Christina Fraser

Year-End Project

Ruled and Developable Surfaces

In simple terms, a

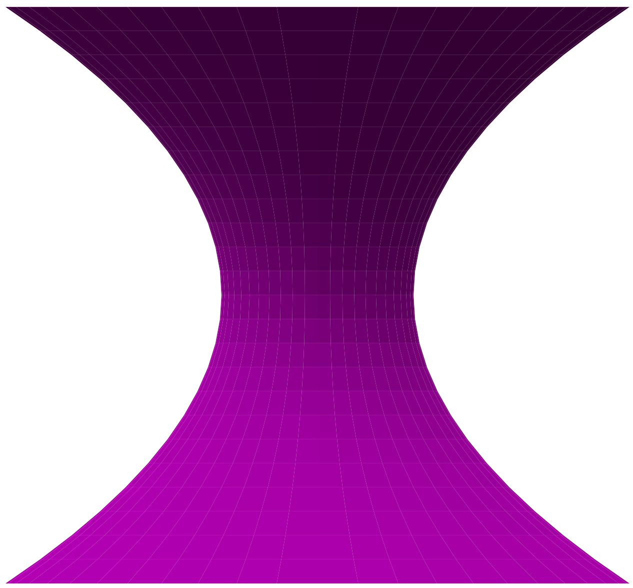
RULED SURFACE

is a surface which can be

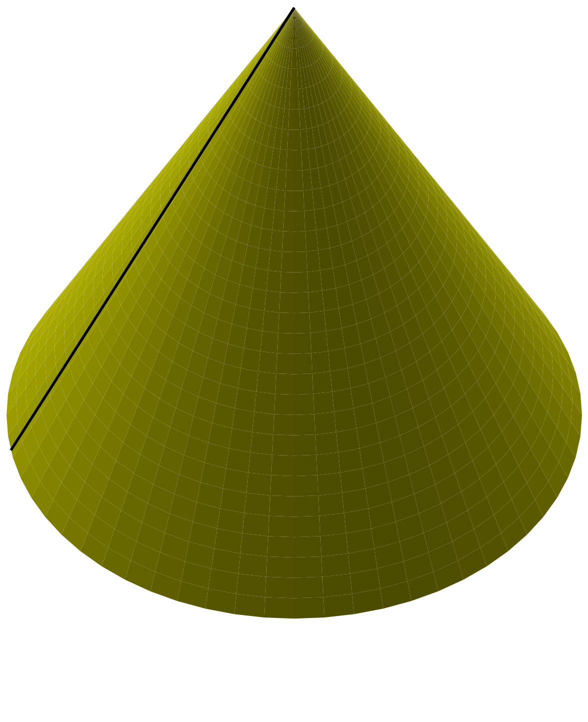
generated by moving a

straight line in 3D. For example...

A hyperboloid of one sheet,...



a cone, ...



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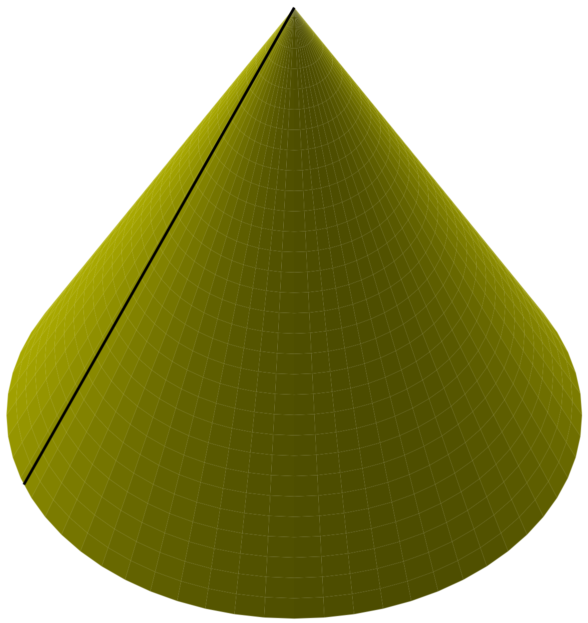

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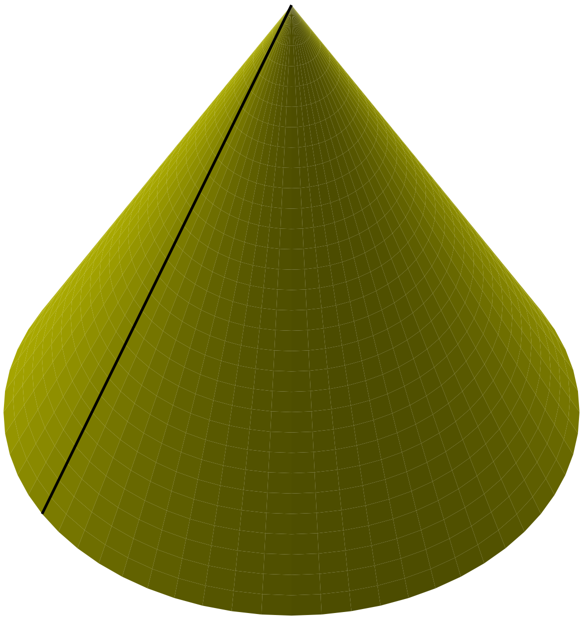

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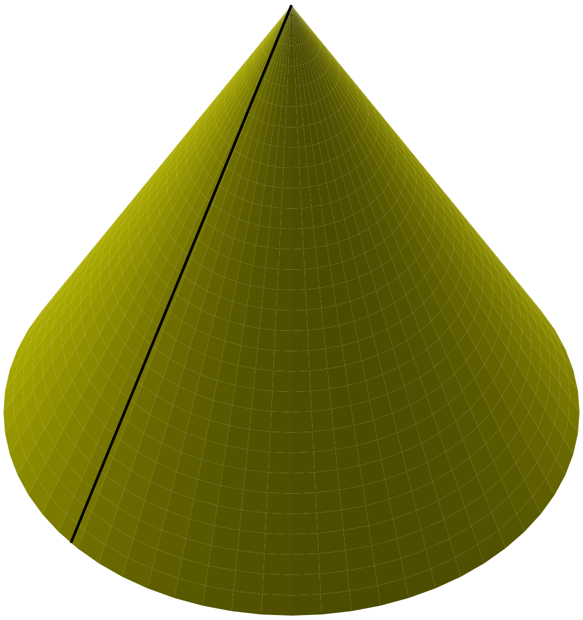

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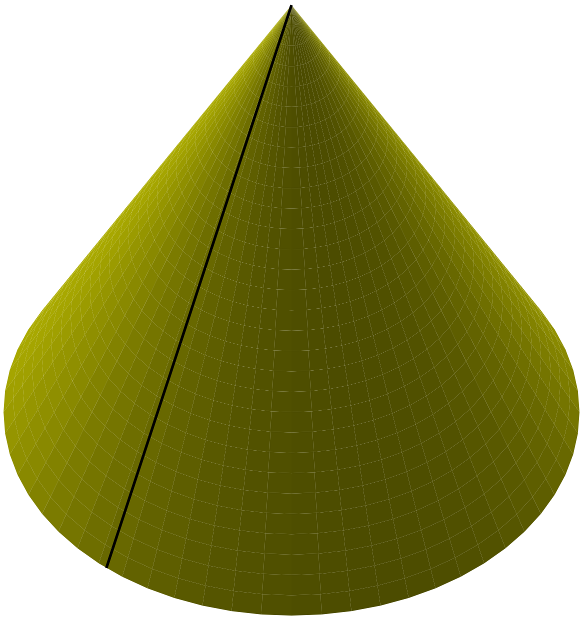

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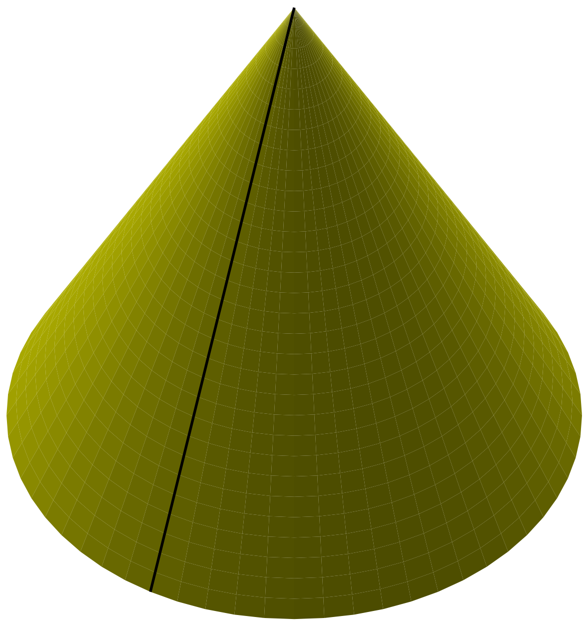

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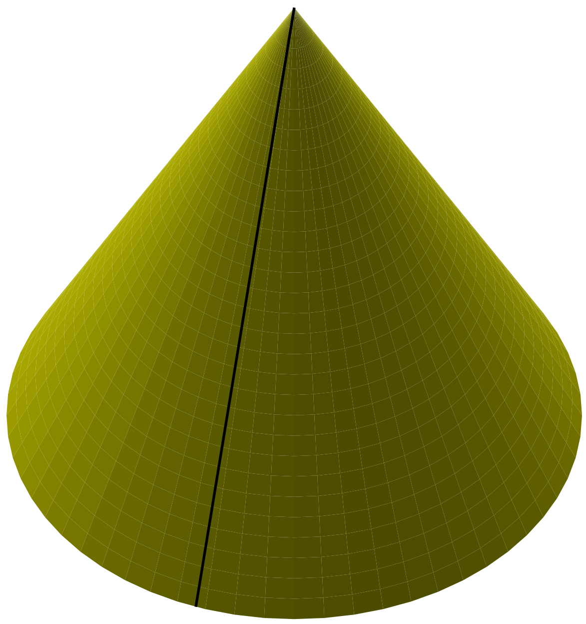

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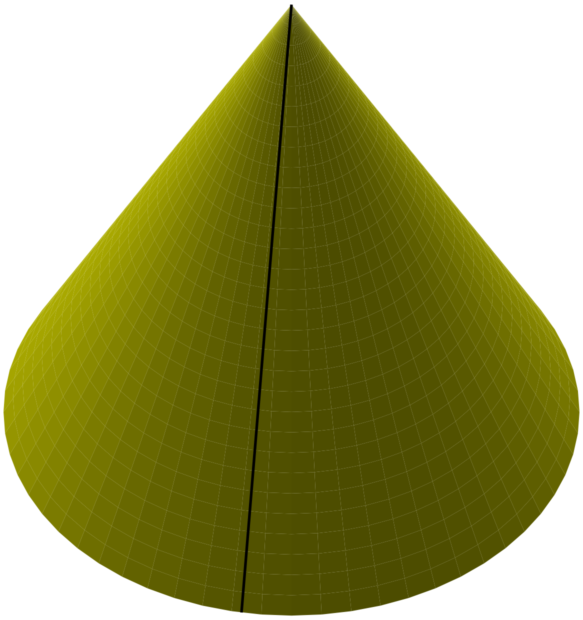

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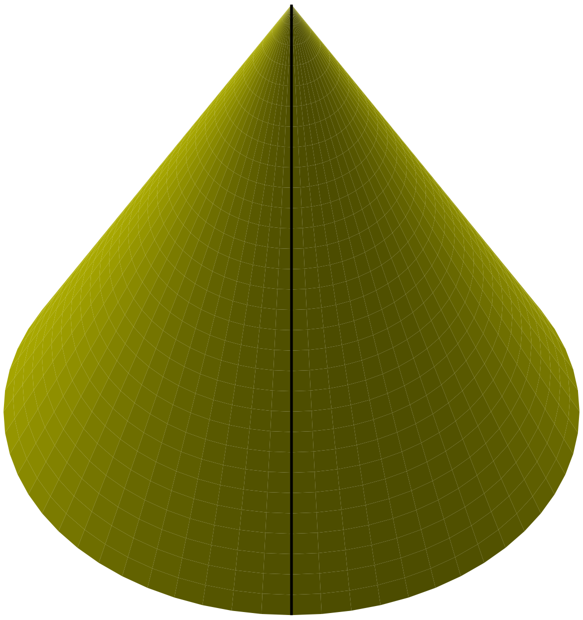

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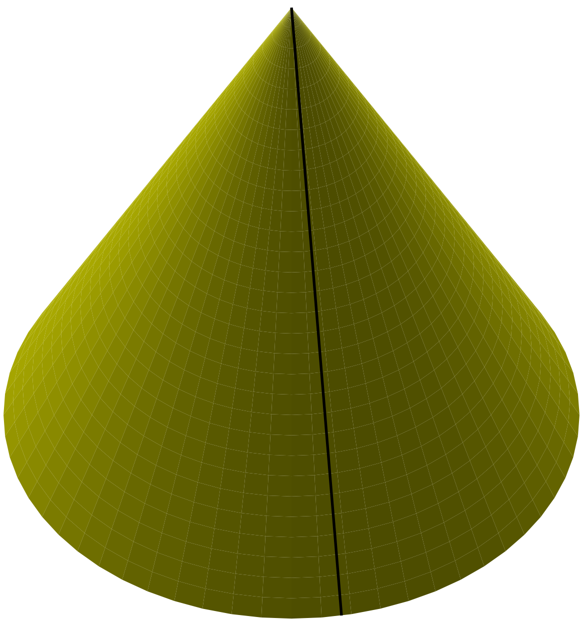
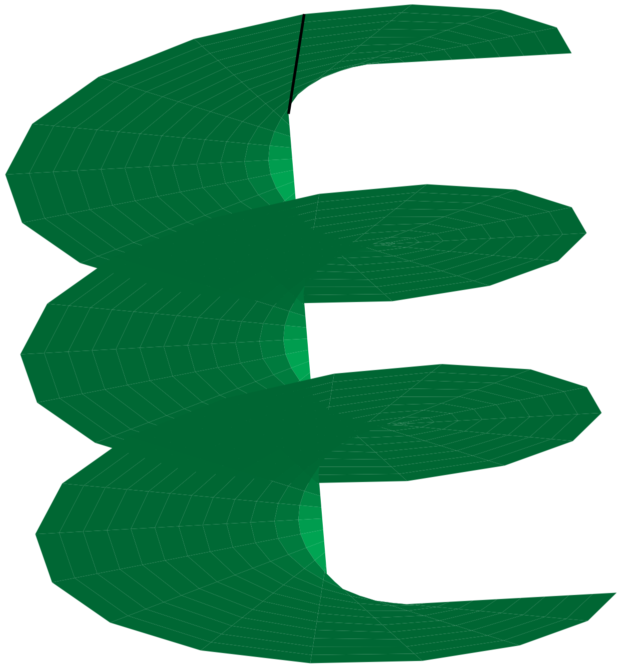


and a Helicoid.

and a Helicoid.



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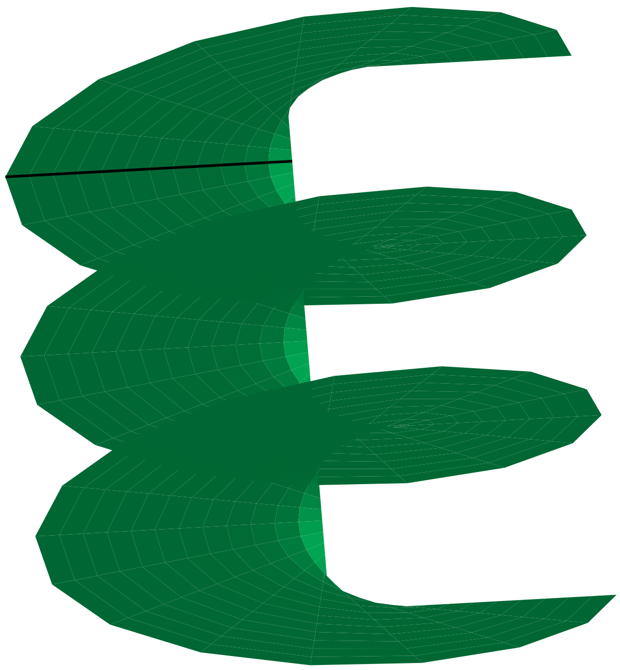

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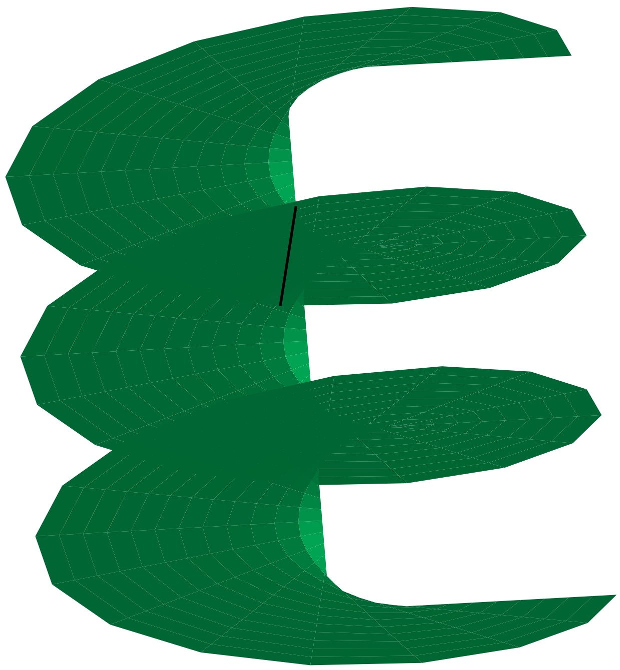

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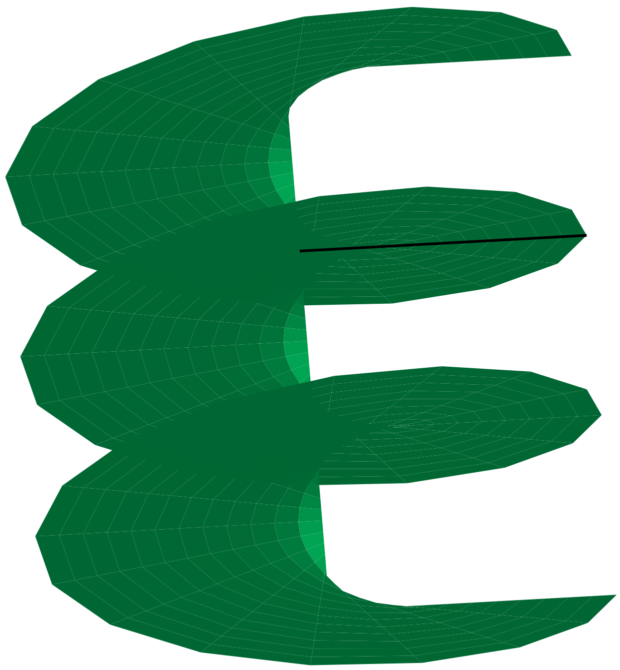

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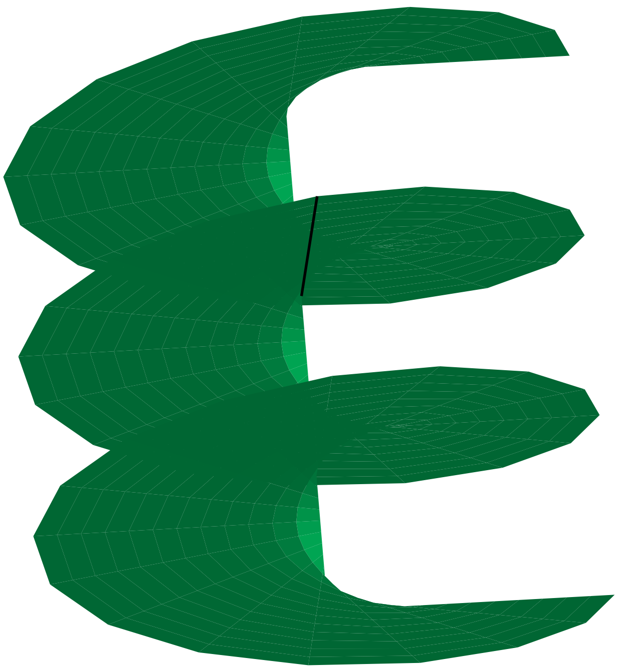

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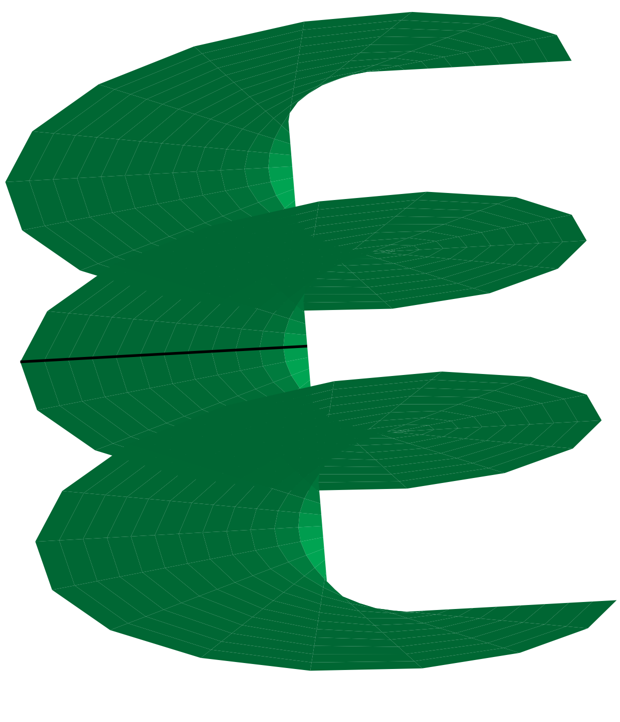

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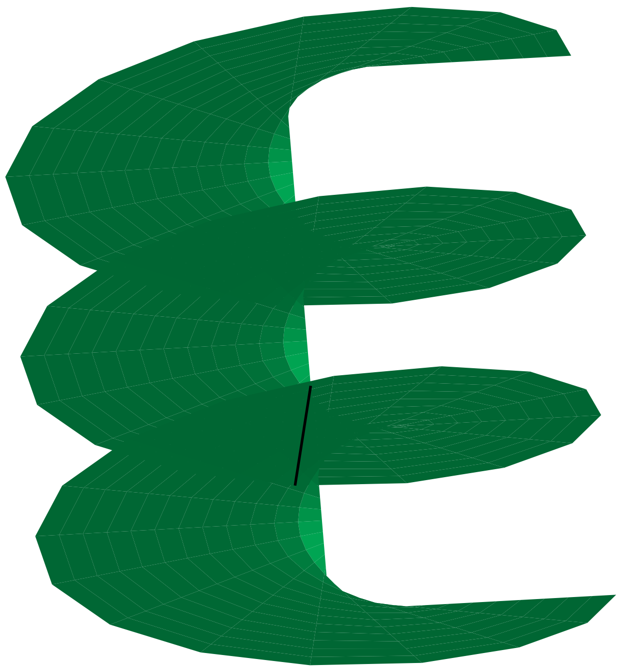

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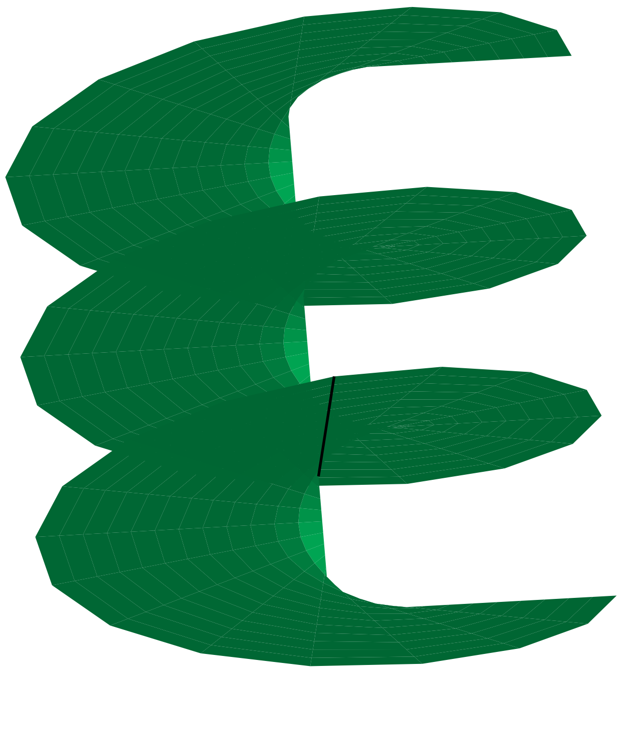

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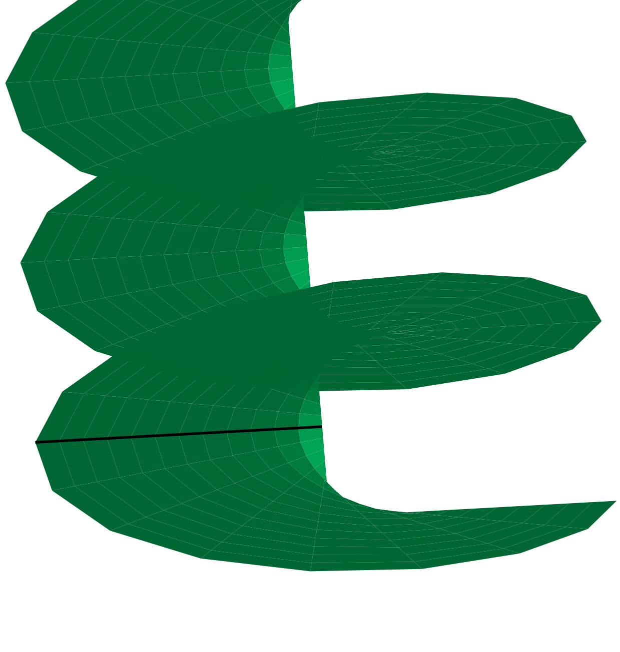

and a Helicoid.

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A developable surface is a ruled surface which can be "unwrapped", that is, unrolled onto a plane.

Of the three previously mentioned surfaces, only the cone is a developable surface

If we were to cut it and unwrap it, it would look something like this: