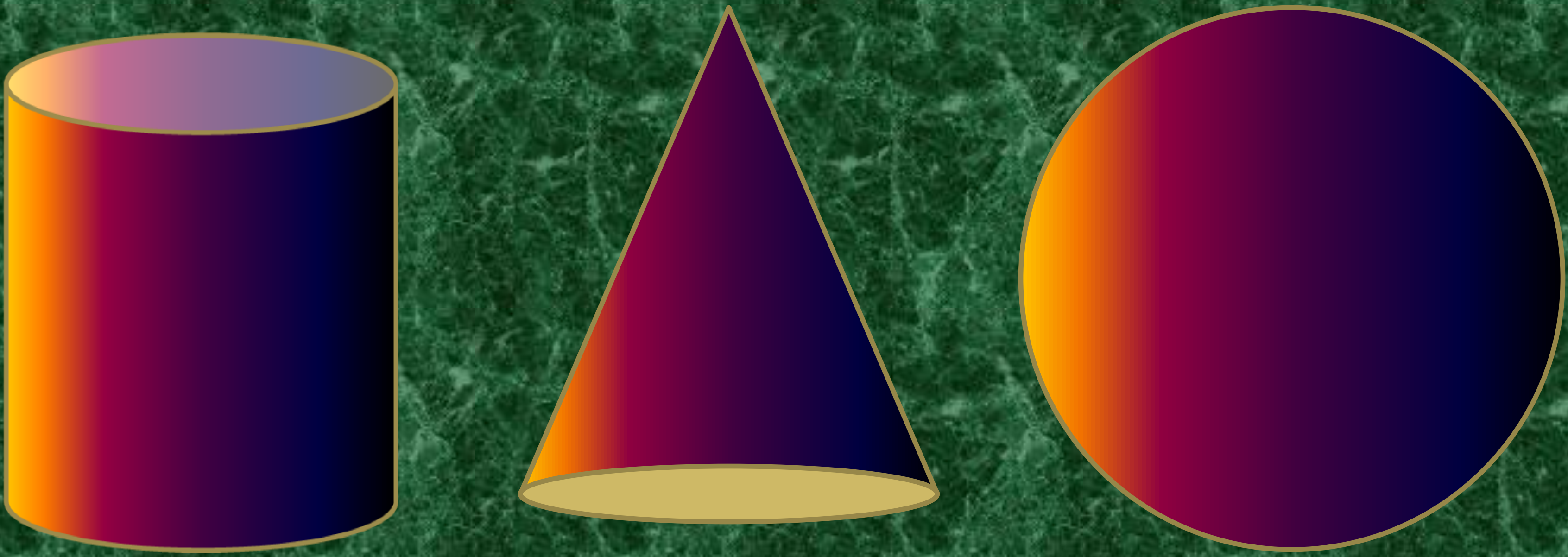
AYLANISH JISMLARINI MULTIMEDIYA ASOSIDA TUSHUNTIRISH

R E J A

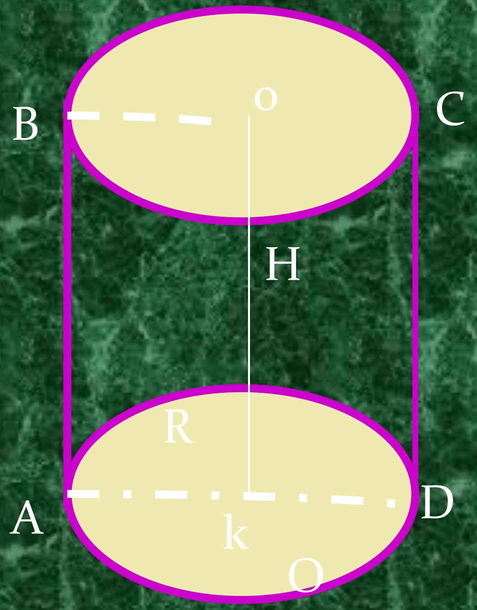
I. Sodda aylanish jismlari haqida qisqacha ma’lumotlar.
II. Geometrik jismlarning *SketchUp5* va *AutoDesk Maya8* kompyuter dasturlari yordamidagi annimatsion ko’rinishlari.
III. Shar segmenti va shar kamari. Sfera va uning qismlari sirtining yuzi. Shar va uning qismlari hajmi.
IV. Masalalar yechish.

SODDA AYLANISH JISMLARI



Silindr

Parallel ko'chirish bilan ustma-ust loylashadigan va bitta tekislikda yotmaydigan ikki doiradan va bu doiralarning mos huqtalarini tutashtiruvchi hamma parallel to'g'ri chiziq kesmalaridan tashkil topgan jism silindr deyiladi.



Silindrning yon sirti yusi $S=2\pi RH$

Silindrning to'la sirti $S=S_{YON}+2S_{ASOS}=$
$=2\pi RH+2\pi R^2=2\pi R(H+R)$

Silindrning hajmi $V=\pi R^2 H$

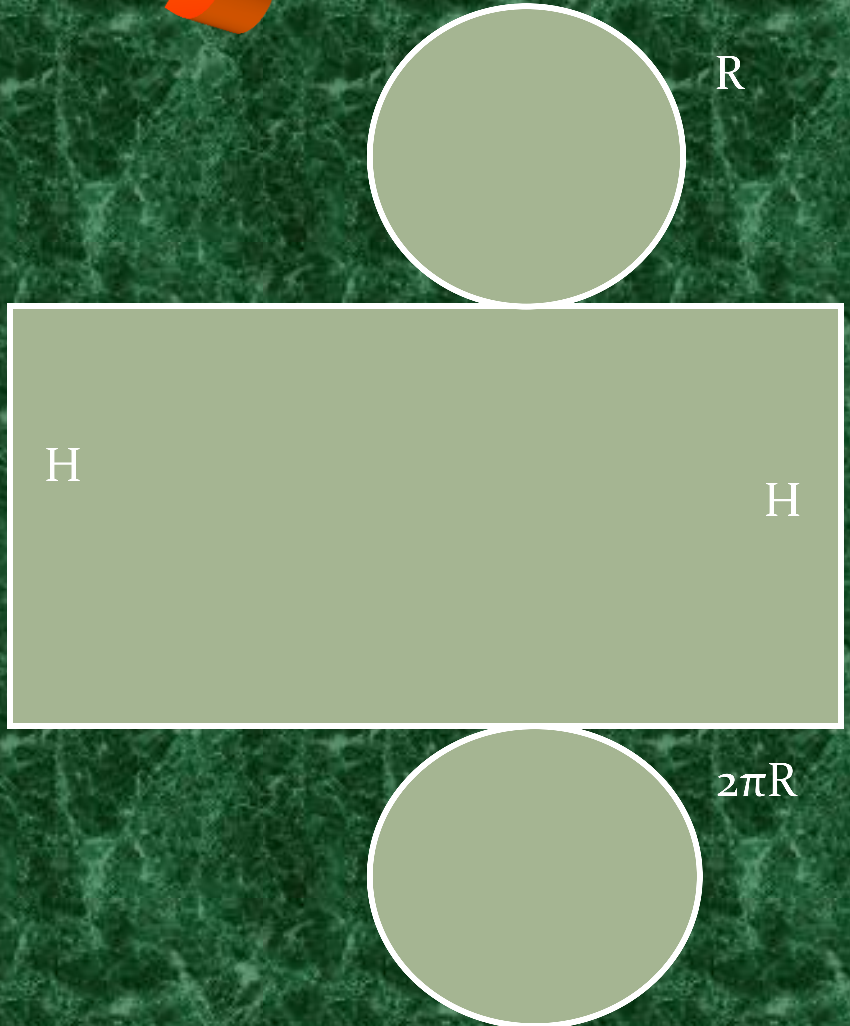
S – sirt yuzi

R –asos aylanasining radiusi

H –silindrning balandligi

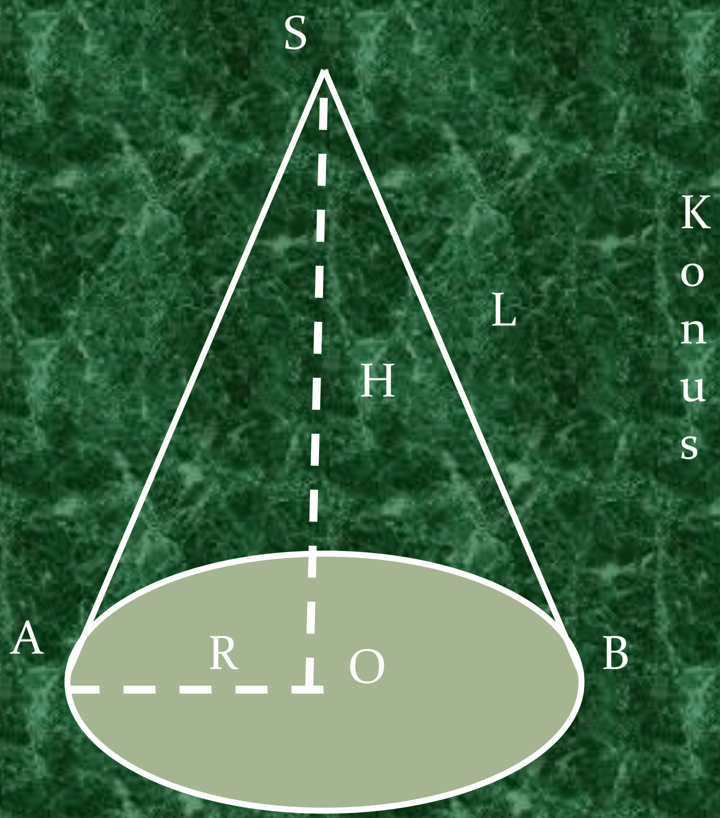
V –silindrning hajmi

SILINDRNING YOYILMASI



Yoyilmadagi doiralar silindr ning asoslari , to'gri to'rtburchak esa silindrning yon sirti. Bu to'g'ri to'rtburchakning balandligi silindr balandigiga, asosi esa silindr asosining aylanasi uzunligidan iborat.

KONUS



Konusning yon sirti yusi $S=\pi RL$

Konusning to'la sirti
$S=\pi RL+\pi R^2$

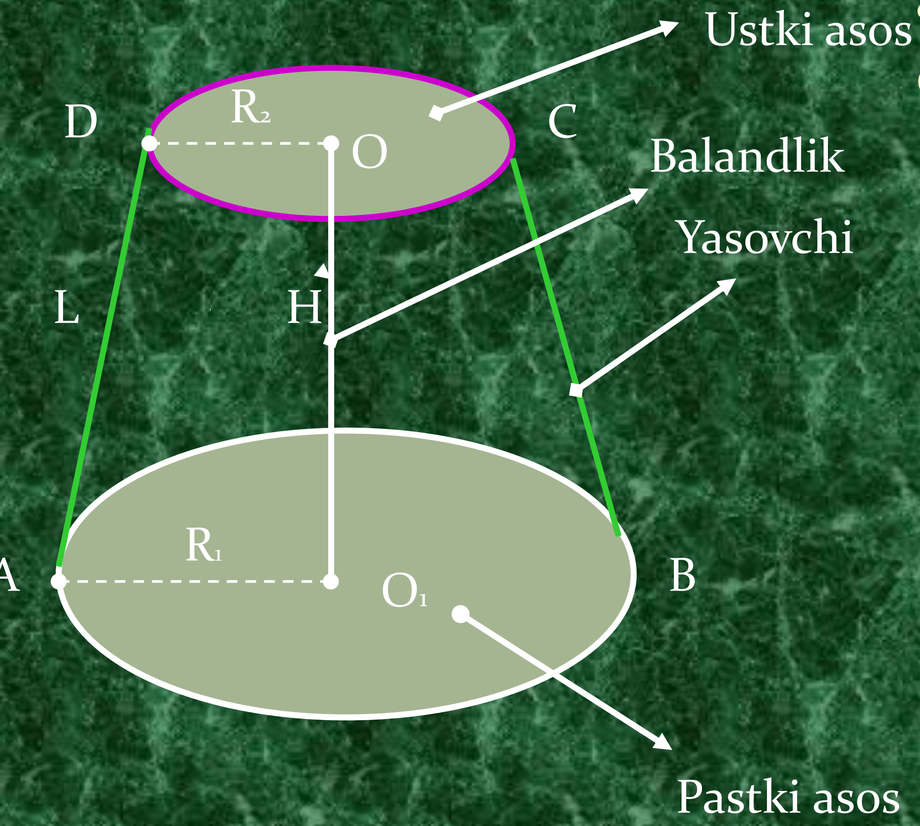
Konusning hajmi $V=1/3\pi R^2H$

S - sirt yuzi
R –konus asosining radiusi
L - konus yasovchisi
V- konus hajmi
H -balandligi

Kohus deb shunday jismga aytiladiki, shu doira tekisligida yotmagan huqta – konusning uchidan va konusning uchini asosining hamma huqtalari bilan tutashtiruvchi kesmalardan iborat bo'ladi.

KESIK KONUS

Konusning asosiga parallel va konusni kesib o’tuvchi tekislik undan kichikroq konusni kesib ajratadi.Konusning qolgan qismi **kesik konus** deyiladi



$$S_{YON}=\pi(R_1+R_2)$$

$$S_{TO'LA}=\pi(R_1^2+R_2^2+L(R_1+R_2)$$

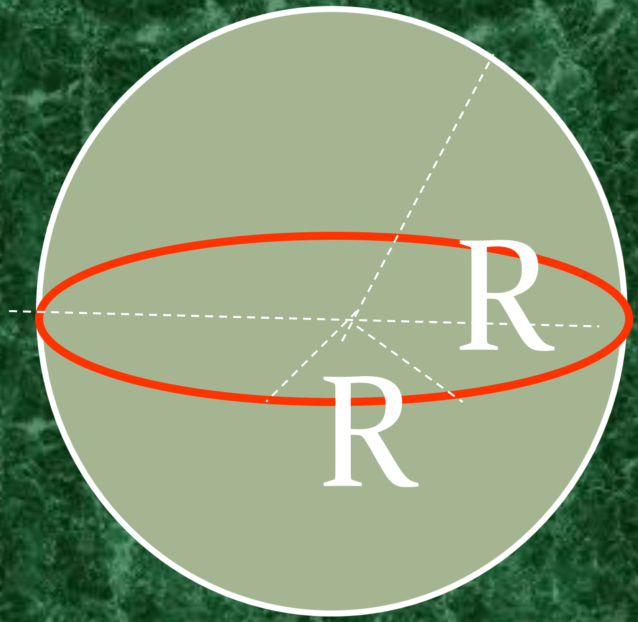
$$V=\tfrac{1}{3}\pi H(R_1^2+R_1*R_2+R_2^2)$$

R_1 - pastki asos radiusi

R_2 - ustki asos radiusi

SHAR

Fazoning berilgan huqtadan berilgan masofadan katta bo'lmagan uzoqlikda yotgan hamma huqtalaridan iborat jism shar deyiladi.



Shar sirti $S=4\pi R^2$

Sharning hajmi $V=4/3\pi R^3$

S - sirti

V - hajmi

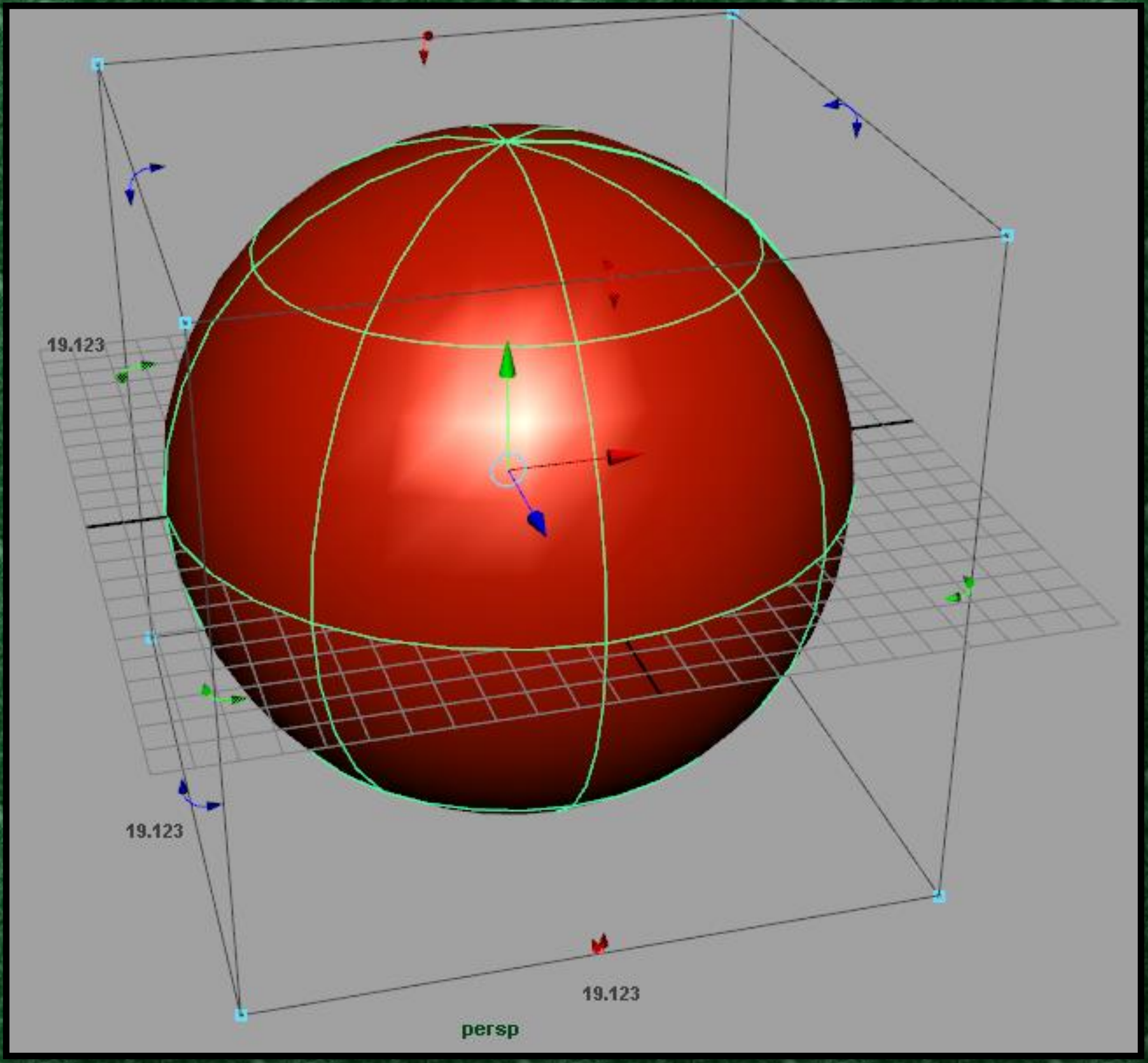
R – radius

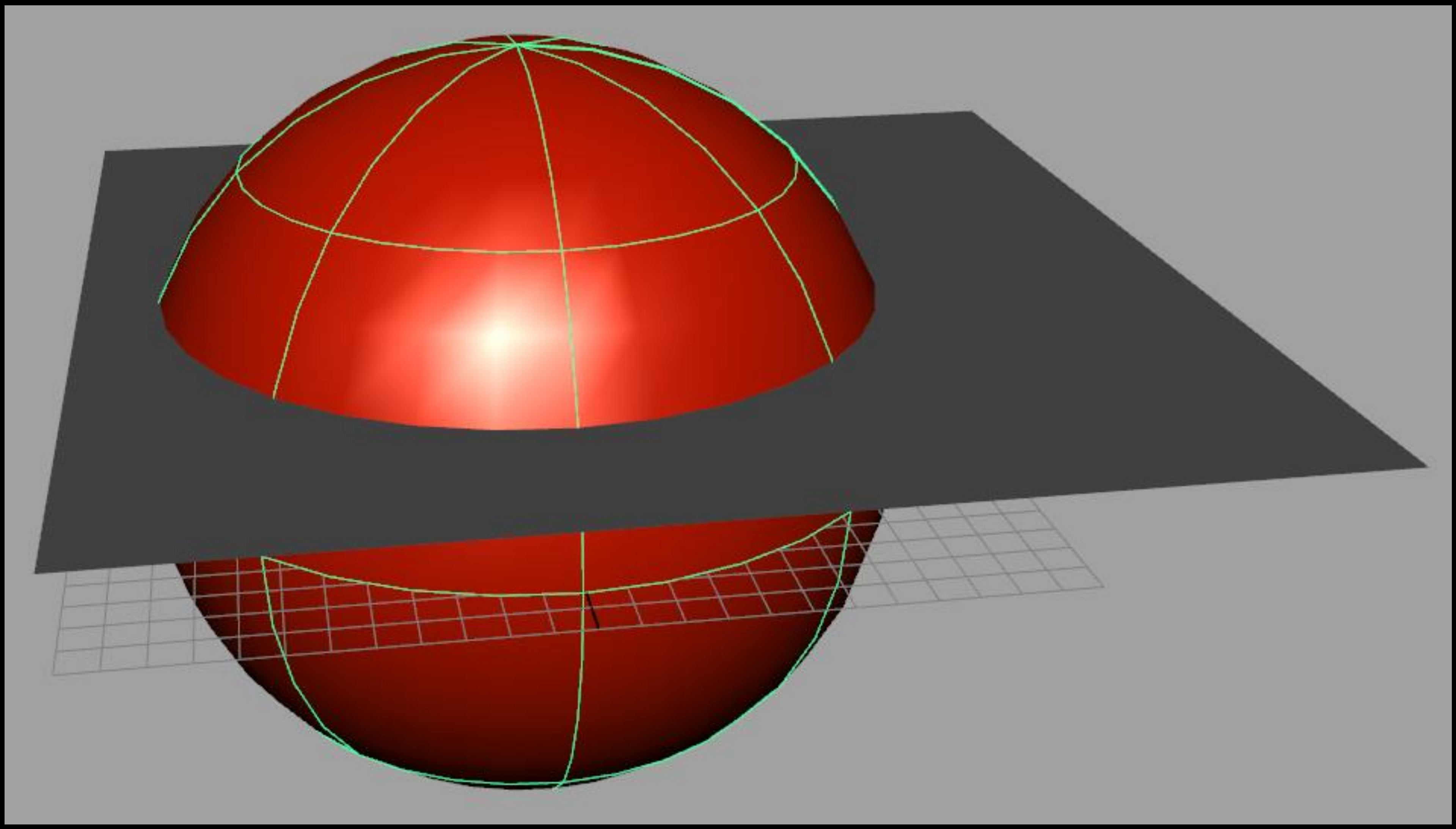
$\pi \approx 3,14...$

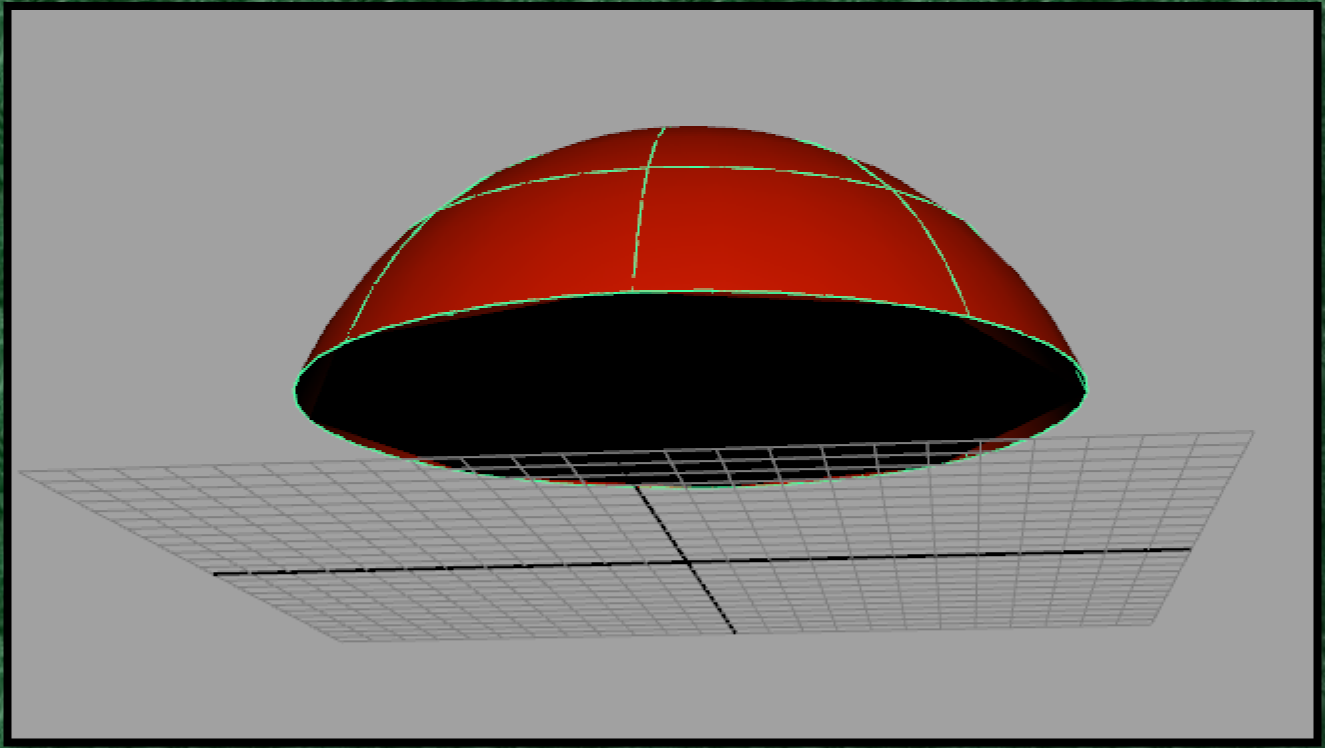
Geometrik jismlarning *SketchUp5* va *AutoDesk Maya8* kompyuter dasturlari yordamidagi annimatsion ko'rinishlari.

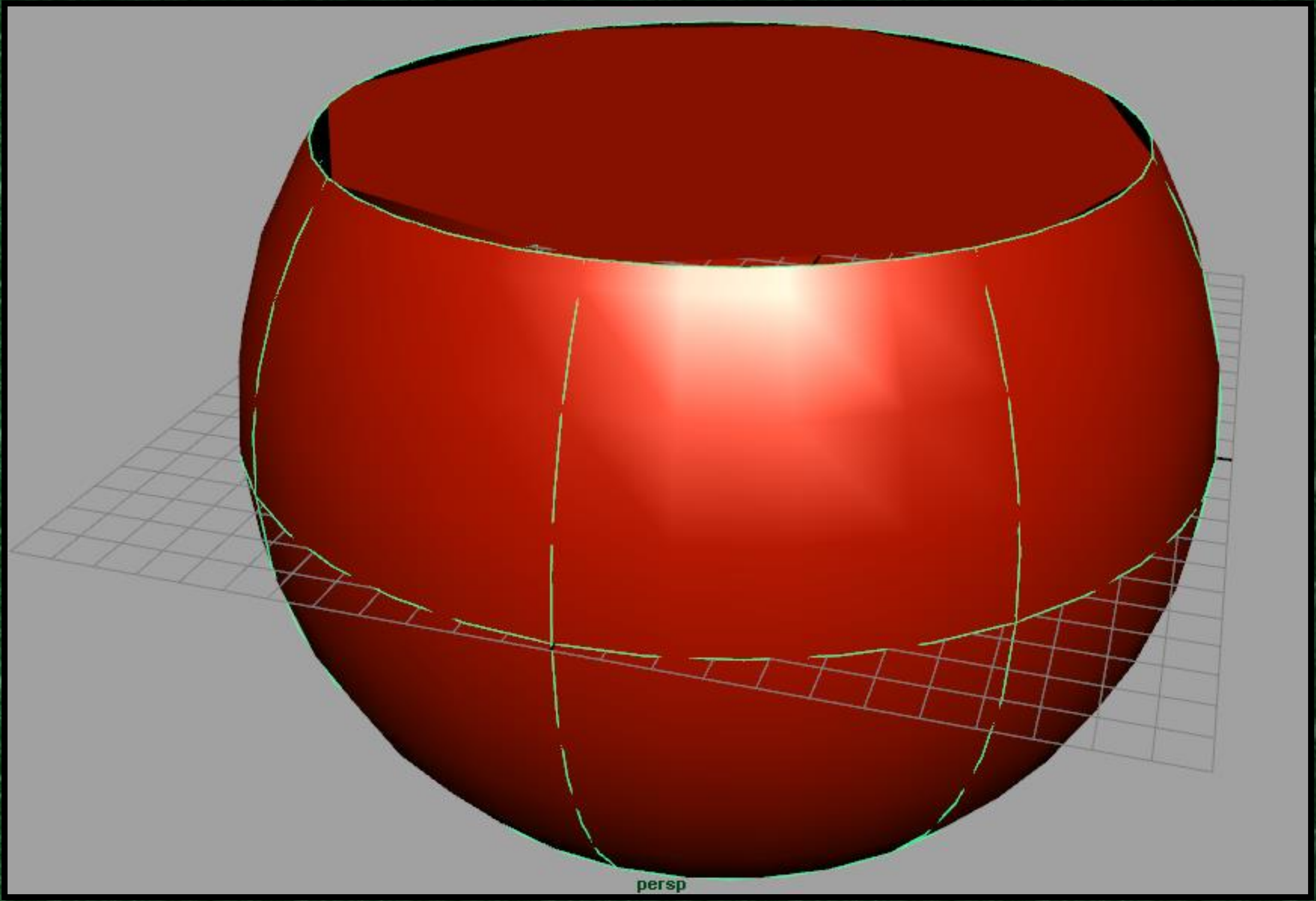
SketchUp5

AutoDesk Maya8


19.123
19.123
19.123
persp



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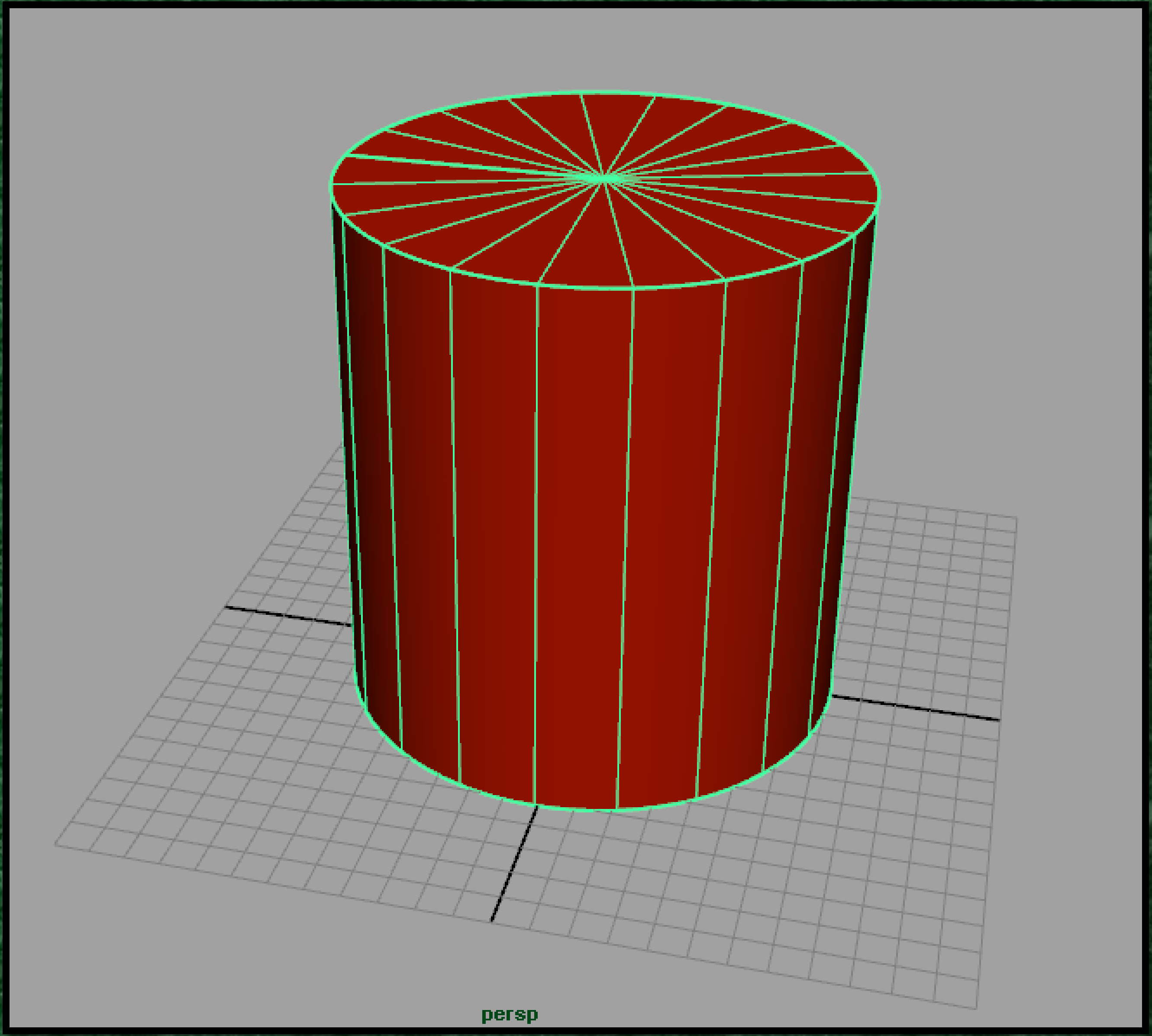
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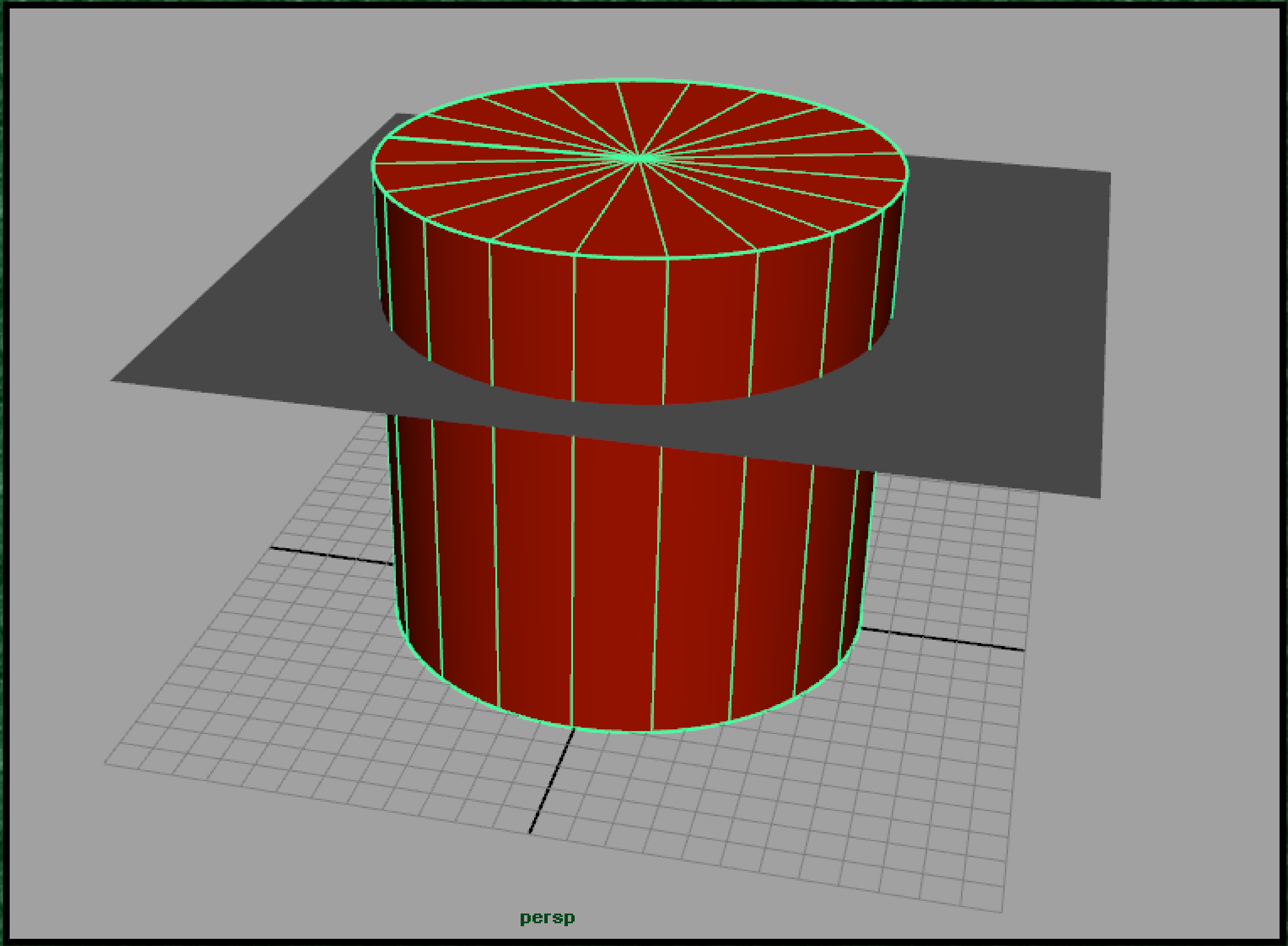
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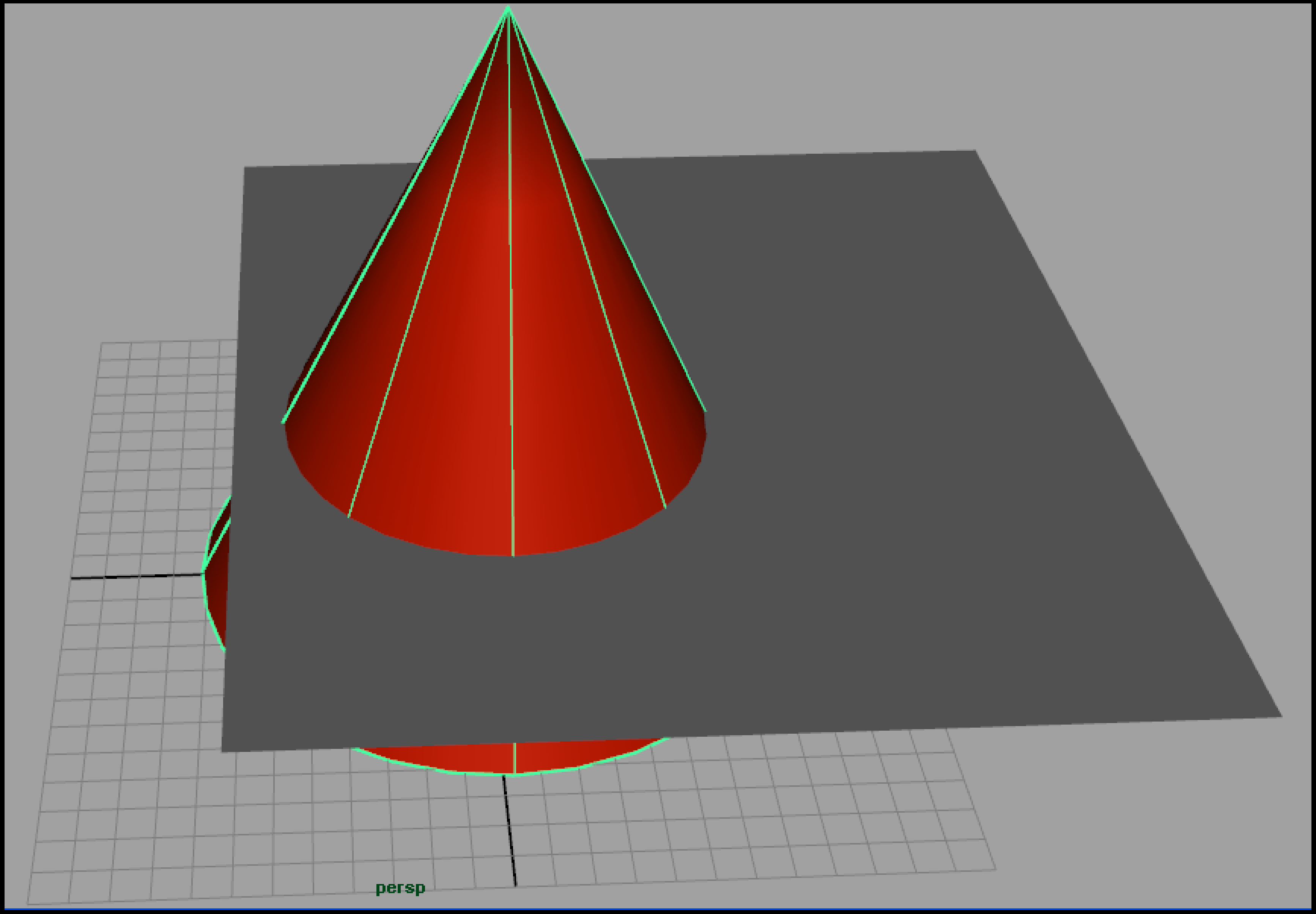
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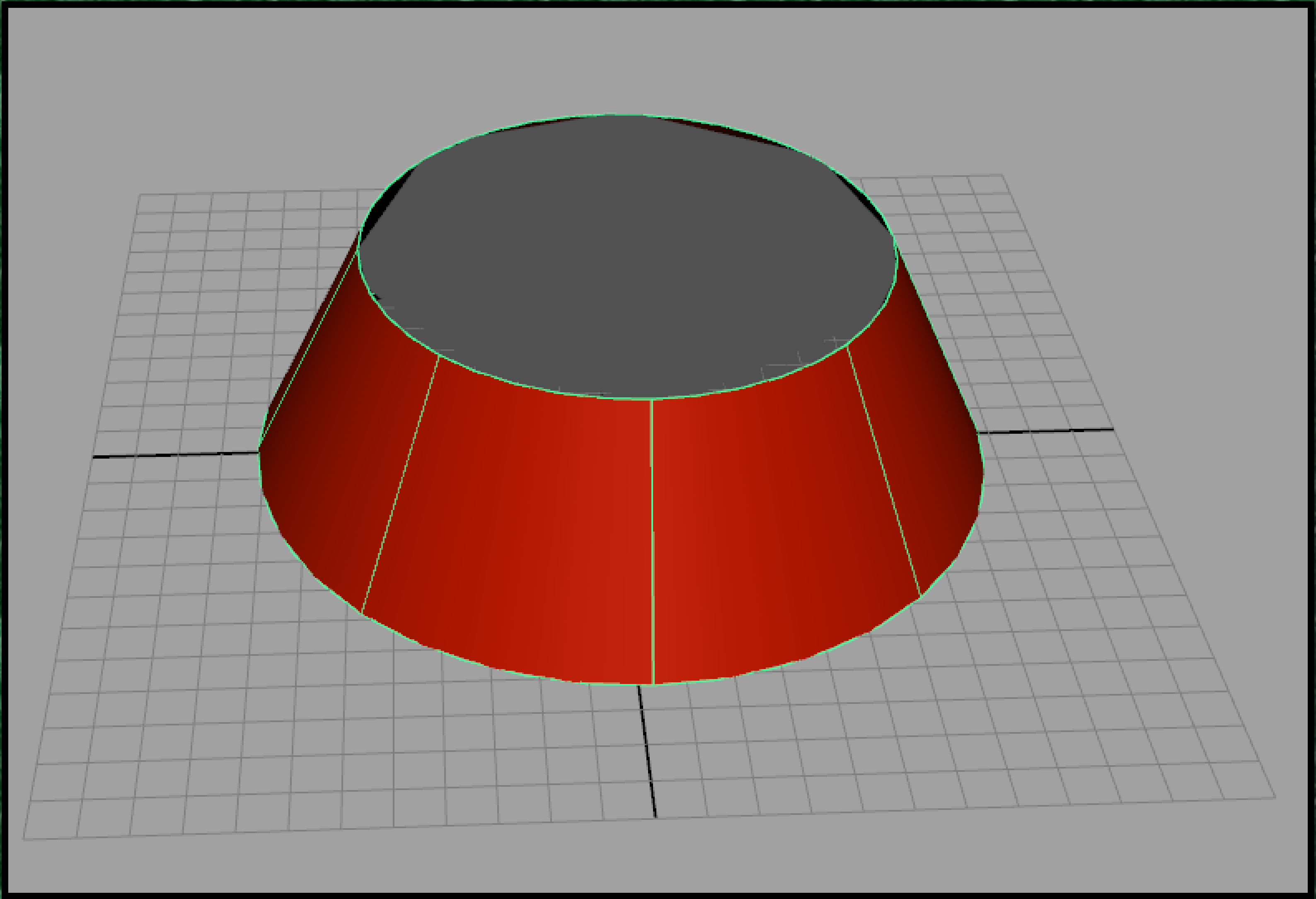

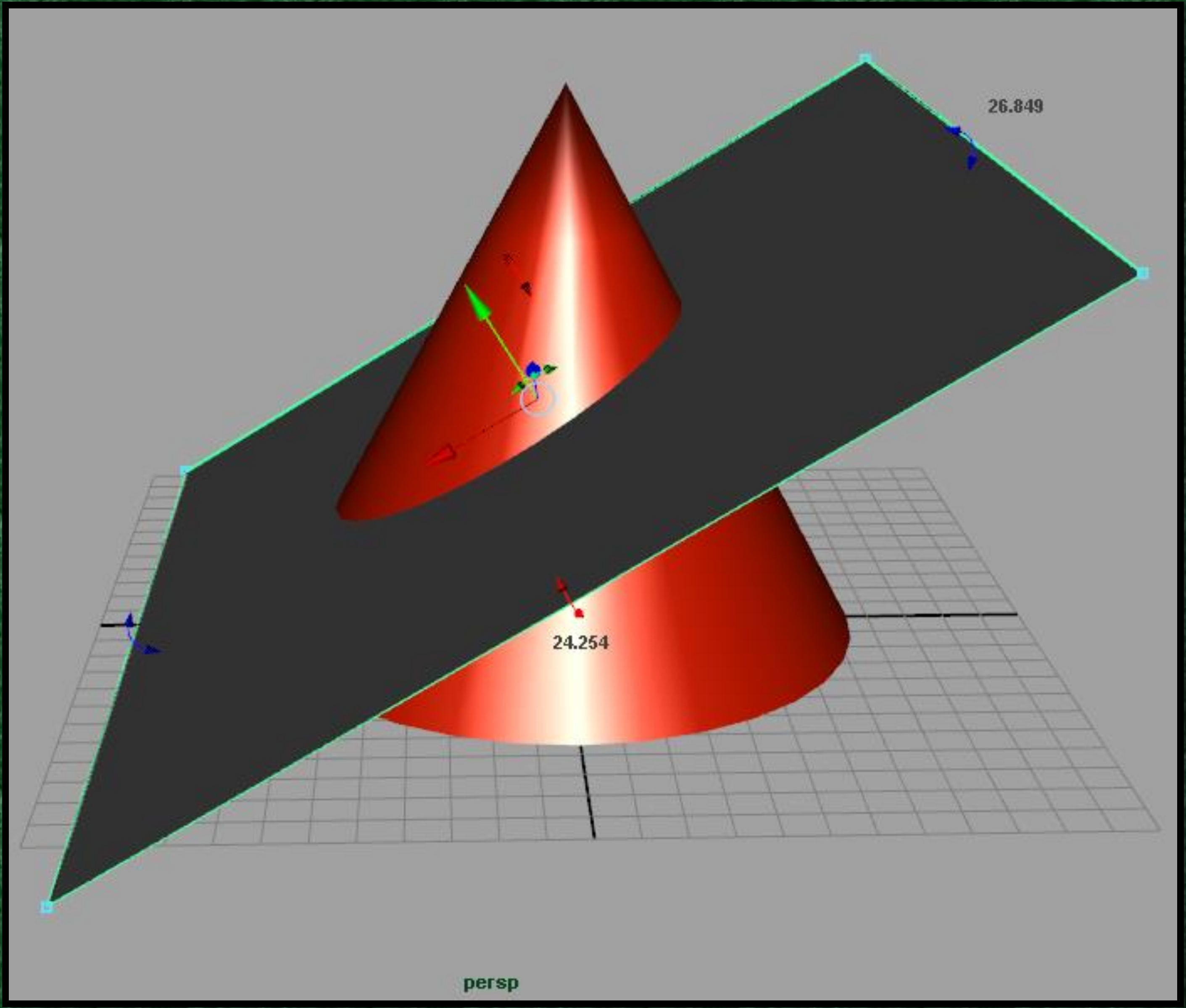
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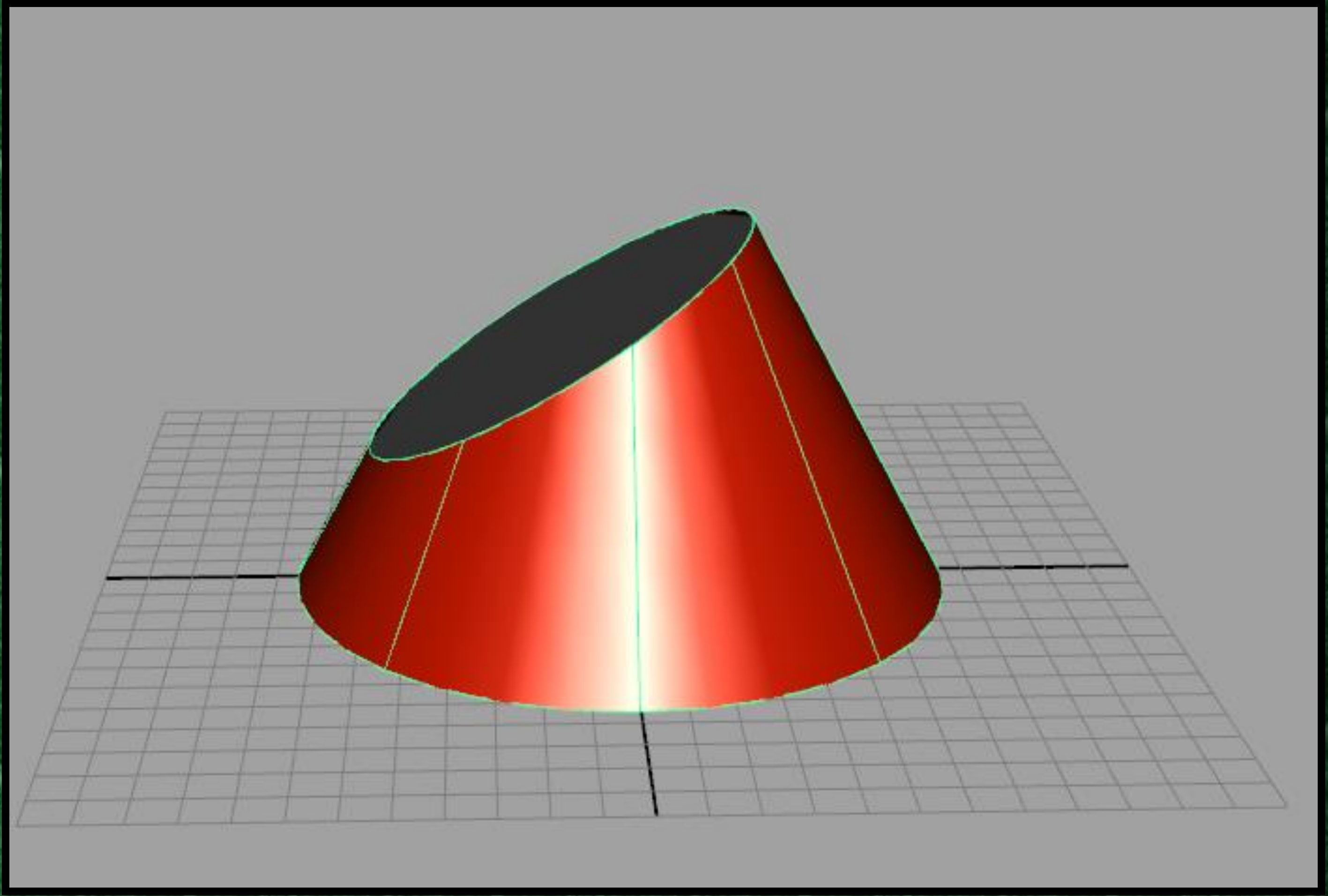

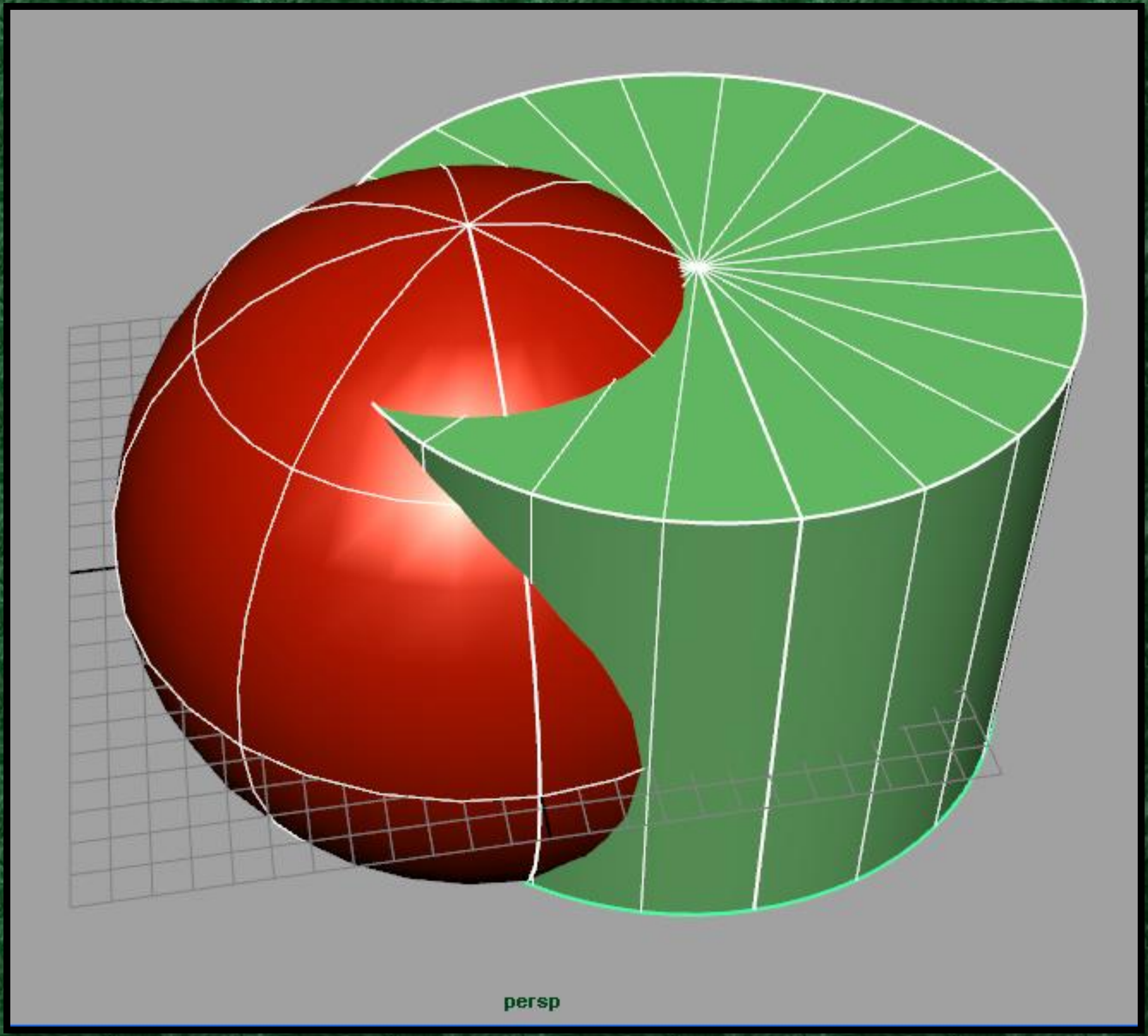
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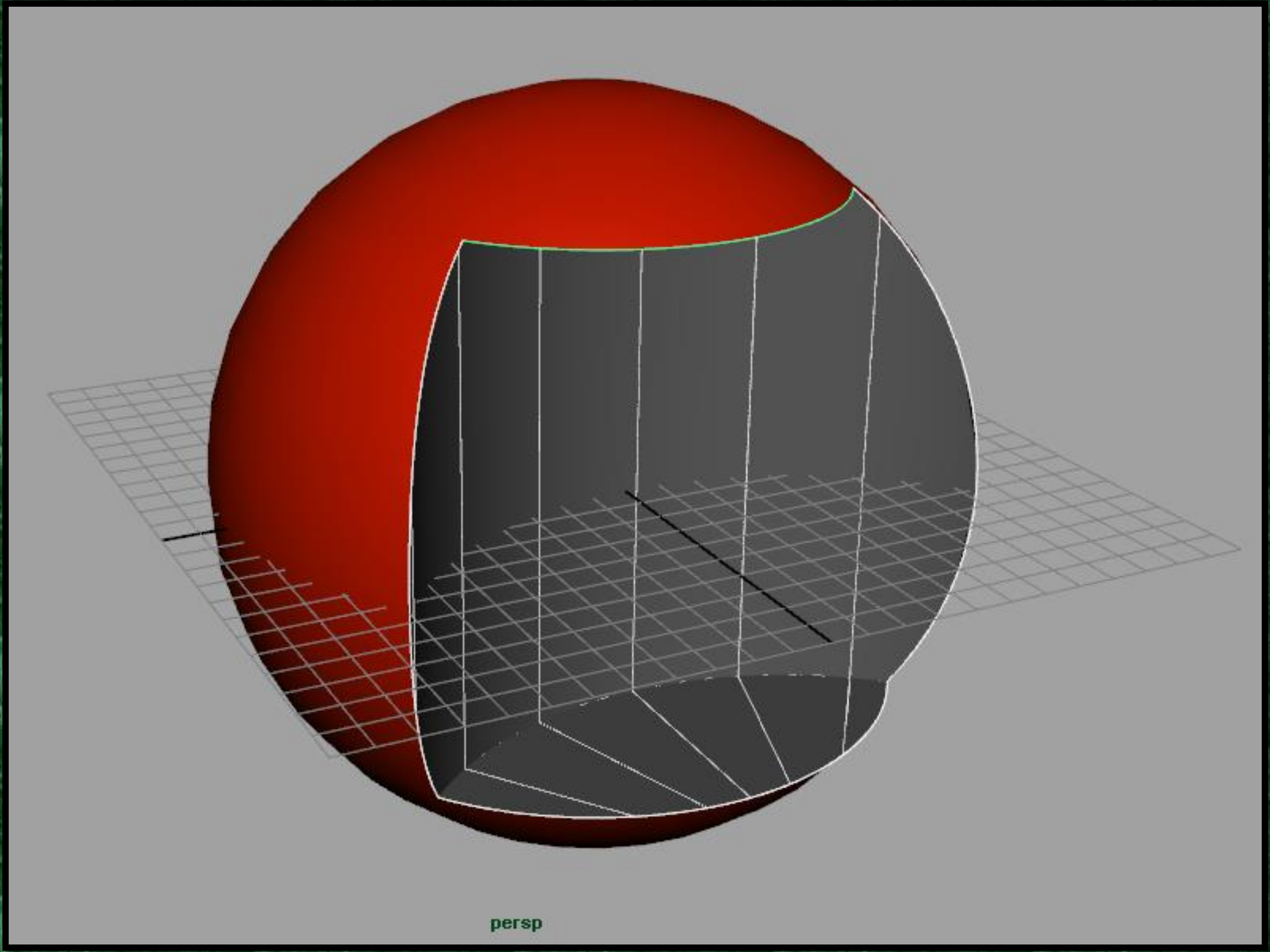
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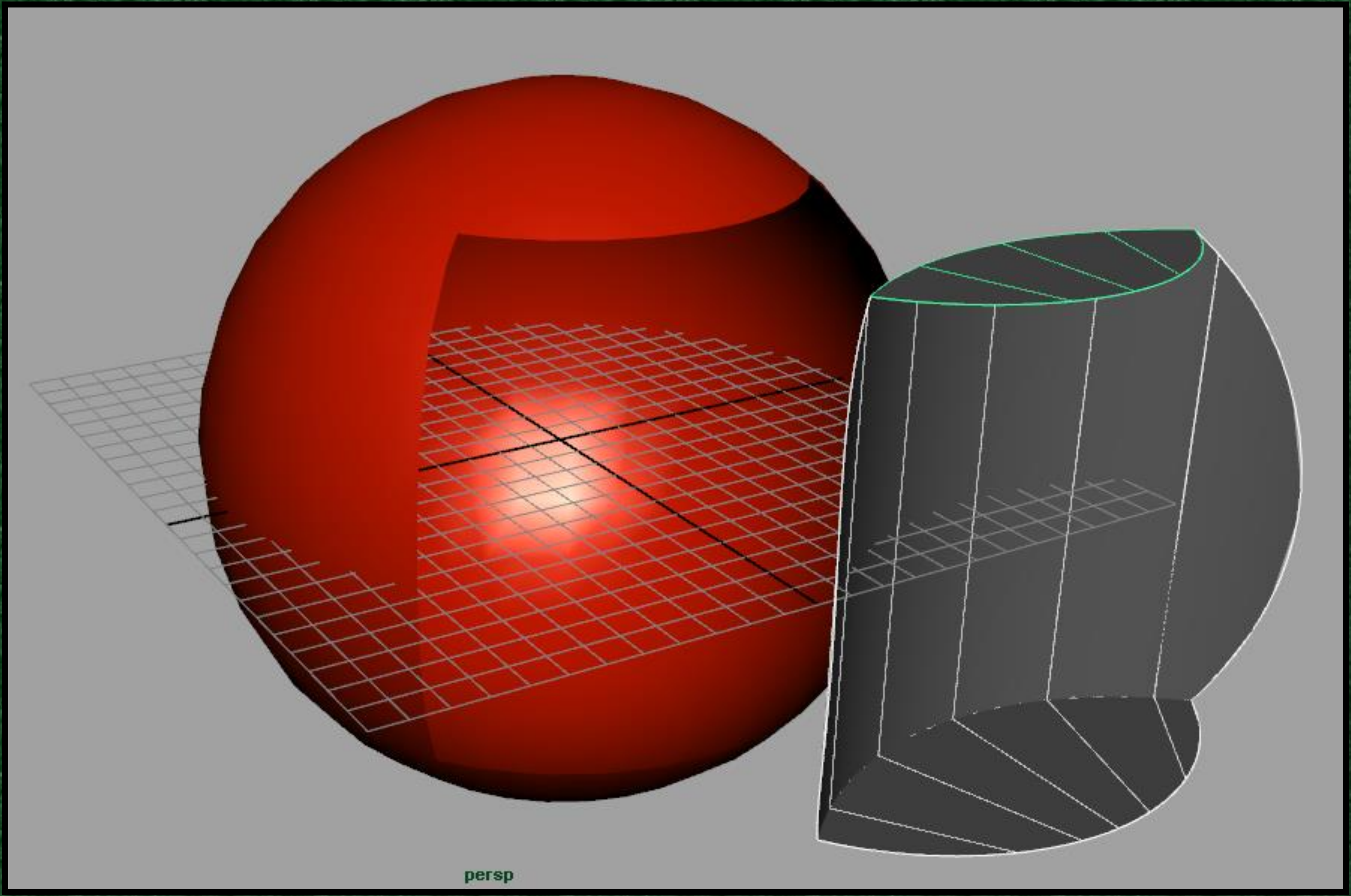
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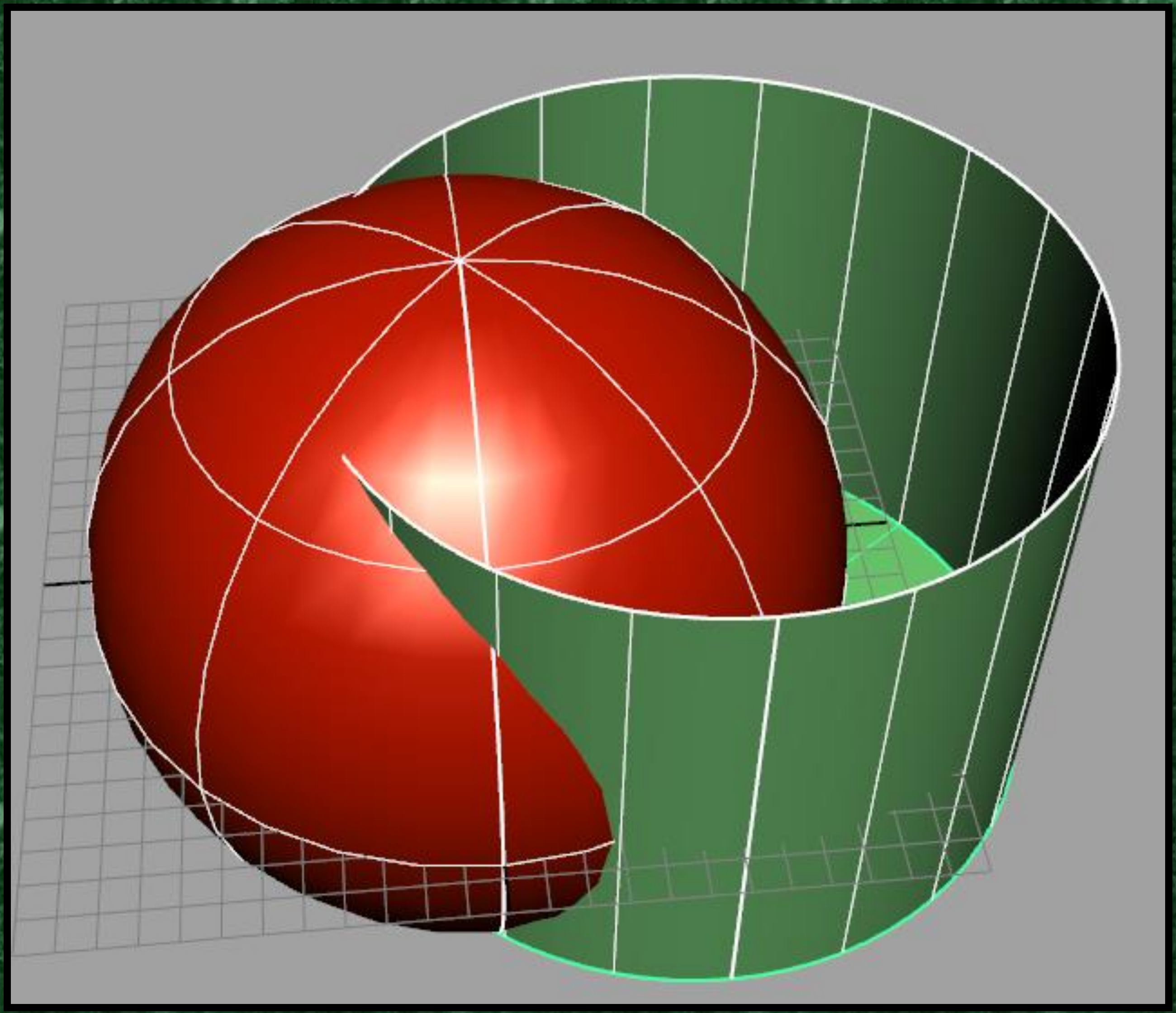

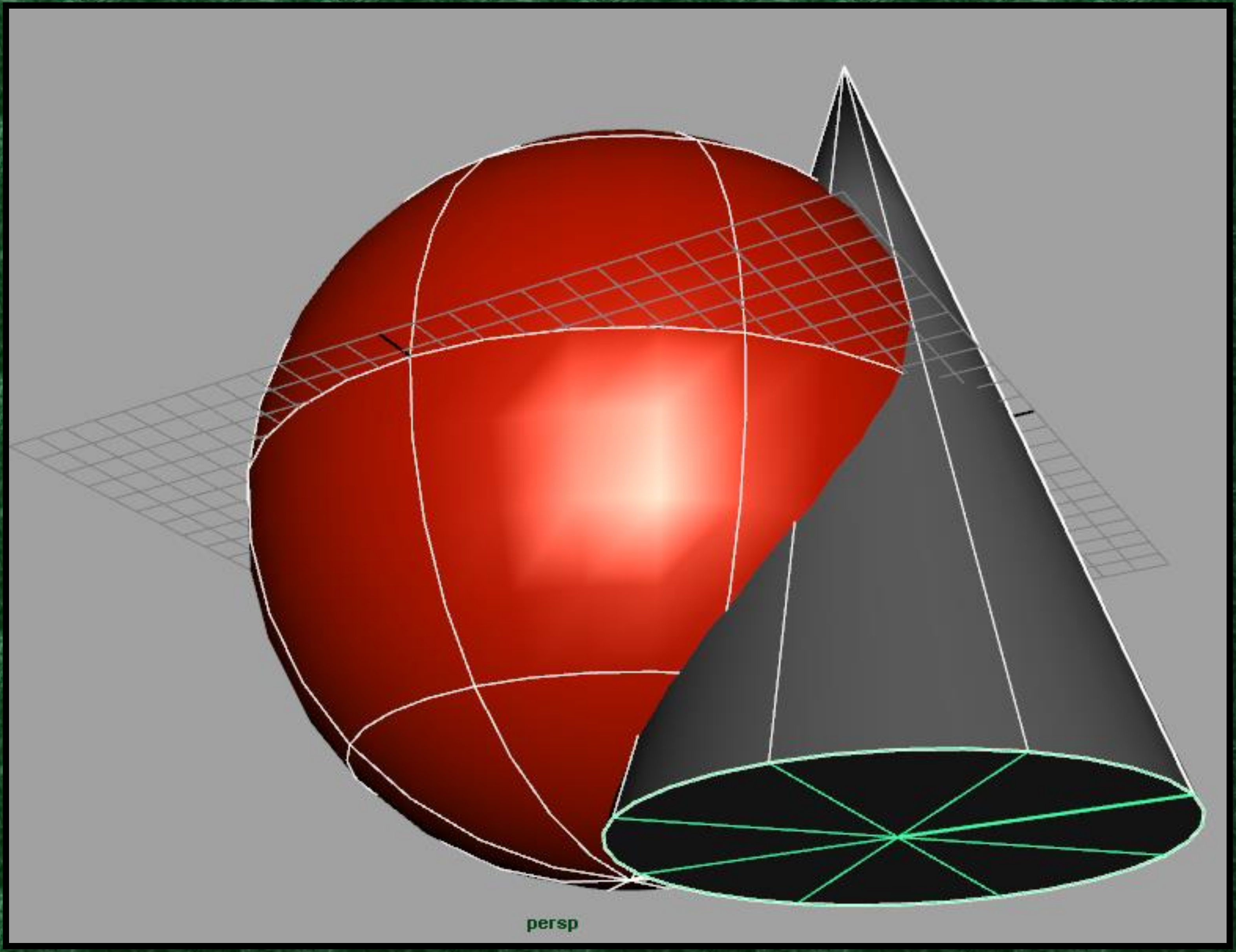
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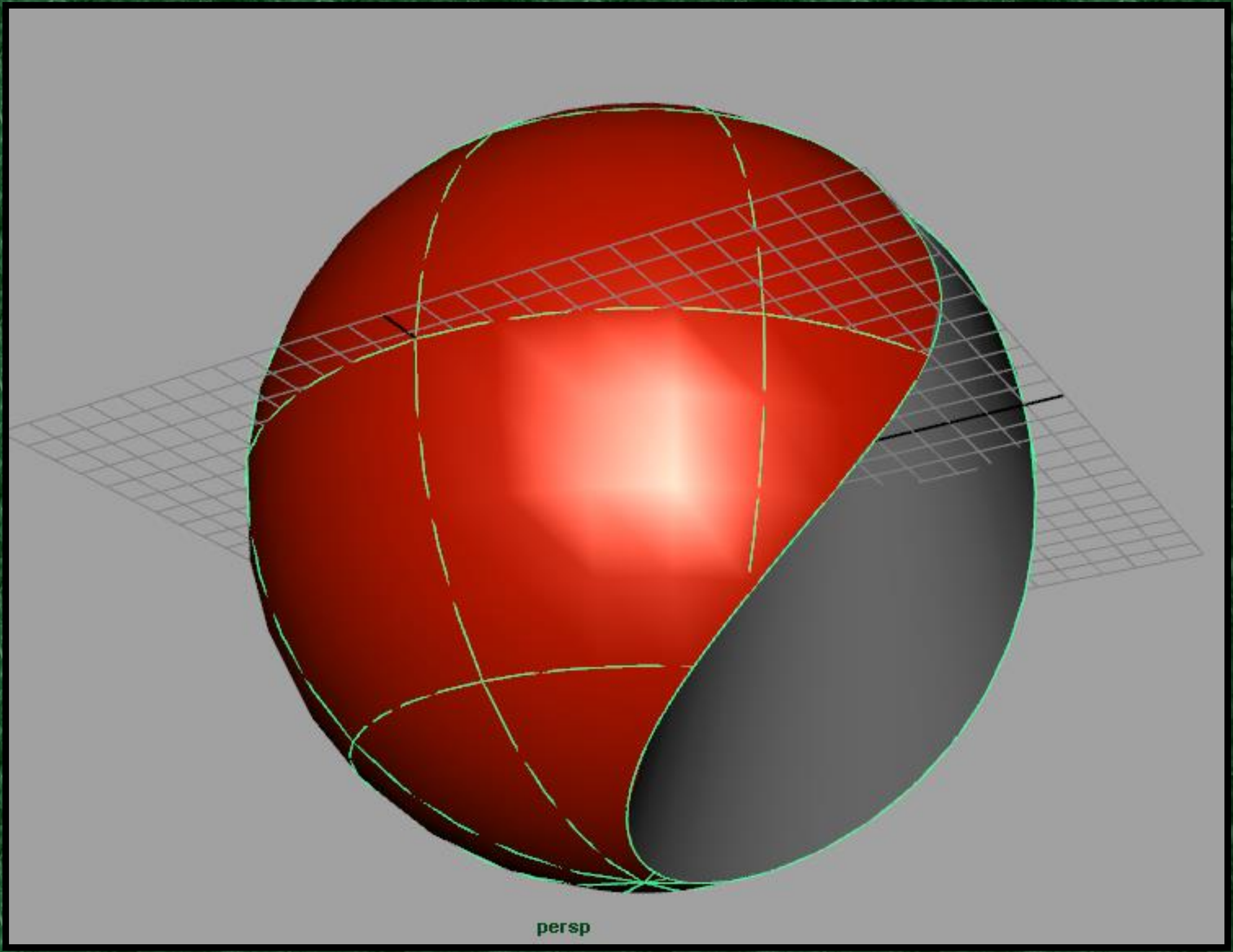
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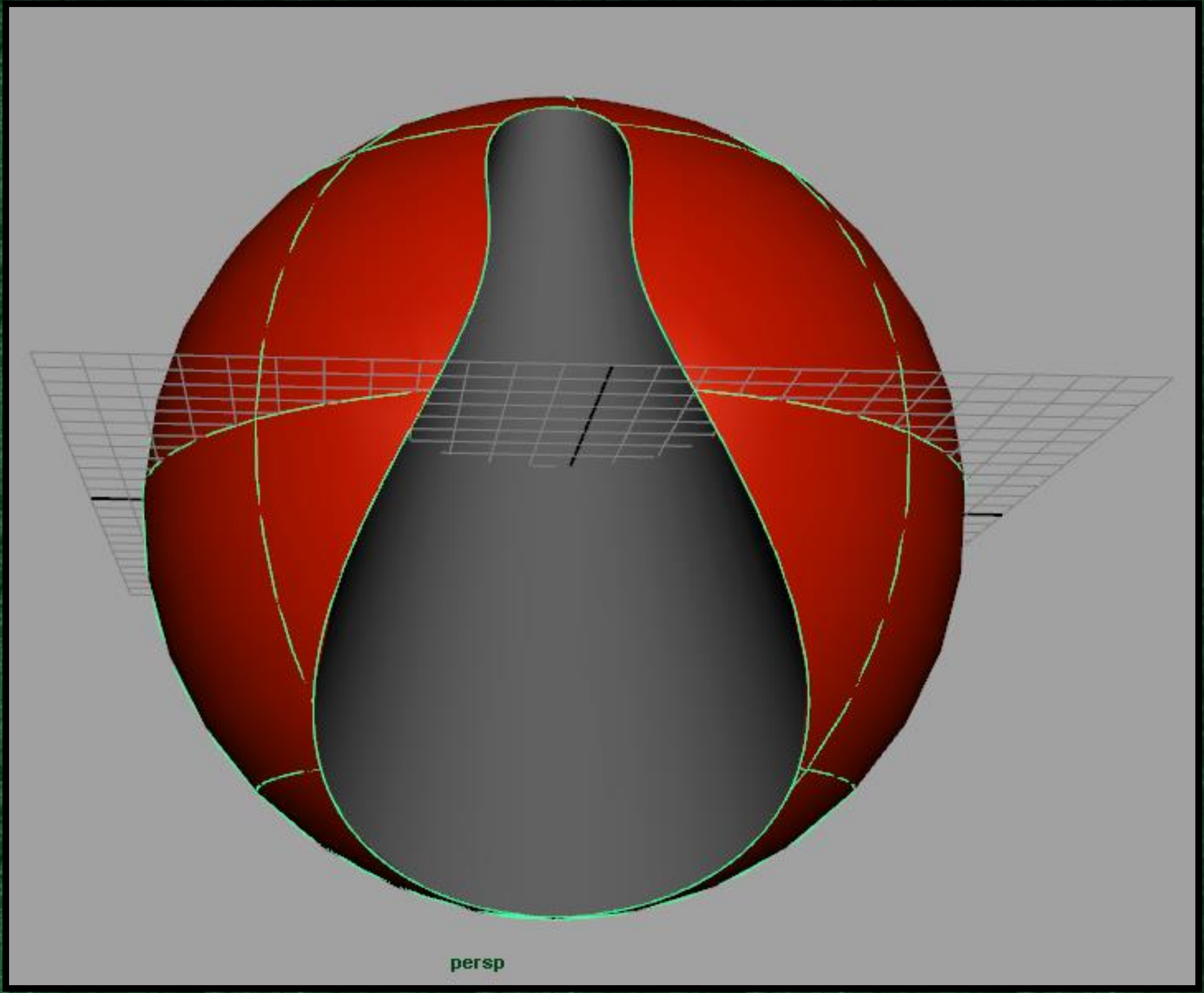
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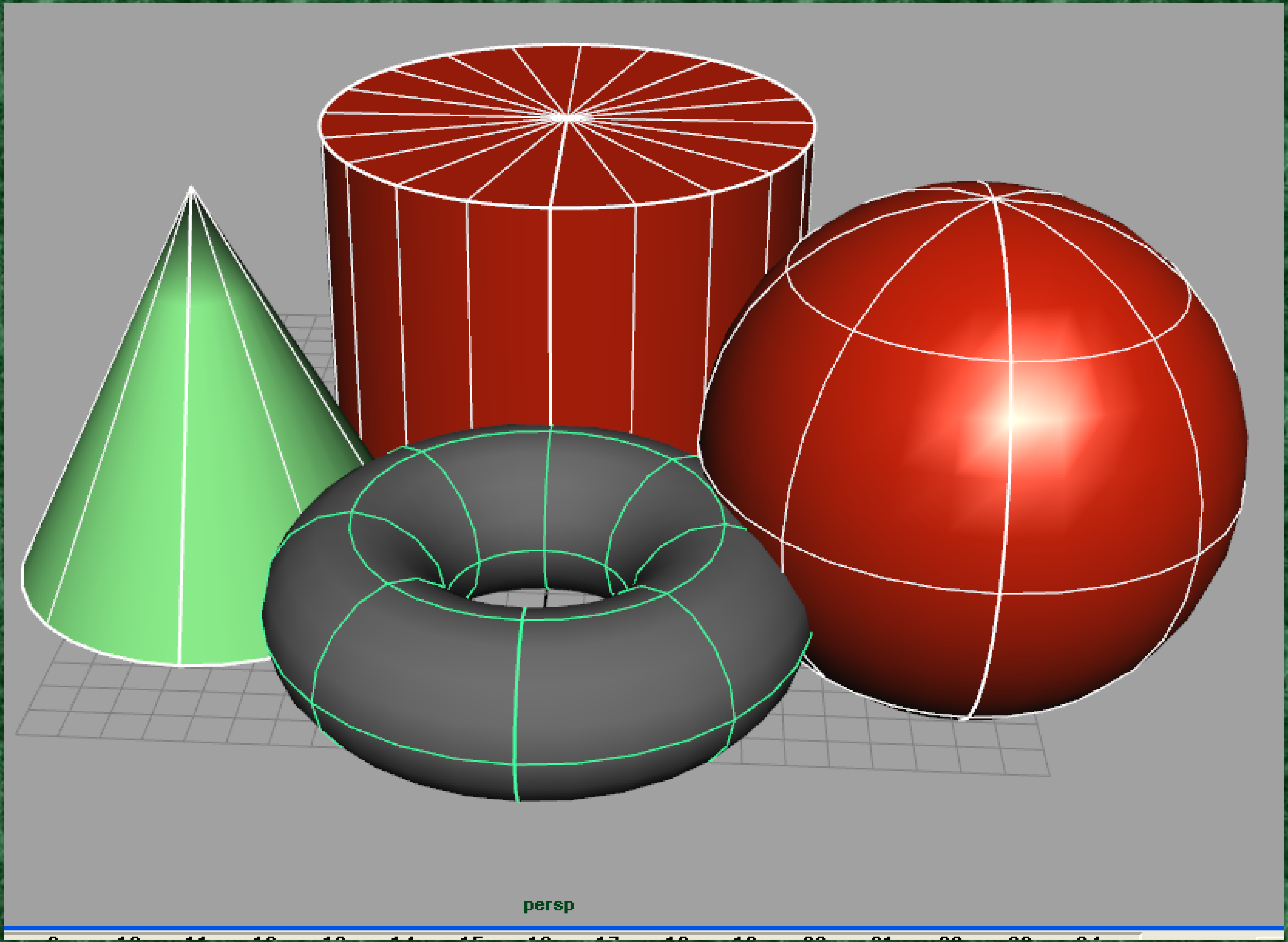
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