Solid name: ""  Invalid solid name, try again  Accept solid name  Accept solid name	_	Accept resolution	
Vertex 1: -1,1 Vertex accepted Vertex 2: 1,1 Vertex accepted Vertex 3: -1,-1 Vertex accepted Vertex 4: 1,-1 Vertex accepted Vertex 4: 1,-1 Vertex accepted Vertex accepted Vertex accepted Vertex accepted 2D display of bound Output of ASCII tany rectangle.stl Looks like half a ramp with pointed line top.  Solid name: "" Invalid solid name, try again Accept solid name Accept solid name	Bound choice: r	<u> </u>	<u> </u>
Vertex 2: 1,1  Vertex accepted  Vertex 3: -1,-1  Vertex accepted  Vertex accepted  Vertex accepted  Vertex accepted  Vertex accepted  Vertex accepted  2D display of bound  Output of ASCII tany rectangle.stl  Looks like half a ramp with pointed line top.  Solid name: ""  Solid name: "my_solid"  Vertex accepted  Invalid solid name and invalid solid name, try again  Accept solid name  Accept solid name			
Vertex 3: -1,-1  Vertex accepted  Vertex 4: 1,-1  Vertex accepted  Vertex accepted  2D display of bound  Output of ASCII tany rectangle.stl  Looks like half a ramp with pointed line top.  Solid name: ""  Solid name: "my_solid"  Vertex accepted  Output of ASCII	-	<u>-</u>	•
Vertex 4: 1,-1  Vertex accepted 2D display of bound Output of ASCII tany rectangle.stl Looks like half a ramp with pointed line top.  Solid name: "" Solid name: "my_solid"  Vertex accepted 2D display of bound Output of ASCII tany rectangle.stl Looks like half a ramp with pointed line top.  Invalid solid name, try again Accept solid name  Accept solid name	-	·	-
2D display of bound Output of ASCII tany rectangle.stl Looks like half a ramp with pointed line top.  Solid name: "" Solid name: "my_solid"  2D display of bound Output of ASCII tany rectangle.stl Looks like half a ramp with pointed line top.  Invalid solid name, try again Accept solid name  Invalid solid name Accept solid name	-	<u>-</u>	•
Output of ASCII tany rectangle.stl Looks like half a ramp with pointed line top.  Solid name: "" Solid name: "my_solid"  Output of ASCII tany rectangle.stl Looks like half a ramp with pointed line top.  Invalid solid name, try again Accept solid name Accept solid name	-	<u>-</u>	-
Looks like half a ramp with pointed line top.  Solid name: "" Solid name: "my_solid" Looks like half a ramp with pointed line top. Invalid solid name, try again Accept solid name Accept solid name			
Solid name: ""line top.line top.Solid name: "my_solid"Invalid solid name, try againInvalid solid name, try againSolid name: "my_solid"Accept solid nameAccept solid name			_ · · · · · · · · · · · · · · · · · · ·
Solid name: "" Invalid solid name, try again Solid name: "my_solid" Accept solid name Accept solid name			
Solid name: "my_solid"  Accept solid name  Accept solid name	Solid name: ""		•
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Resolution: 15	Invalid resolution, try again	Invalid resolution, try again
Resolution: 10	Accept resolution	Accept resolution
Bound choice: triangle	Accept bound choice (t for triangle)	Accept bound choice (t for triangle)
Vertex 1: 300,300	Accept vertex	Accept vertex
Vertex 2: 100,100	Accept vertex	Accept vertex
Vertex 3: 200,200	Accept vertex	Accept vertex
	Does not form triangle, try again	Does not form triangle, try again
Vertex 1: 1,0	Accept vertex	Accept vertex
Vertex 2: 1,10	Accept vertex	Accept vertex
Vertex 3: 20,5	Accept vertex	Accept vertex
	2D display of bound	2D display of bound
	Output of ASCII my_solid.stl	Output of ASCII my_solid.stl
	Looks like a piece of pie with tapered	Looks like a piece of pie with tapered
	pie crust edge.	pie crust edge.
Solid name: "abs triangle"	Accept solid name	Accept solid name
Equation z=abs(x-y)	Accept equation	Accept equation
Resolution: a	Invalid resolution, try again	Invalid resolution, try again
Resolution: 10	Accept resolution	Accept resolution
Bound choice: t	Accept bound choice (t for triangle)	Accept bound choice (t for triangle)
Vertex 1: -100,-100	Accept vertex	Accept vertex
Vertex 2: -100,100	Accept vertex	Accept vertex
Vertex 3: 0,100	Accept vertex	Accept vertex
	2D display of bound	2D display of bound
	Output of ASCII abs triangle.stl	Output of ASCII abs triangle.stl
	Looks like a 3D right triangle with a	Looks like a 3D right triangle with a
	flat chunk out of the side.	flat chunk out of the side.
Solid name: "xsquared"	Accept solid name	Accept solid name
Equation z=x^2	Accept equation	Accept equation
Resolution: 10	Accept resolution	Accept resolution
Bound choice: triangle	Accept bound choice (t for triangle)	Accept bound choice (t for triangle)
Vertex 1: -5,5	Accept vertex	Accept vertex
Vertex 2: -5,-5	Accept vertex	Accept vertex
Vertex 3: 5,0	Accept vertex	Accept vertex
	2D display of bound	2D display of bound
	Output of ASCII xsquared.stl	Output of ASCII xsquared.stl
	Looks like very steep ramp going	Looks like very steep ramp going
	down to the bound in the middle, one	down to the bound in the middle, one