



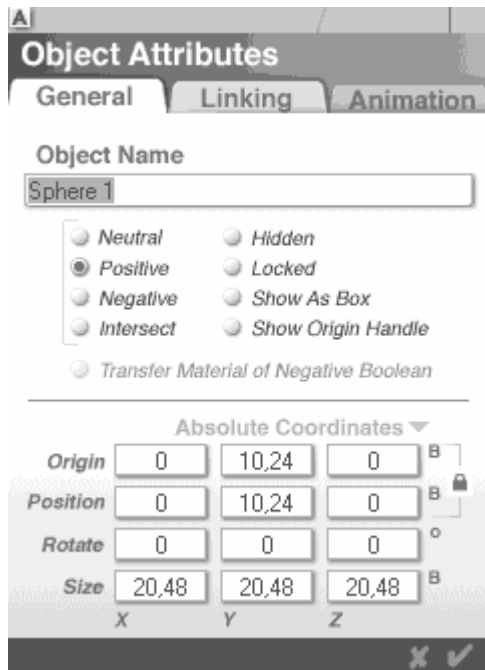
## BOOLEAN

### 1 ) Boolean Structuring

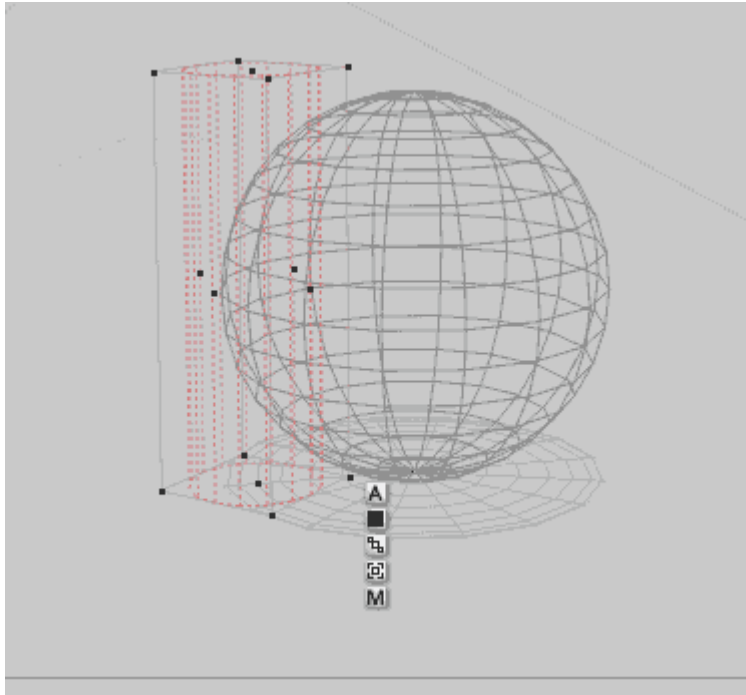
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This tutorial will go over the basics of boolean modeling which will enable you to create some interesting shapes and renders, lets get started.

Create a sphere and select it. Click that "A"-box near object and transfer object to positive boolean.

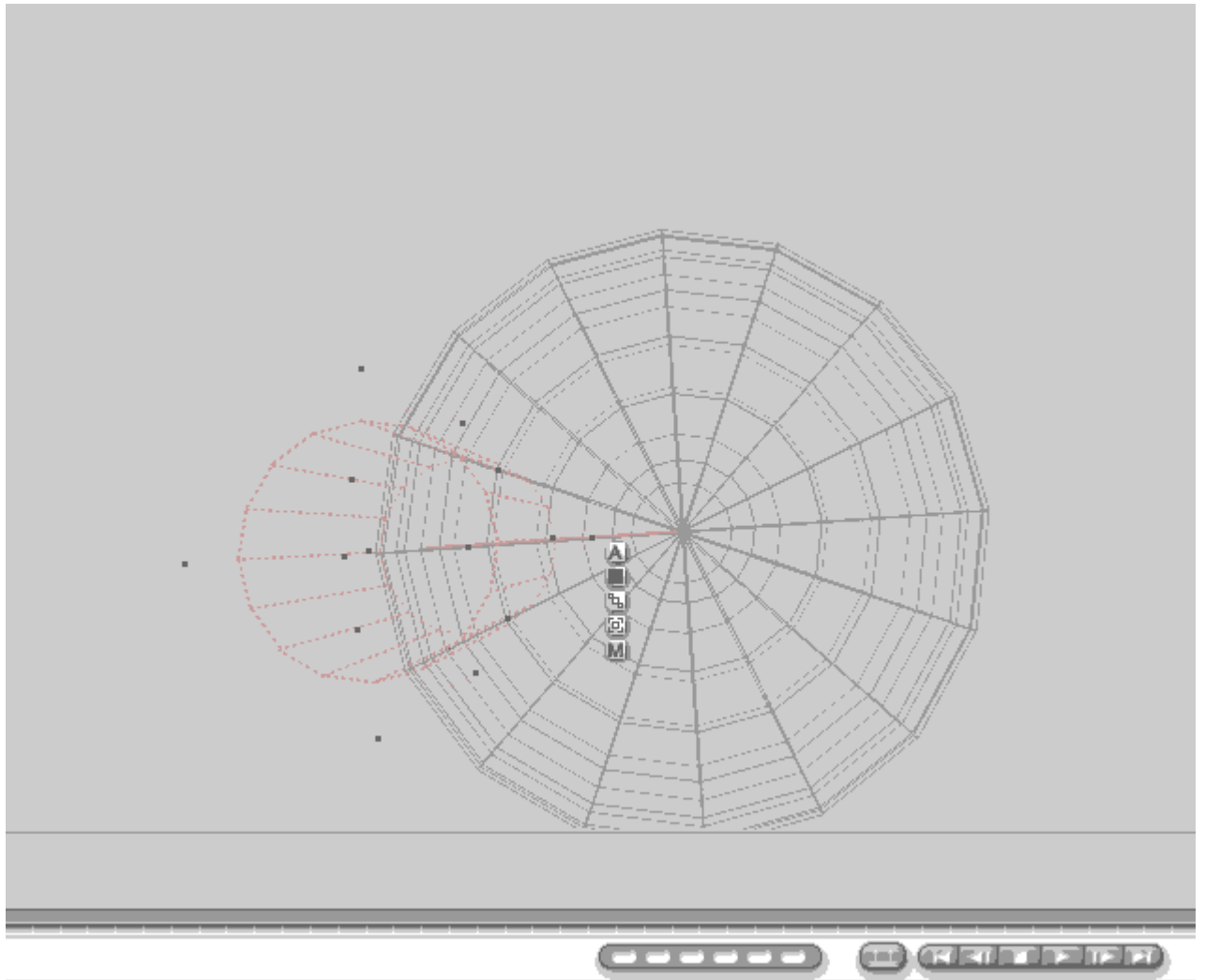


Now, create a cylinder. Place this cylinder like this:

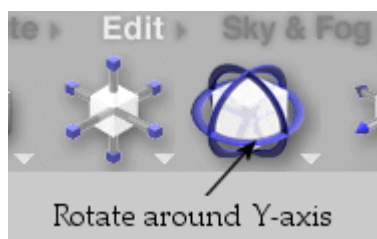


Click "A"-box near object and transfer it to negative boolean. Next step is to make 3 more cylinders.

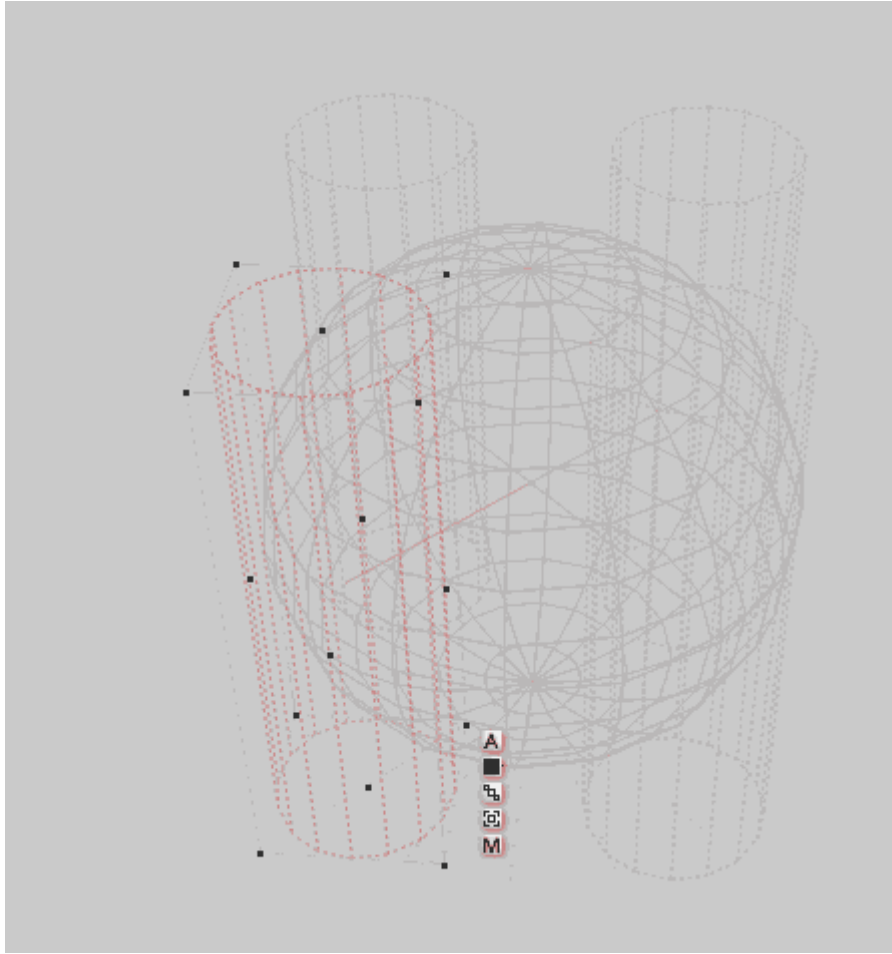
Now you need to select that cylinder 1 and click "A"-box near object. Choose "Show origin handle" and close this menu. You should see a little yellow point in center of your cylinder. Move your camera angle to get a top view. Just drag that yellow point to middle of that sphere like the image below.



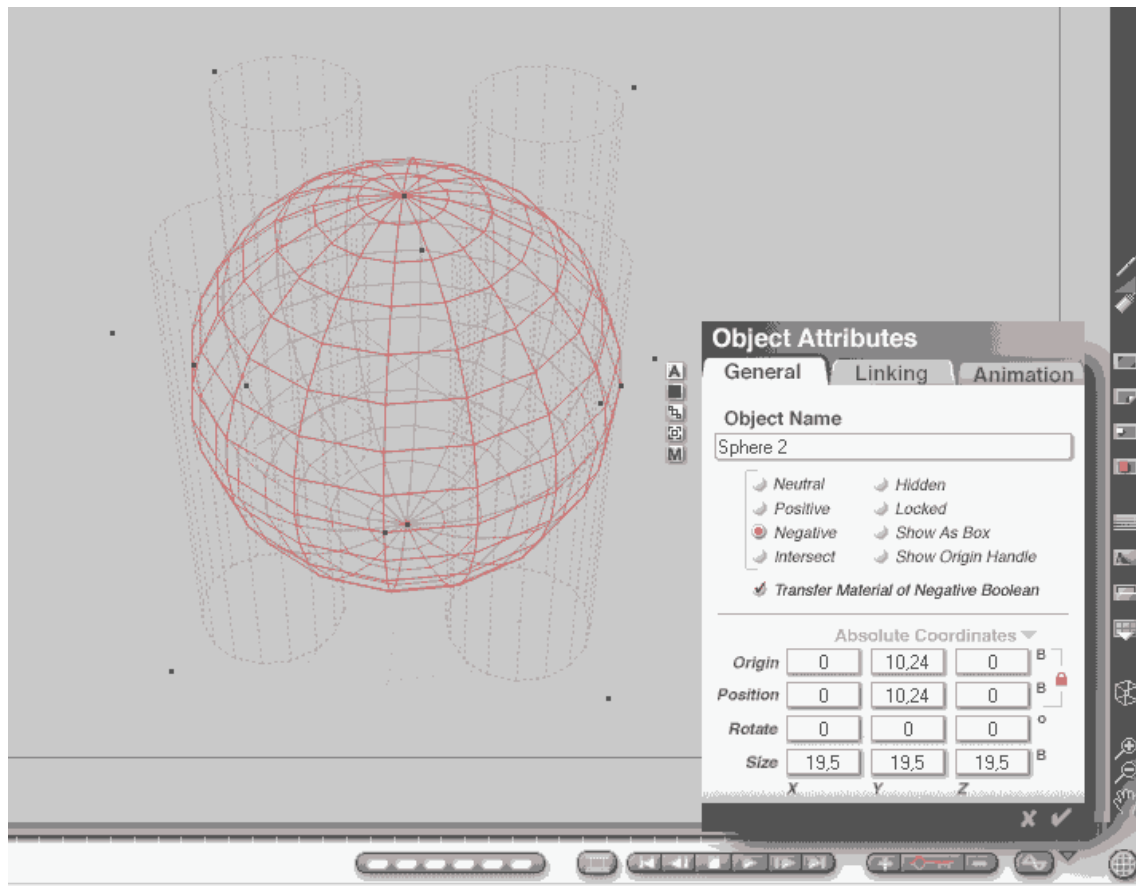
Your cylinder is now ready for copy "process". Copy Cylinder1 with Ctrl + C and paste a new Cylinder on top of your old cylinder with Ctrl + V and click EDIT tab. Now you need to hold Shift and rotate cylinder2 90 degree up or down using this tool:



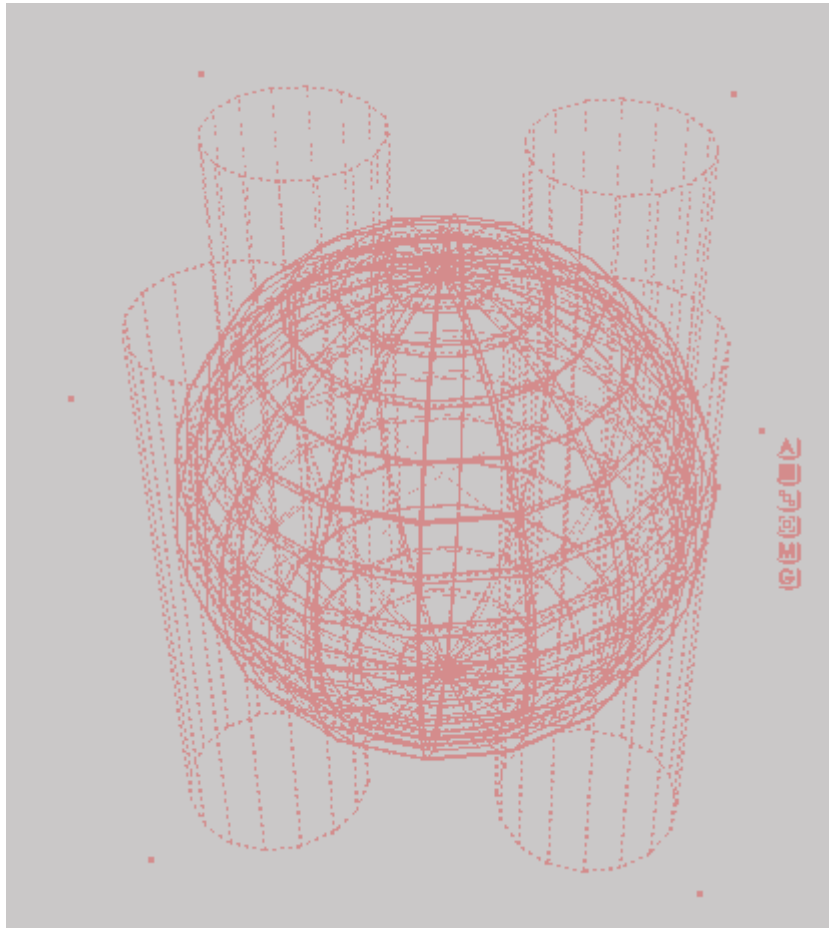
Repeat this copy process 2 times more and you have something like this:



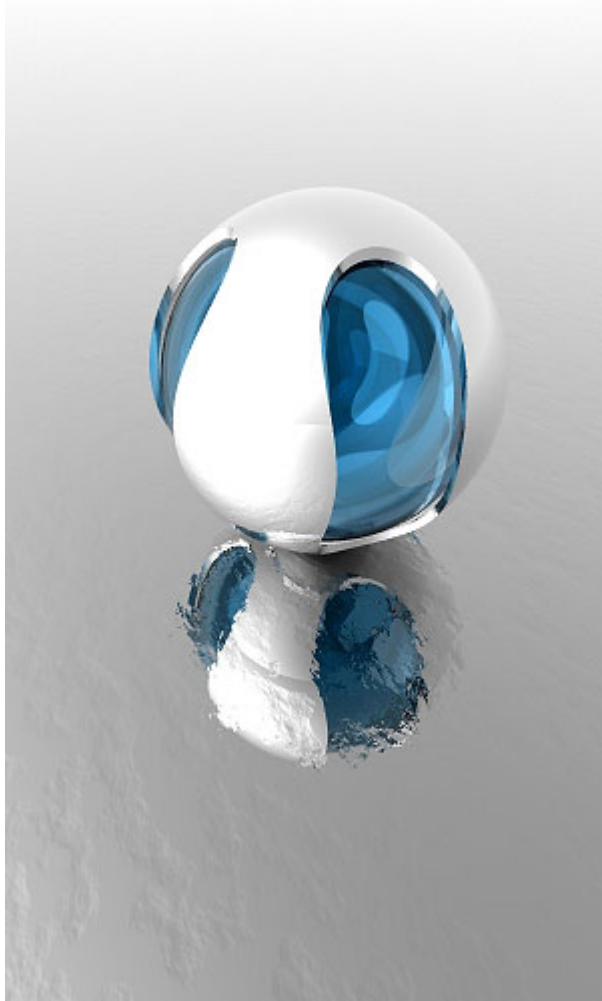
Now all your cylinders are ready. Next thing to do is modify your sphere. Hold Ctrl and click to center of your objects. Choose from the list Sphere 1. Copy this sphere (Ctrl + C) and paste a new one on top of old sphere (Ctrl + V) and click that "A"-box near new object. Transfer object to negative boolean and resize it (X,Y,Z) like this:



If you group your objects now, you see only a empty ball carved with four cylinders but perhaps you would like something inside as well. If so, don't group your objects yet. Choose Sphere 2, copy and paste a new sphere on top of old one. Click the "A"-box of new object and decrease the size of new sphere just a bit (like X=19,4 Y=19,4 Z=19,4) and transfer it to neutral boolean. Now there is a ball inside too. Choose all objects and click "G"-box near objects. Now your objects are all grouped together and your boolean model is ready. Your model should look pretty close to this:



This model is pretty simple now and you may want to add some material to objects. Choose your group and add some metallic texture to this group. After this, hold Ctrl and click to center of your objects and choose from list Sphere 3. Add some glass material to Sphere 3. Next, add one ground plane, texture ground plane with some reflective material and render.



I hope you enjoyed this tutorial and hopefully you got a good understanding of boolean modeling.

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