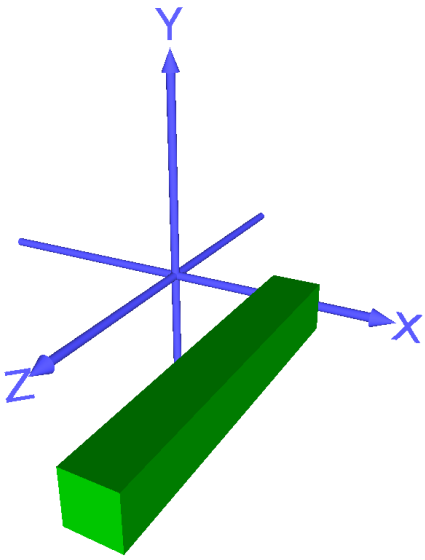
CZ2003: Lab 3

Name:	**Last two digits of the matric card:**

Q1a

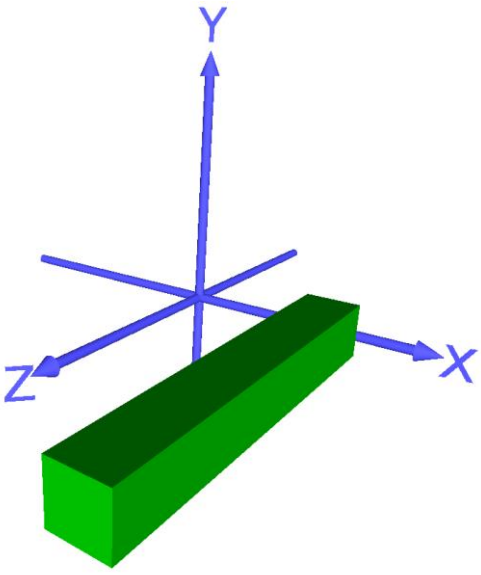
Solid Box 1



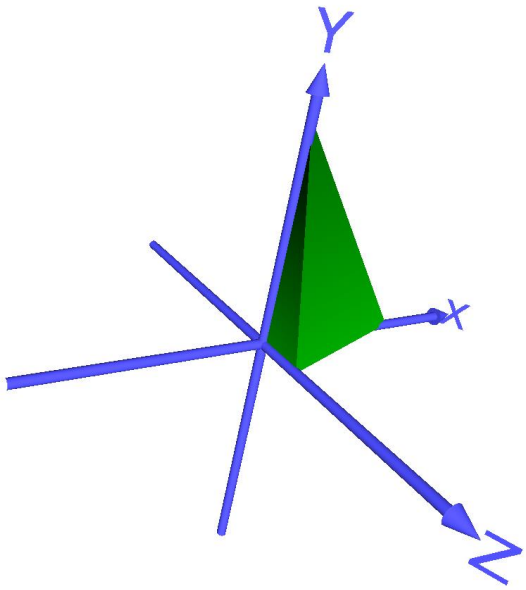
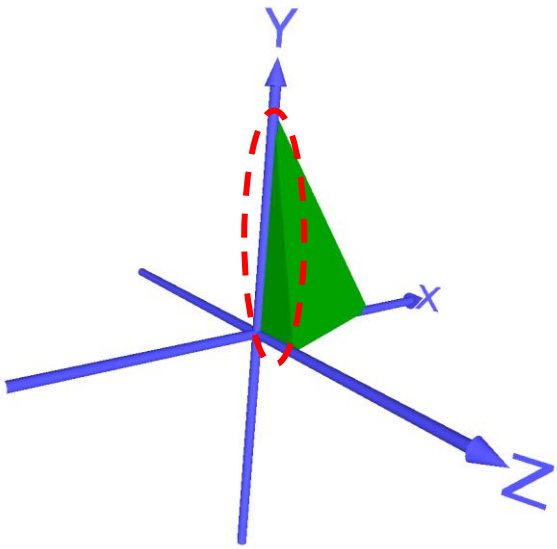
Sampling resolution [1 1 1]

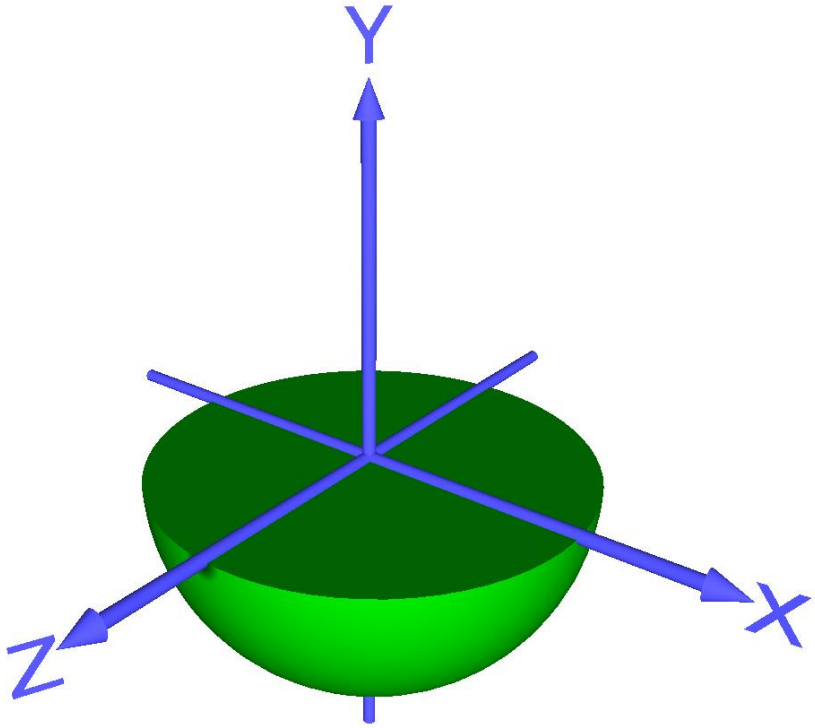
Name of the file: Q1a.wrl

Solid Box 2

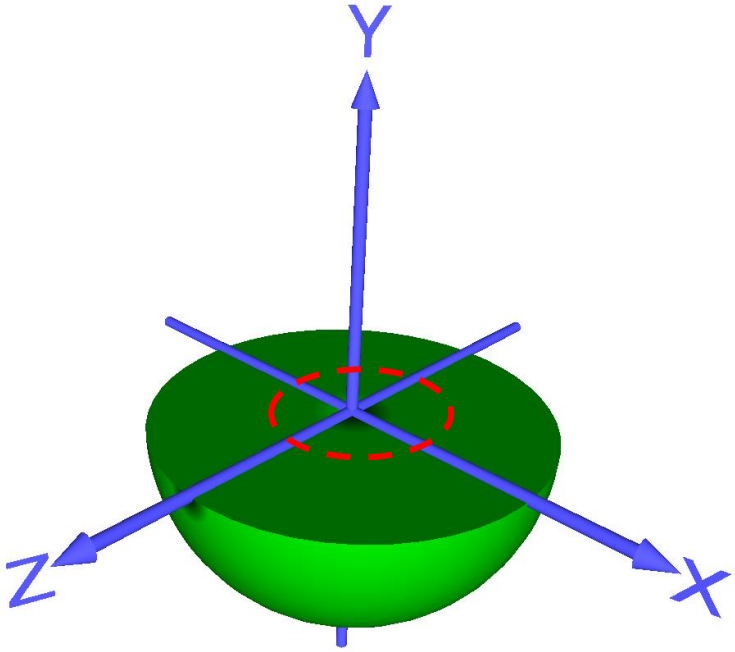


Sampling resolution [10 10 10]

	Note
	As shown on Solid Box 2 when the sampling resolution is increasing no changes happened. In conclusion, the minimum sampling resolution for the solid box is [1 1 1].
Q1b	Solid Three-sided Pyramid 1
	
	Sampling resolution [1 1 1]
	Name of the file: Q1b.wrl
	Solid Three-sided Pyramid 2
	
	Sampling resolution [25 25 25]

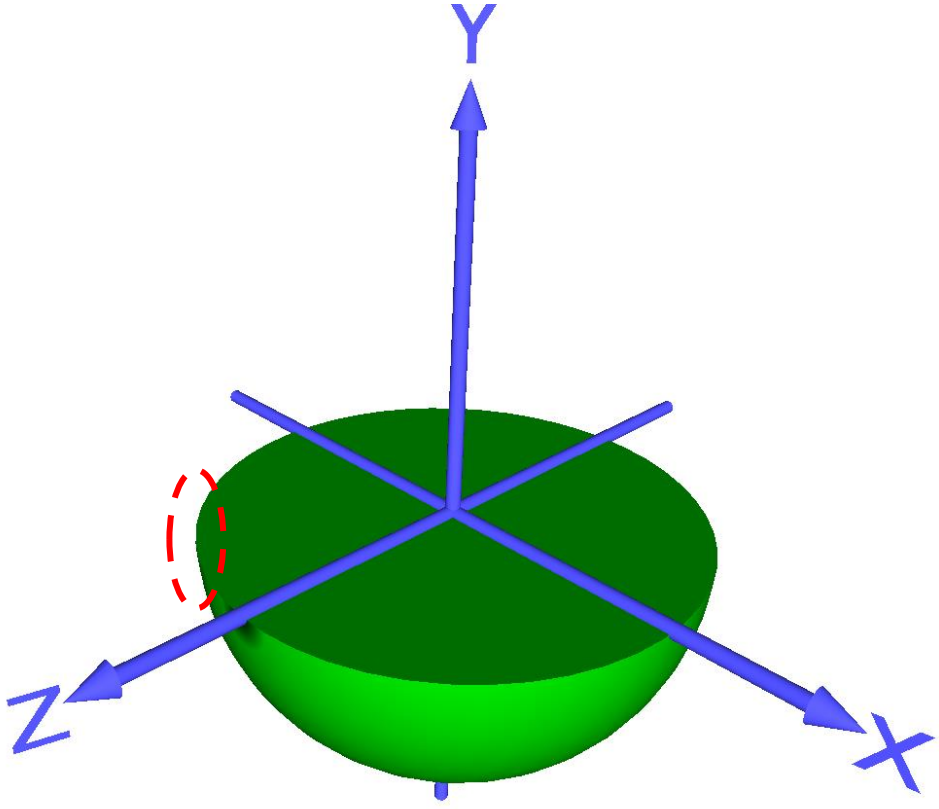
	Note
	As shown on Solid Three-sided Pyramid 2, when the sampling resolution is increasing the lighter the colour is display. But there are no changes to the solid pyramid shape. In conclusion, the minimum sampling resolution of the Solid Three-sided Pyramid is [1 1 1].
Q1c	Half of Solid Sphere 1
	
	Sampling resolution [35 40 20]
	Name of the file: Q1c.wrl

Half of Solid Sphere 2



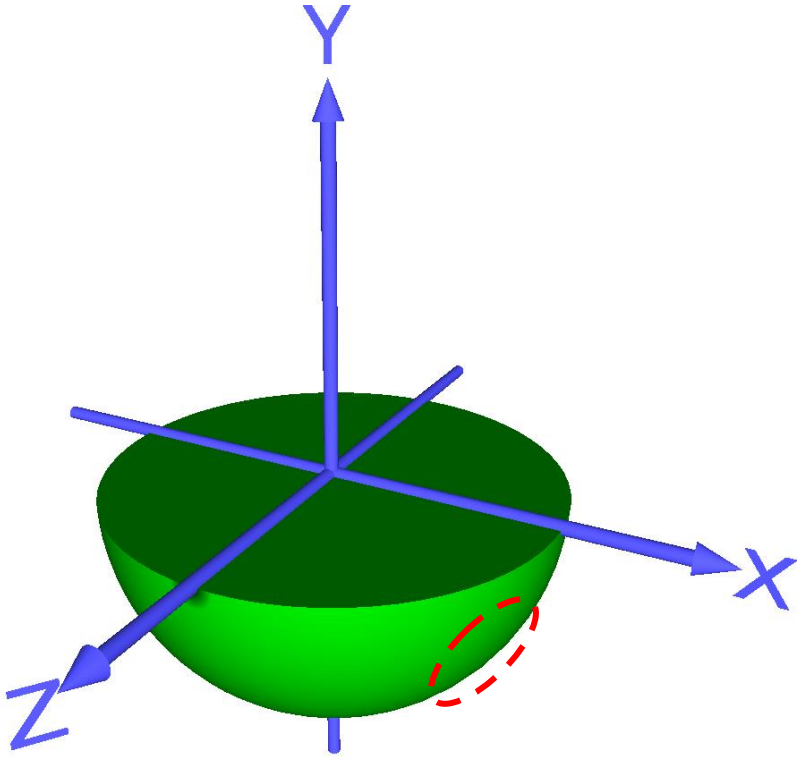
Sampling resolution [35 40 10]

Half of Solid Sphere 3



Sampling resolution [25 40 20]

Half of Solid Sphere 4

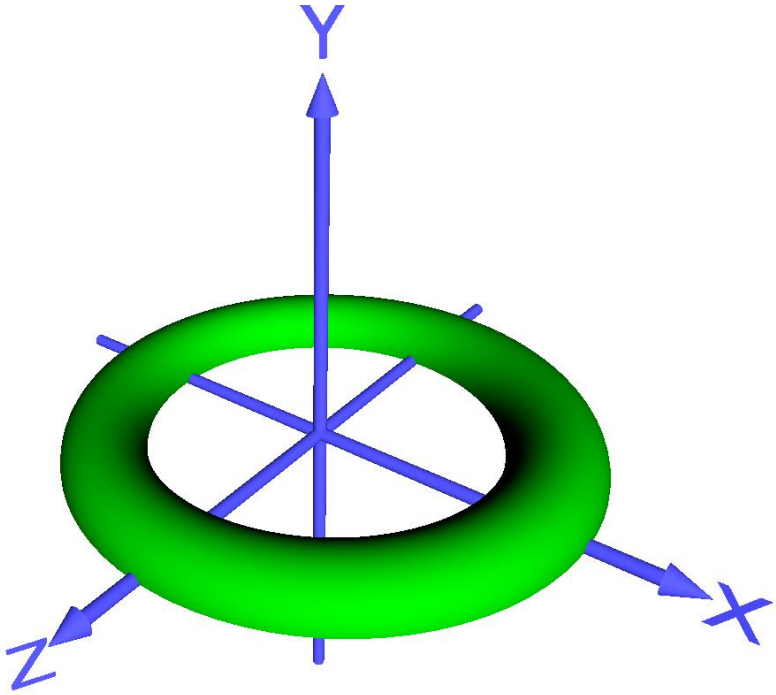
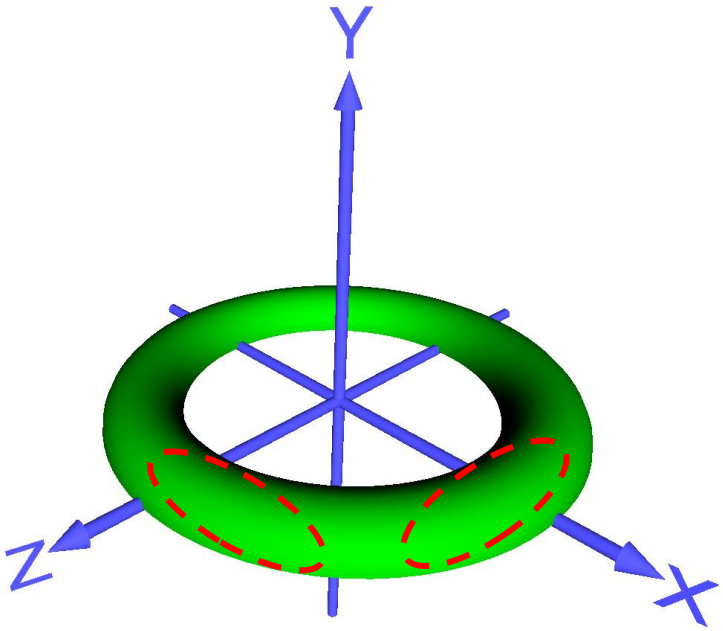


Sampling resolution [35 30 20]

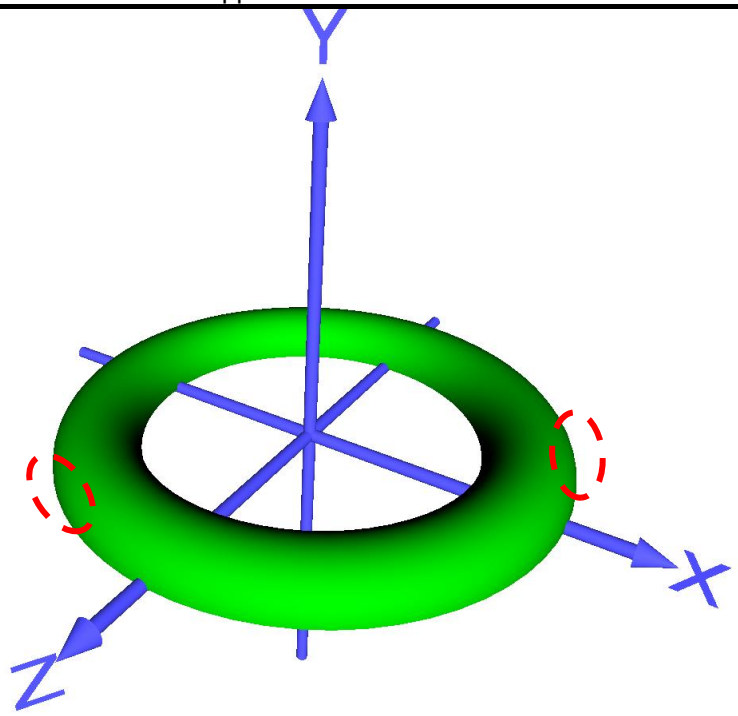
Note

In Half of Solid Sphere 2, when the sampling resolution of w is reduced to 10, notice the black patches formed at the top of the half sphere.
In Half of Solid Sphere 3, when the sampling resolution of u is reduced to 25, lines are formed on the circle at top of the half sphere.
In Half of Solid Sphere 4, when the sampling resolution of v is reduced to 30, lines are formed on the bottom curve of the half sphere.

In conclusion, the minimum sampling resolution for half of solid sphere is [35 40 20].

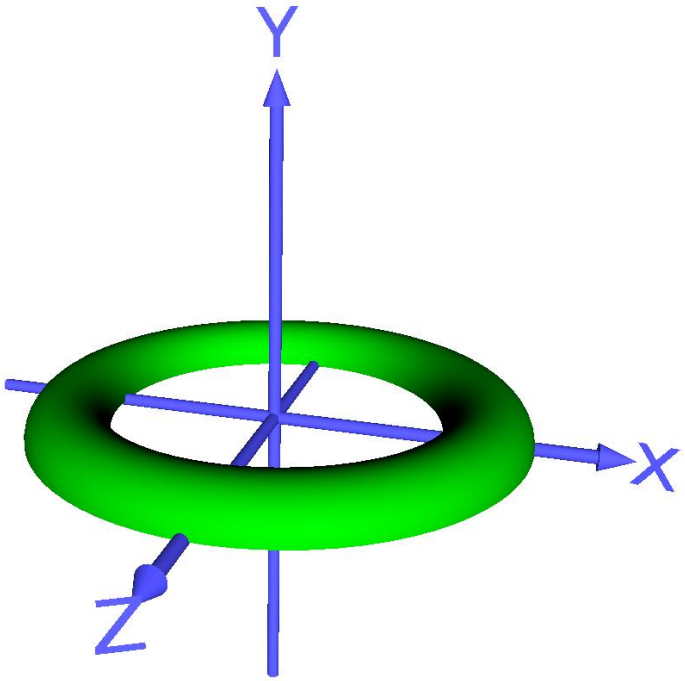
1d	Upper Half of The Torus 1
	
	Sampling resolution [20 80 80]
	Name of the file: Q1d.wrl
	Upper Half of The Torus 2
	
	Sampling resolution [10 80 80]

Upper Half of The Torus 3

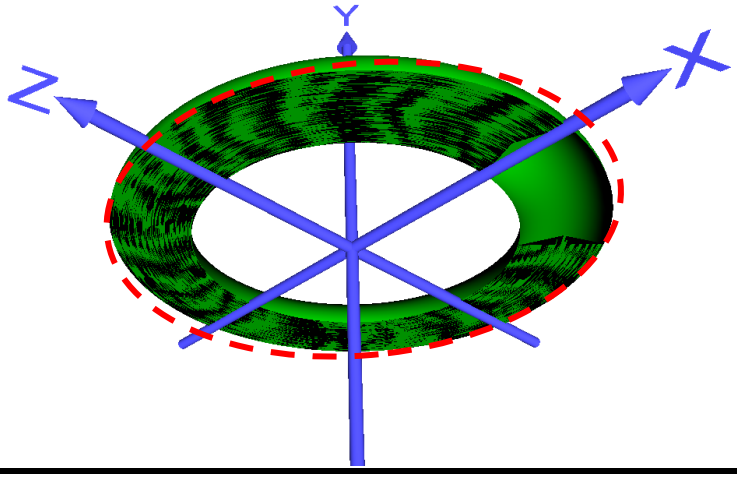


Sampling resolution [20 65 65]

Upper Half of The Torus 4



Upper Half of The Torus 4 (bottom view)



Sampling resolution [20 80 70]

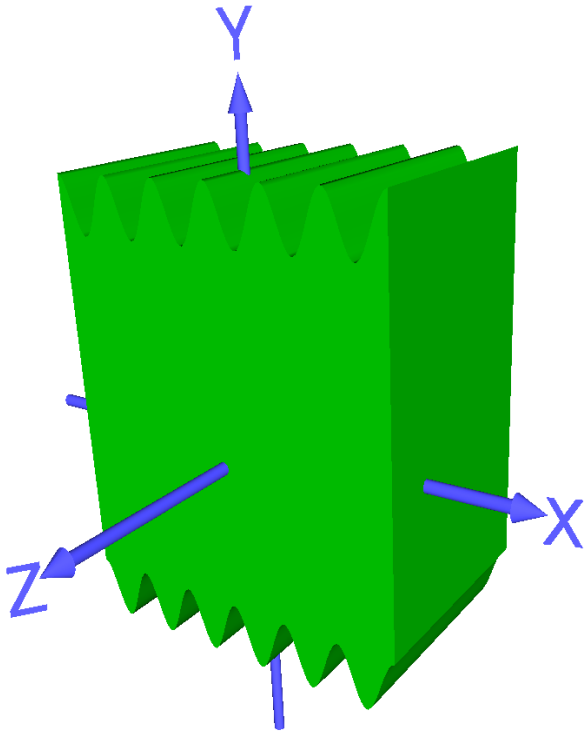
Note

In Upper Half of The Torus 2, when the sampling resolution of u is reduced to 10, notice dark line are formed on the surface curve of the half torus .
In Upper Half of The Torus 3, when the sampling resolution of v and w are reduced to 65, lines at the side of the half torus. Sampling resolution w must not be greater than sampling resolution v, as the program will crash.
In Upper Half of The Torus 4, when the sampling resolution of w is reduced to 70, notice the dark scratches of line formed below the half torus.

In conclusion, the minimum sampling resolution for upper half of the torus is [20 80 80].

Q2

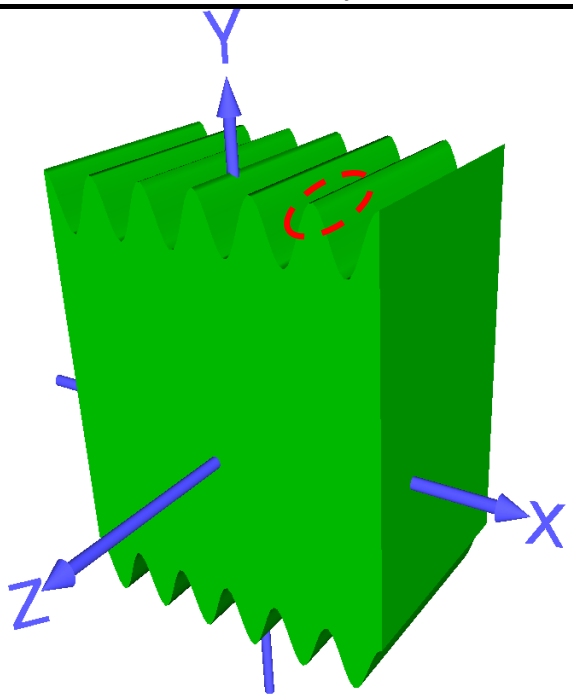
Solid Cosine Object 1



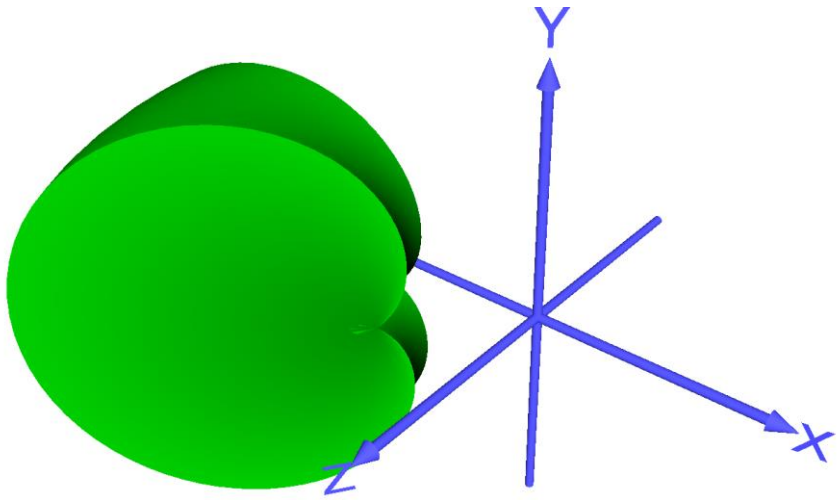
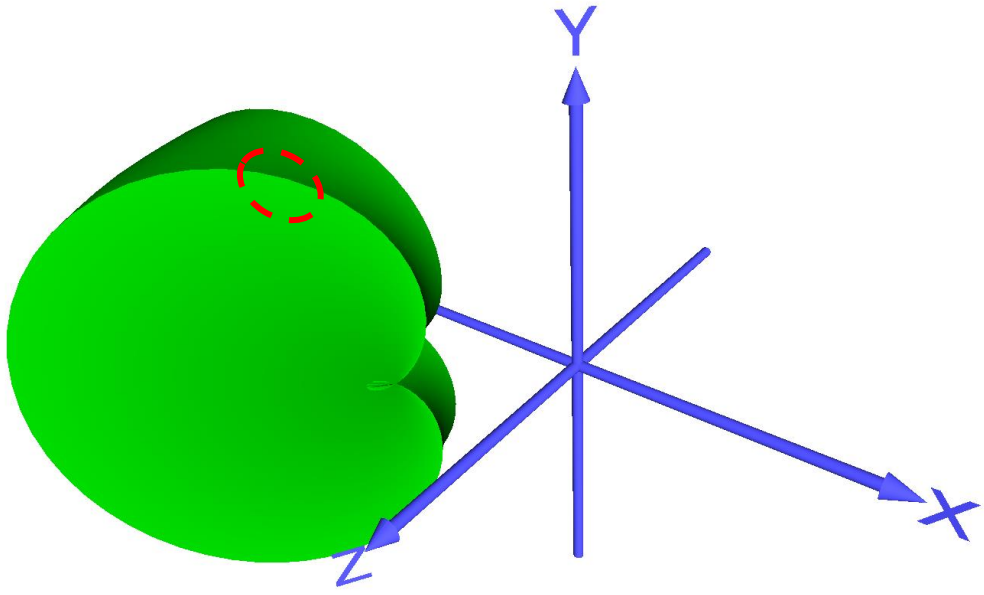
Sampling resolution [100 1 1]

Name of the file: Q2.wrl

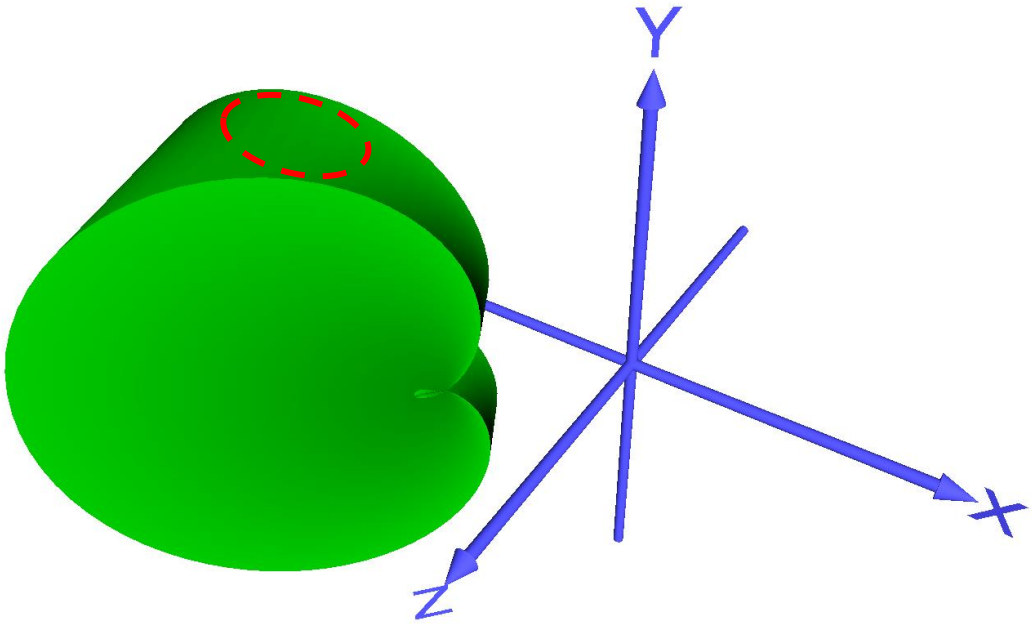
Solid Cosine Object 2



Sampling resolution [80 1 1]

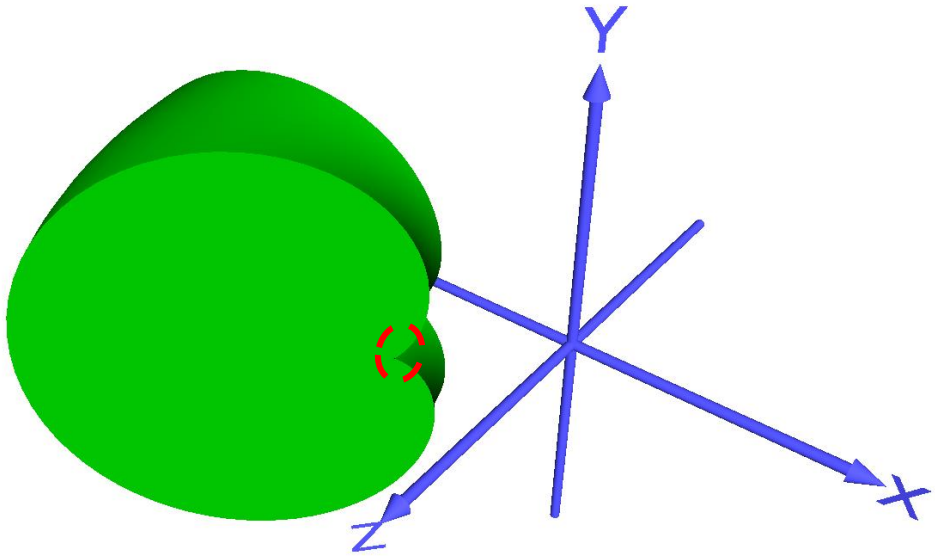
	Note
	In Solid Cosine Object 2, when the sampling resolution u is reduced to 80, lines on the cosine curve is formed. Since solid cosine object is formed by surface, increase sampling resolution of v and w will not have any changes to the solid cosine object. In conclusion, the minimum sampling resolution for solid cosine object is [100 1 1].
Q3	Limaçon Solid 1
	
	Sampling resolution [100 5 1]
	Name of the file: Q3.wrl
	Limaçon Solid 2
	
	Sampling resolution [75 5 1]

Limaçon Solid 3



Sampling resolution [100 1 1]

Limaçon Solid 4



Sampling resolution [100 120 120]

	Note
	In Limaçon Solid 2, when the sampling resolution of u is reduced to 75, notice lines are formed on the curve of the limaçon solid. In Limaçon Solid 3, when the sampling resolution of v reduced to 1, notice the dark line are formed on the surface of the Limaçon solid. In Limaçon Solid 4, increasing the sampling resolution of v and w to 120 could remove the patch at the tip of the Limaçon Solid. In conclusion, the minimum sampling resolution for limaçon solid is [100 5 1].