

20241360

PEDRO BARATA



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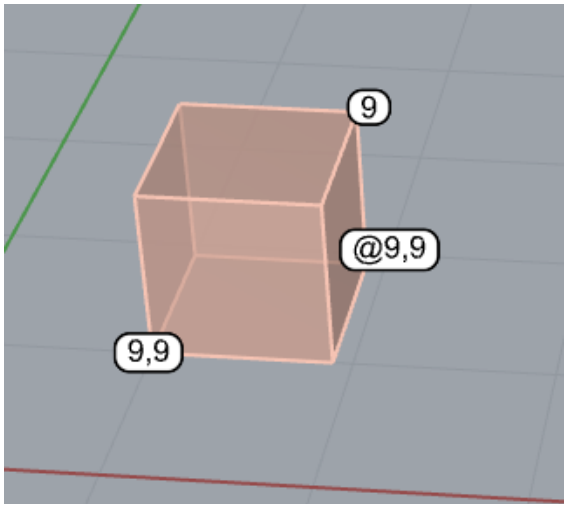
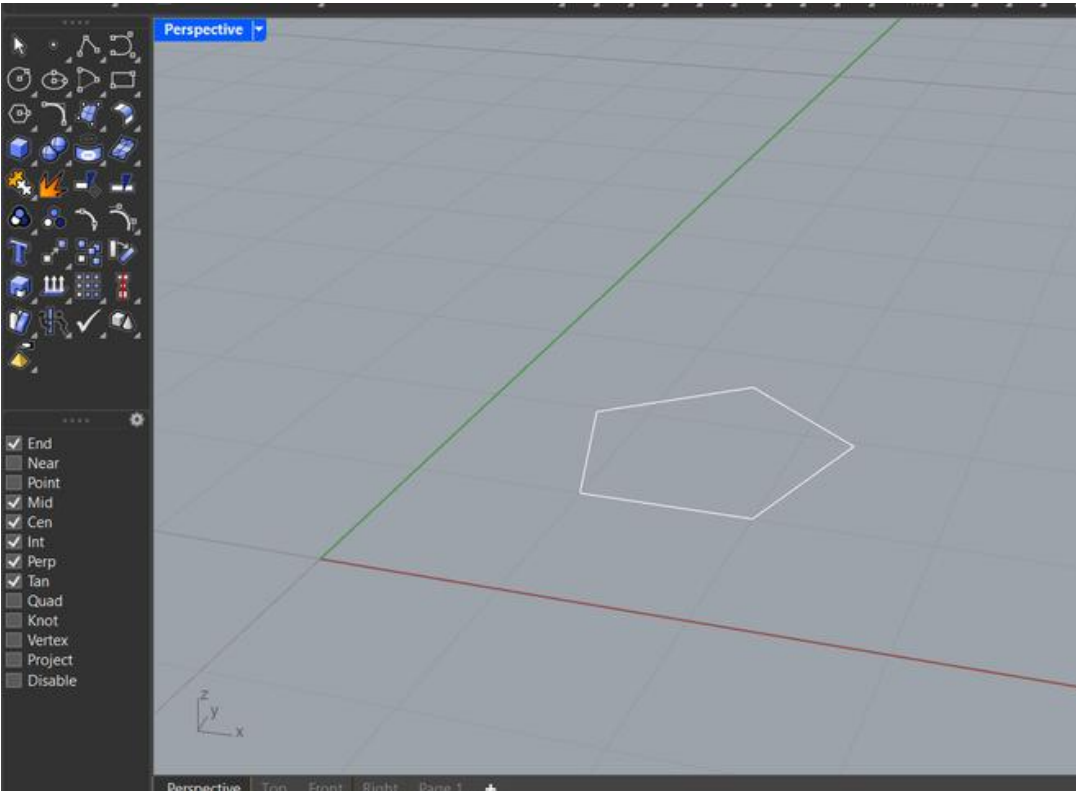
Sumário 9/9/25

- CONTEÚDOS PROGRAMÁTICOS A DESENVOLVER DURANTE O SEMESTRE;
- PROGRAMAS DE CAD - SOFTWARE - A USAR NOS TRABALHOS;
- TRABALHOS A REALIZAR E DESENVOLVER DURANTE AS AULAS;
- METODOLOGIA DE AVALIAÇÃO.

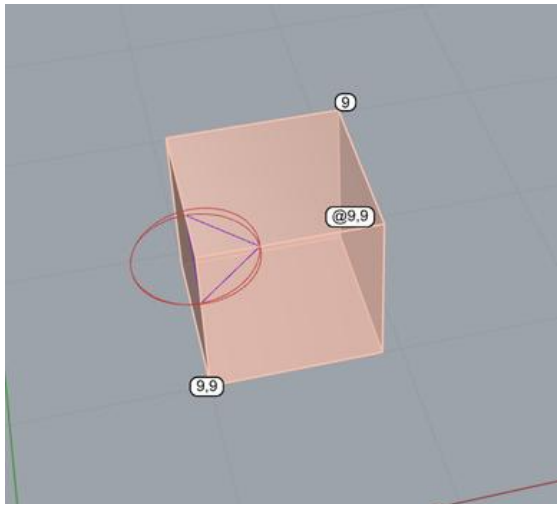
Aula. 1 – APRESENTAÇÃO

Sumário 24/2/26

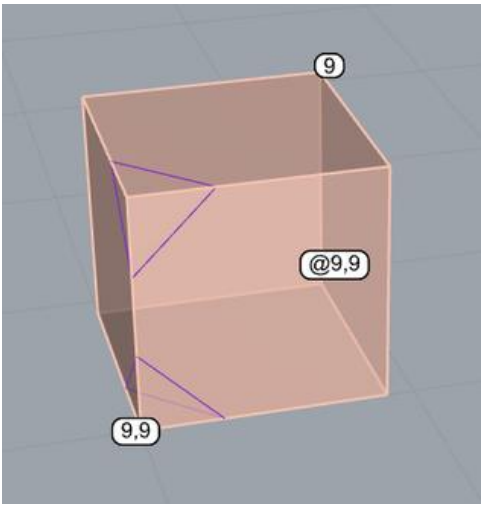
- INICIO DO RHINO
- CRIAÇÃO DE UM PENTAGNO COM UMA POLYLINE
- CRIAÇÃO DE UM CUBO TRUNCADO
- COMANDOS BOX, CIRCLE, POLYLINE, MIRROR, ARRAYPOLAR, WIRECUT, TEXT



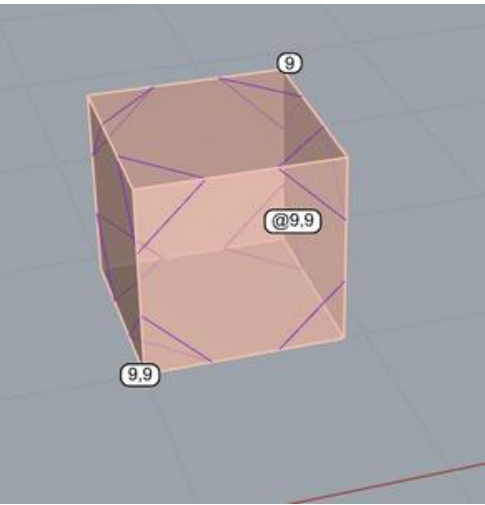
CUBO A PARTIR DE UMA BOX, DE COORDENADAS @9,9,9



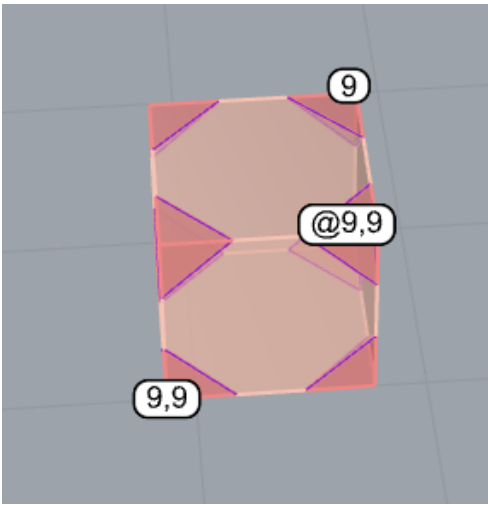
USO DE CÍRCULOS PARA ENCONTRAR OS PONTOS DE TRUNCAGEM



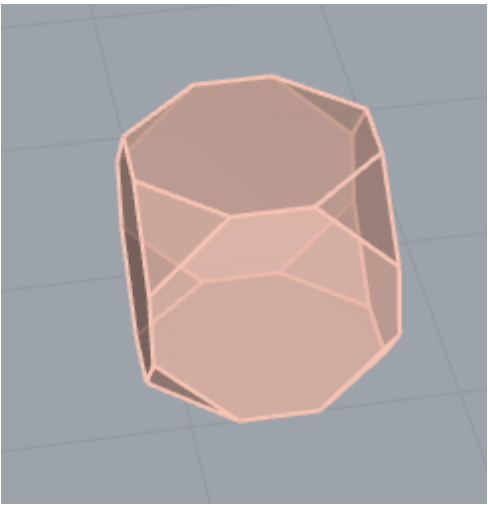
LINHAS DE TRUNCAGEM, USO DO COMANDO MIRROR PARA ESPELHAR PARA A BASE DE BAIXO



COMANDO ARRAYPOLAR QUE PERMITE REPETIR AS LINHAS DE TRUNCAGEM PARA OS RESTANTES VERTICES



SECÇÕES FEITAS A PARTIR DO COMANDO WIRE CUT DAS LINHAS DE TRUNCAGEM

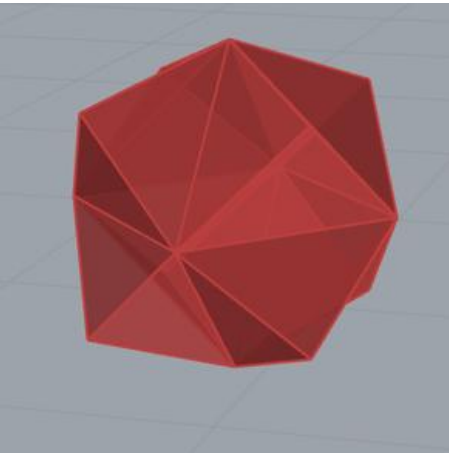
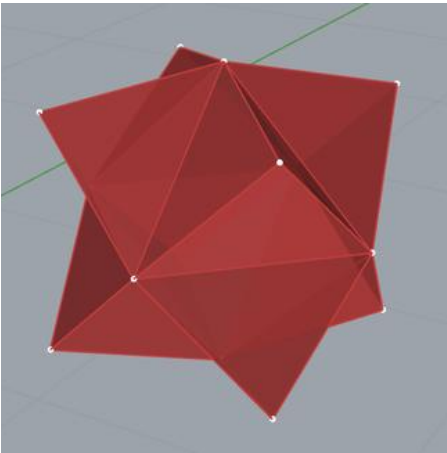
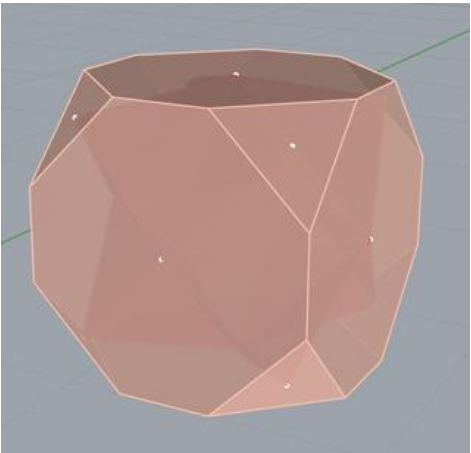
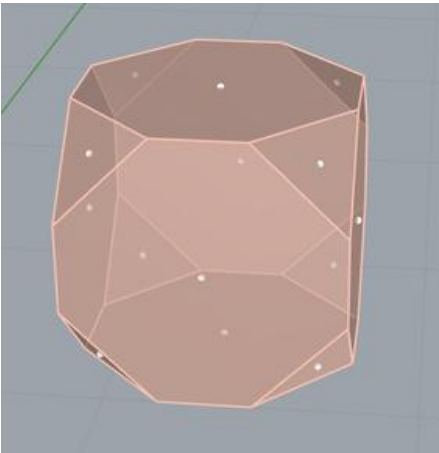


XUBO TRUNCADO FINAL

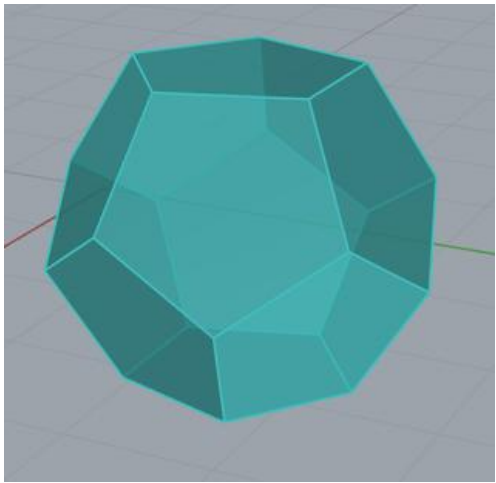
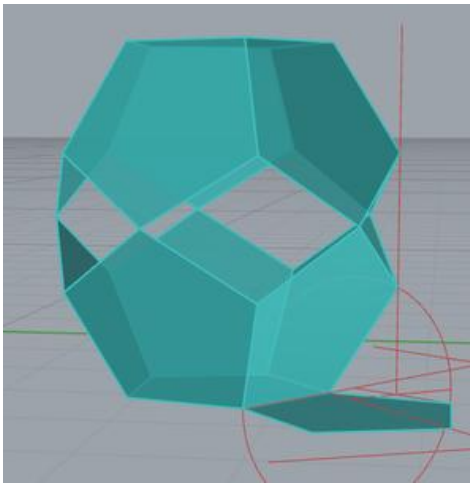
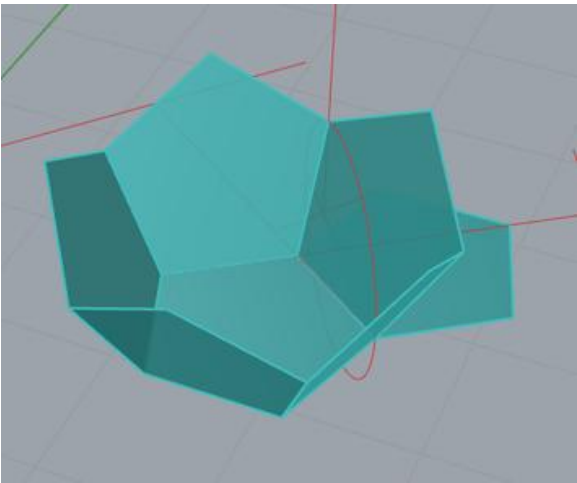
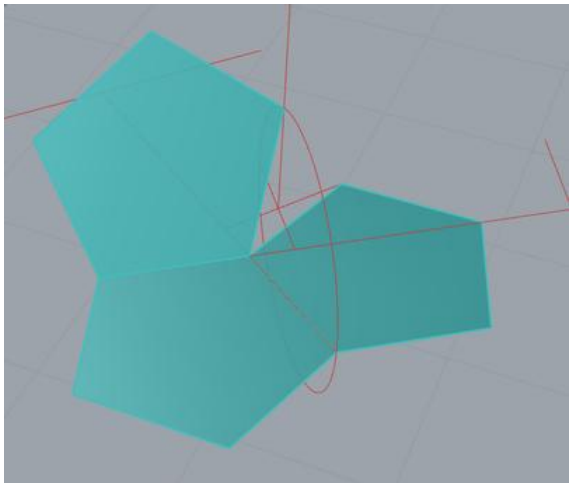
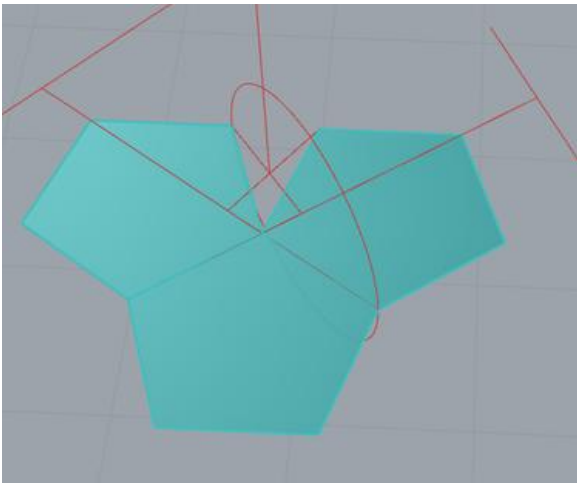
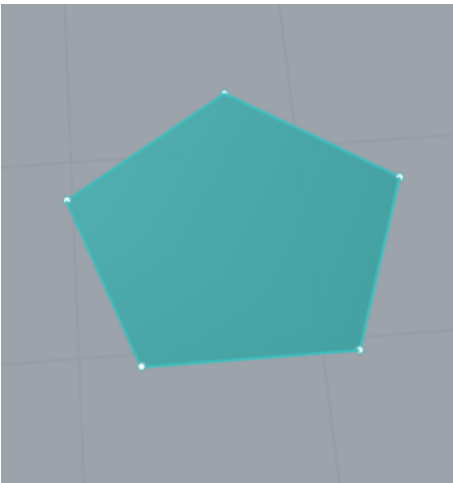
Aula. 2 – RHINO

Sumário 3/3/26

- CRIAÇÃO DE POLIEDROS DUAIS A PARTIR DOS POLIEDROS TRUNCADOS, CUBO TRUNCADO E CUBOCTAEDRO
- CONSTRUÇÃO DE UM DODECAEDRO



A PARTIR DO CUBO TRUNCADO ADICIONAMOS PONTOS NO CENTRO DE CADA FACE. AO LIGARMOS OS PONTOS DE 2 FACES DO QUADRADO COM 1 DAS FACES DA ARESTA TRUNCADA OBTEMOS UMA FACE DO DUAL. NO FINAL DE TERMOS TODAS AS FACES OBTEMOS O DUAL DO CUBO TRUNCADO

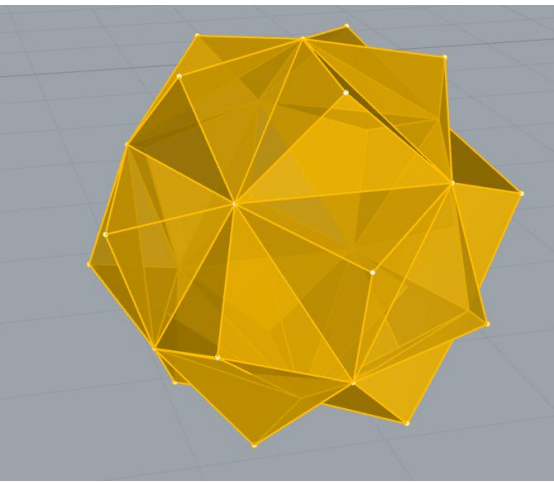
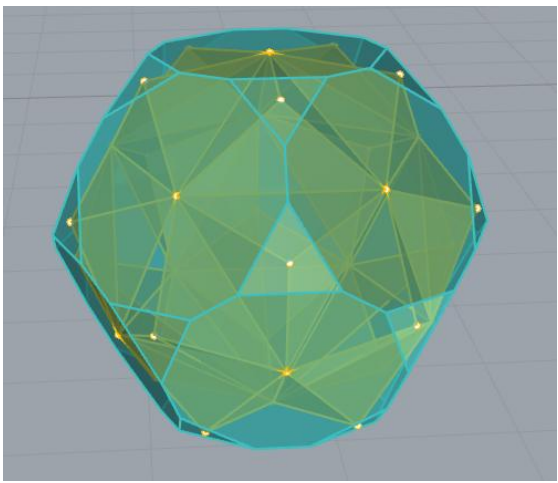
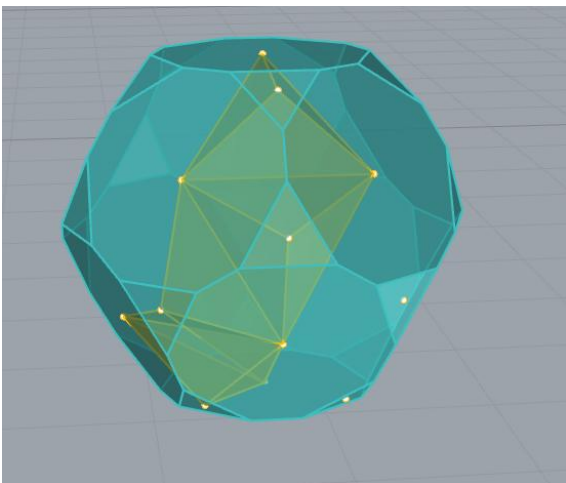
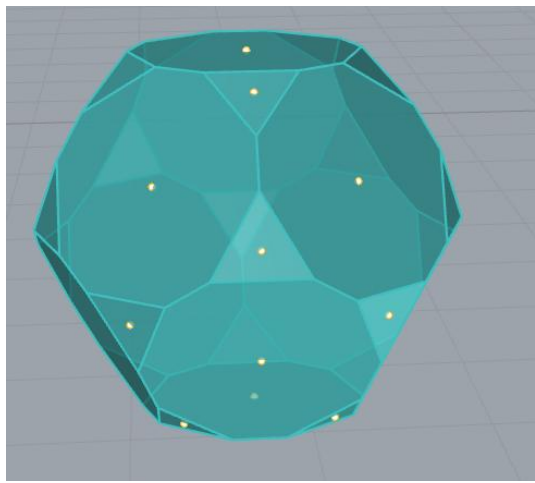
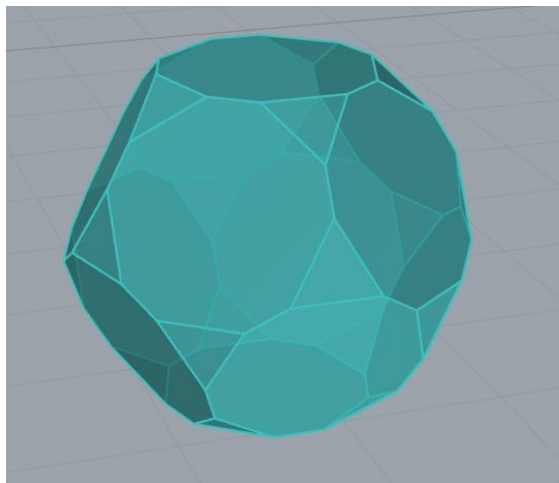
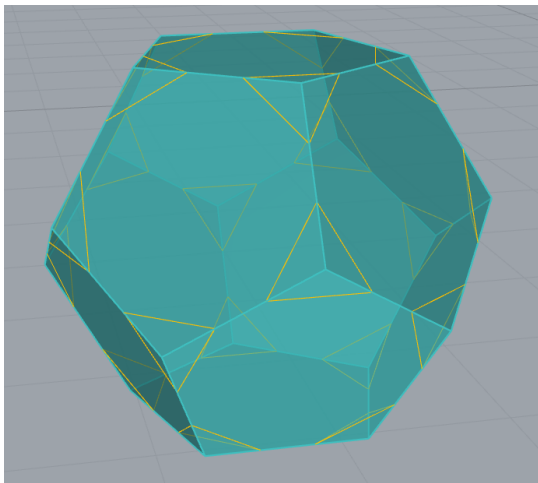
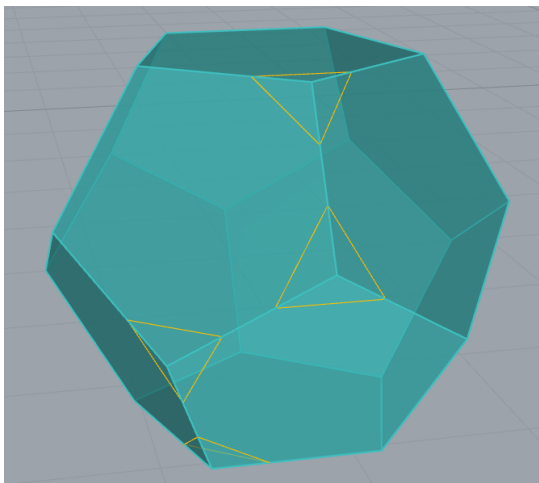
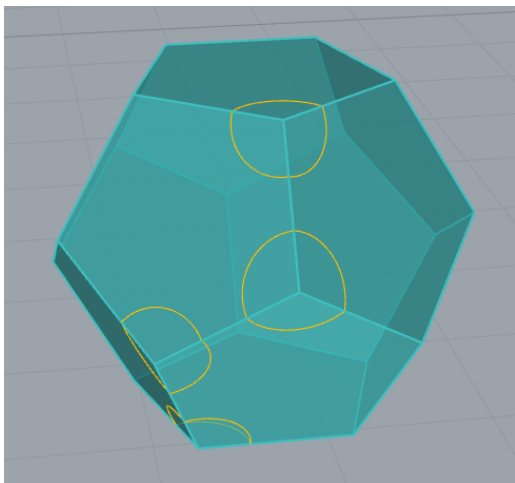
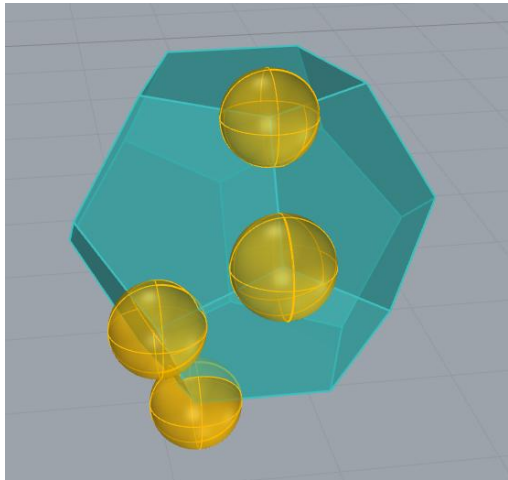
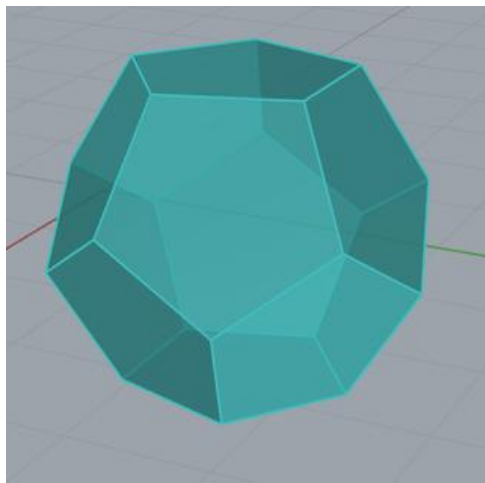


CRIAÇÃO DE UM DODECAEDRO PARTINDO DE UMA BASE PENTAGONAL. USO DOS COMANDOS MIRROR, ROTATE3D, ARRAYPOLAR E ROTATE.

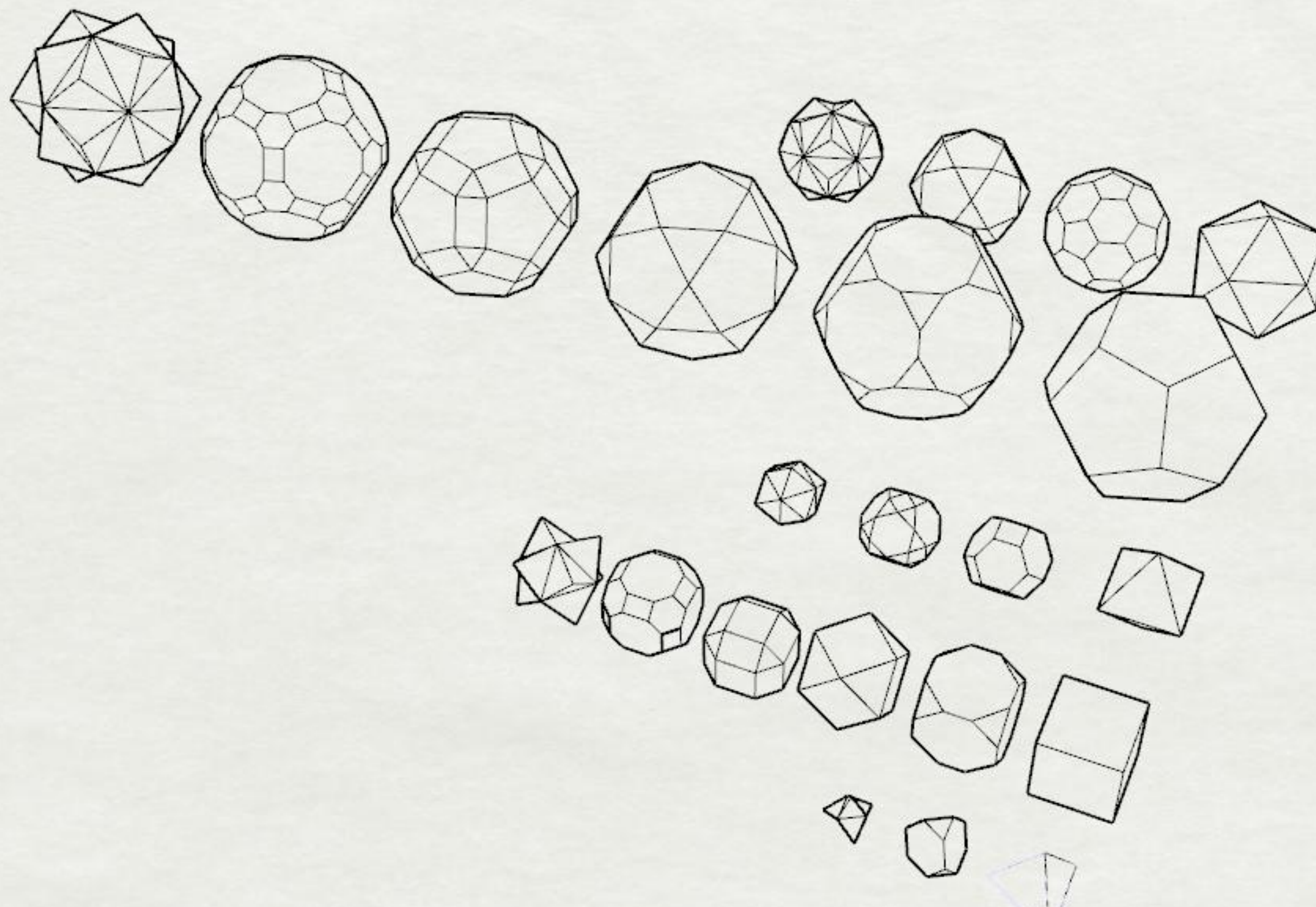
Sumário 10/3/26

•CRIAÇÃO DO POLIEDRO DUAL PARTINDO DE UM DODECAEDRO TRUNCADO

USO DOS COMANDOS SPHERE, INTERSECT POLYLINE, WIRECUT, POINT, SURFACE, ARRAYPOLAR PARA CONSTRUER O DUAL DO DODECAEDRO.



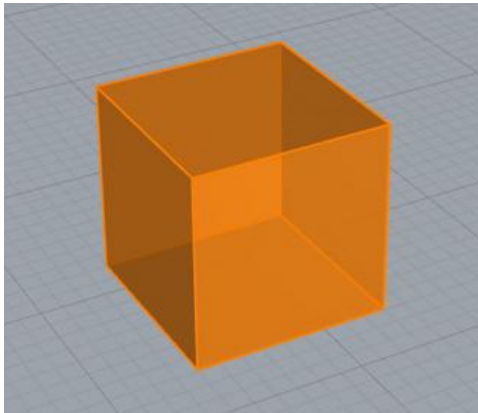
Aula. 4 – RHINO



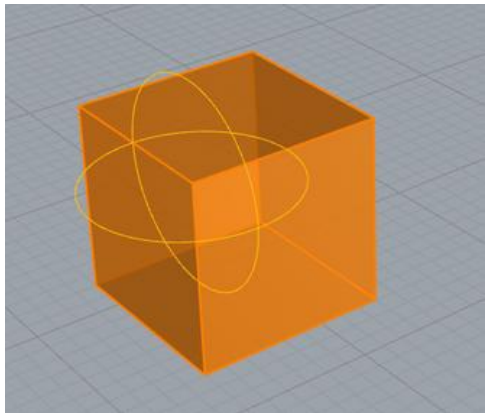
TRABALHO 1

MODELAÇÃO E ANÁLISE DE SÓLIDOS ARQUIMEDIANOS

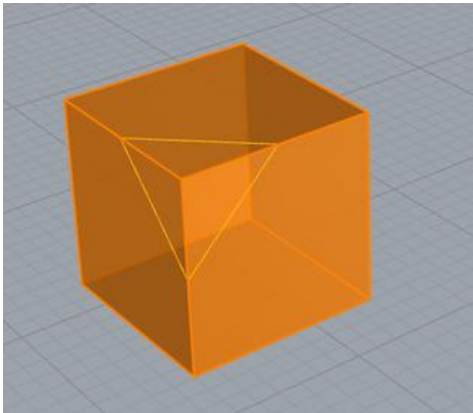
CONSTRUÇÃO DO ROMBICUBOCTAEDRO



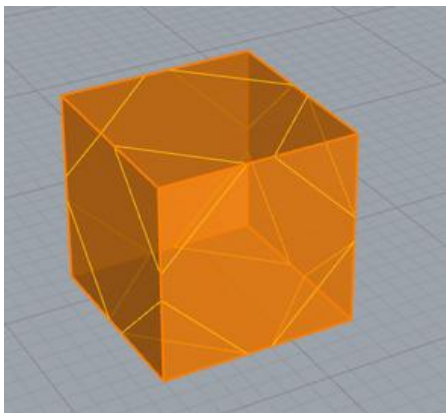
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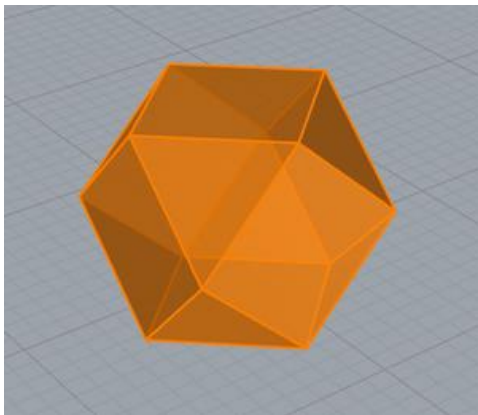
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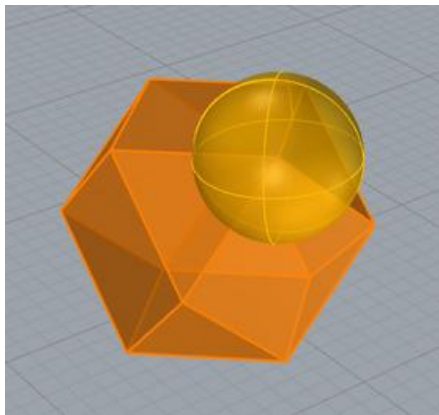
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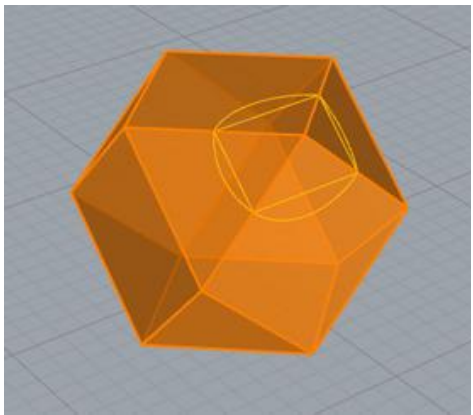
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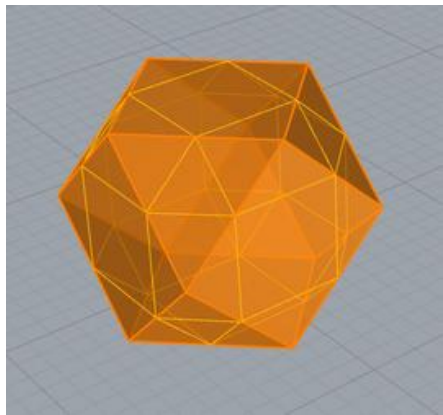
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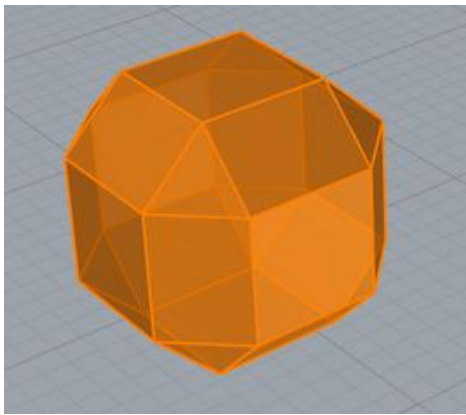
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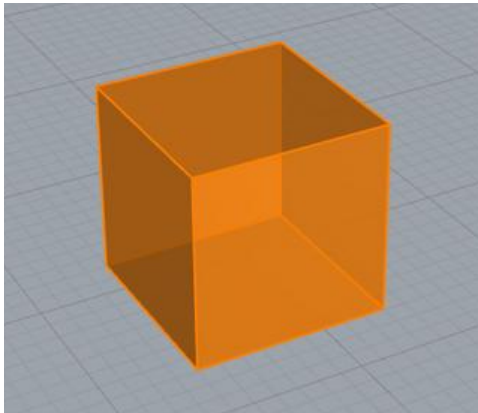
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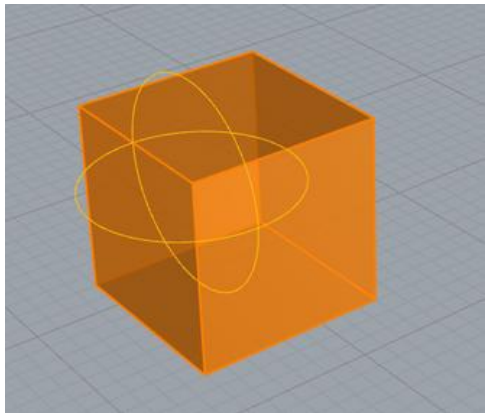
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- FIG1- CRIAÇÃO DE UM HEXAEDRO DE LADO 9 COM O COMANDO BOX.
- FIG2- USO DO COMANDO CIRCLE PARA ENCONTRAR OS PONTOS DE TRUNCAÇÃO.
- FIG3- LIGAÇÃO DOS PONTOS COM O COMANDO POLYLINE.
- FIG4- USO DO COMANDO MIRROR E ARRAYPOLAR PARA SOBREPOR A FORMA NOS OUTROS VÉRTICES.
- FIG5- CRIAÇÃO DO HEXAEDRO TRUNCADO.
- FIG6-USO DO COMANDO SPHERE COM RAO DE METADE DA ARESTA E INTERSECT PARA ENCONTAR OS PONTOS DE TRUNCAÇÃO.
- FIG7- LIGAÇÃO DOS PONTOS COM UMA POLYLINE.
- FIG8- USO DO COMANDO MIRROR E ARRAYPOLAR PARA SOBREPOR A FORMA NOS RESTANTES VÉRTICES.
- FIG9- CRIAÇÃO DO ROMBICUBOCTEDRRO.

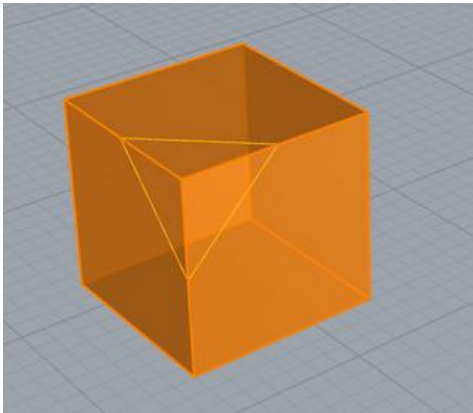
CONSTRUÇÃO DO GRAN ROMBICUBOCTAEDRO



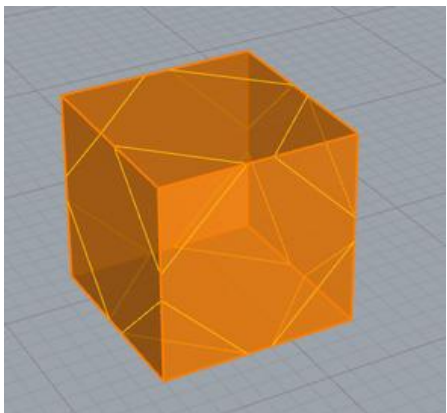
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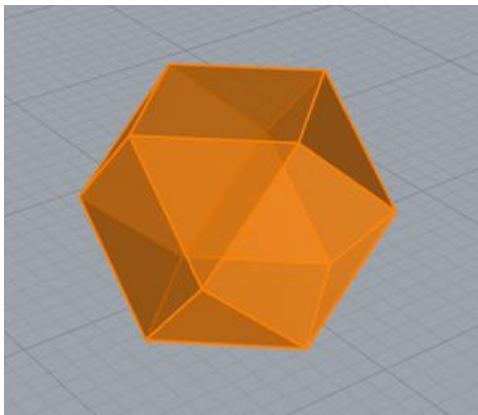
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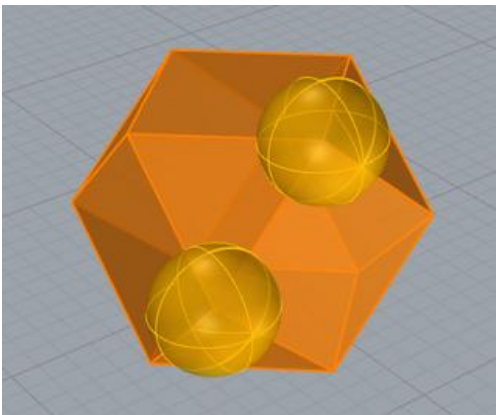
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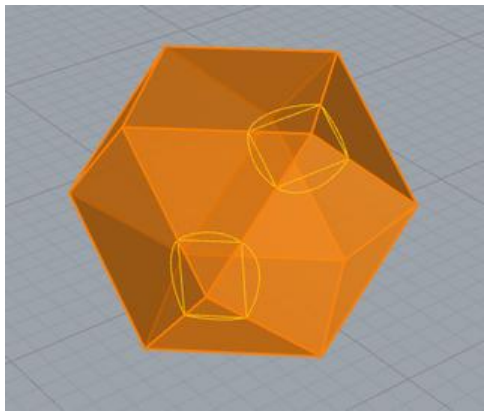
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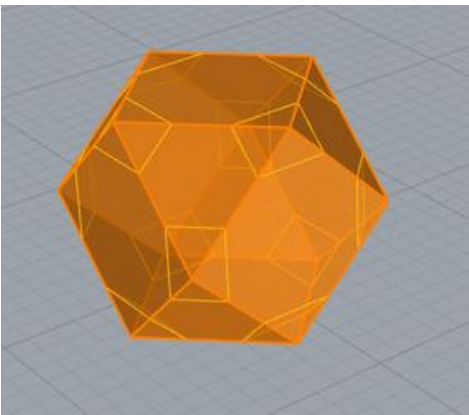
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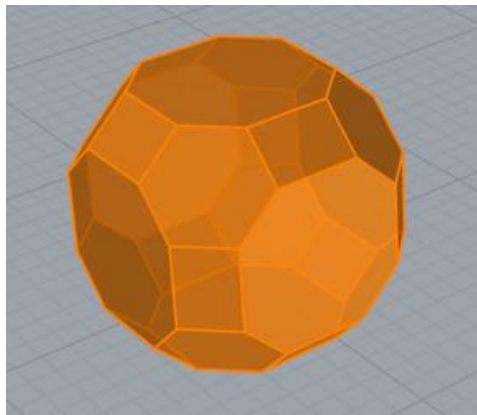
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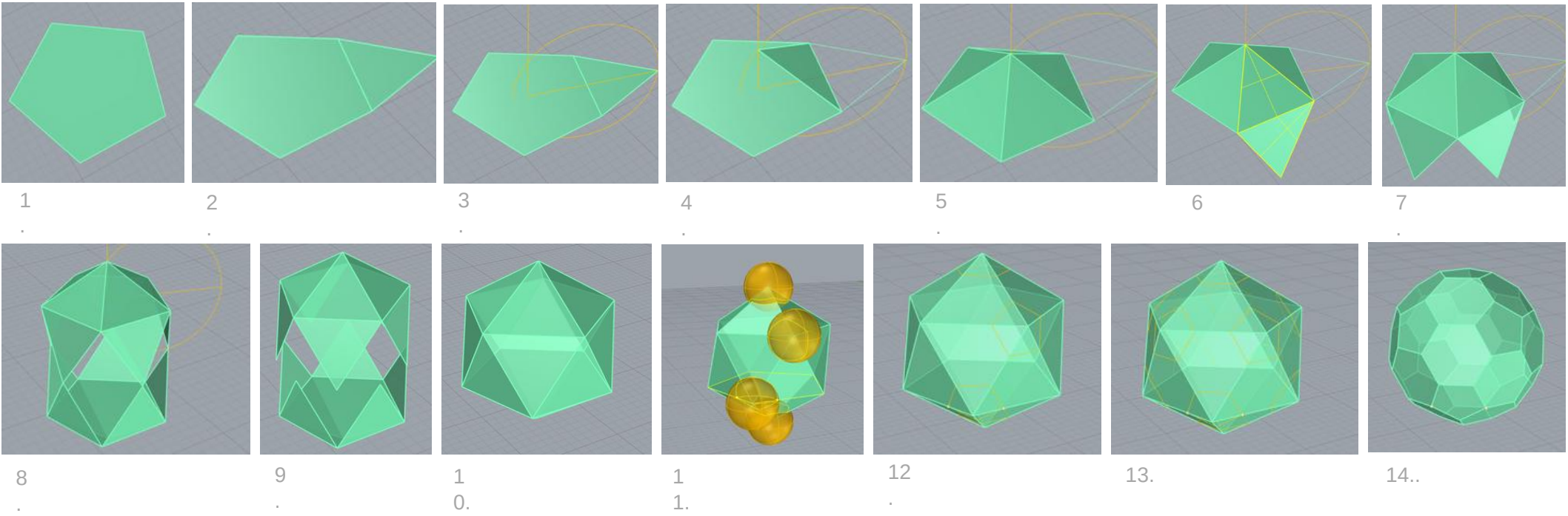
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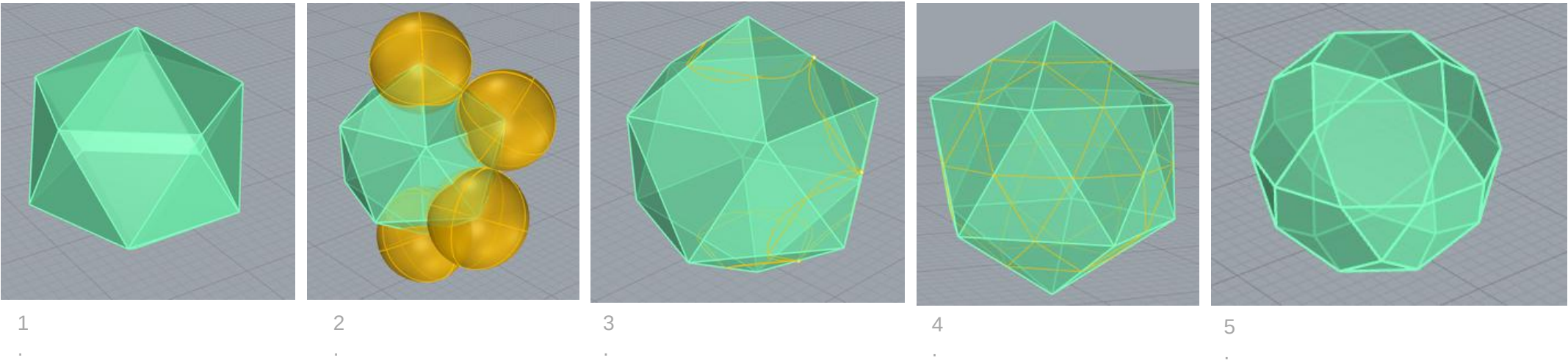
- FIG1- CRIAÇÃO DE UM HEXAEDRO DE LADO 9 COM O COMANDO BOX.
- FIG2- USO DO COMANDO CIRCLE PARA ENCONTRAR OS PONTOS DE TRUNCAÇÃO.
- FIG3- LIGAÇÃO DOS PONTOS COM O COMANDO POLYLINE.
- FIG4- USO DO COMANDO MIRROR E ARRAYPOLAR PARA SOBREPOR A FORMA NOS OUTROS VÉRTICES.
- FIG5- CRIAÇÃO DO HEXAEDRO TRUNCADO.
- FIG6-USO DO COMANDO SPHERE COM UM RAIO DE 1/3 DA ARESTA E INTERSECT PARA ENCONTAR OS PONTOS DE TRUNCAÇÃO.
- FIG7- LIGAÇÃO DOS PONTOS COM UMA POLYLINE.
- FIG8- USO DO COMANDO MIRROR E ARRAYPOLAR PARA SOBREPOR A FORMA NOS RESTANTES VÉRTICES.
- FIG9- CRIAÇÃO DO GRAN ROMBICUBOCTEDRRO.

CONSTRUÇÃO DO ICOSAEDRO TRUNCADO



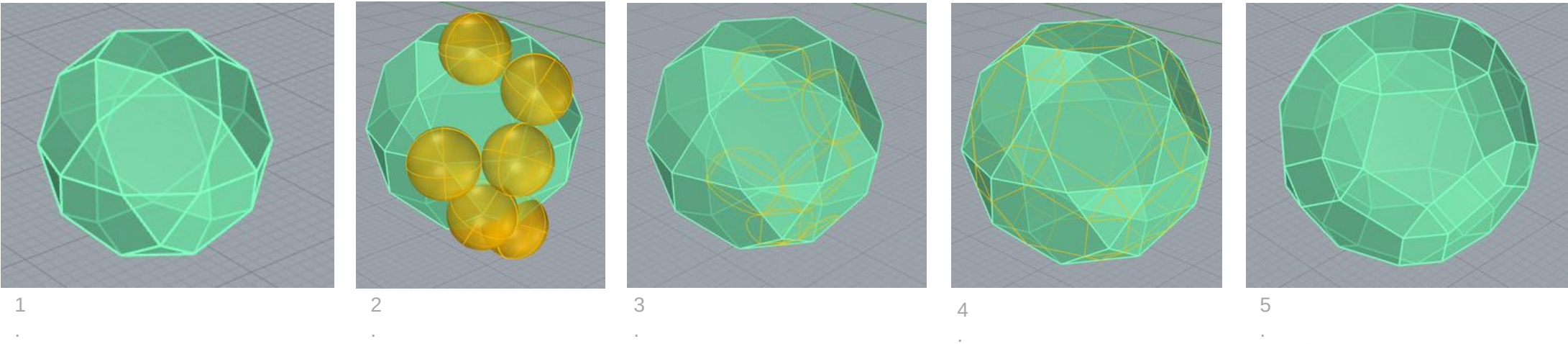
- FIG1- CRIAÇÃO DE UM PENTAGONO REGULAR DE LADO 9.
- FIG2- CONSTRUÇÃO DE UN TRIÂNGULO EQUILÁTERO PERTENCENTE À ARESTA DA BASE.
- FIG3- USO DO COMANDO CIRCLE PARA DESENHAR UMA CIRCUNFÊRENCIA QUE NOS VAI INDICAR O PONTO DO VÉRTICE DO TOPO DA PIRÂMIDE.
- FIG4- ROTATE3D PARA INTERSETAR O VÉRTICE DO TRIANGULO COM O PONTO DO TOPO DA PIRÂMIDE.
- FIG5- USO DO COMANDO ARRAYPOLAR PARA CRIAR AS OUTRAS FACES DA PIRÂMIDE.
- FIG6- CRIAÇÃO DA FACE LATERAL COM O COMANTO ORIENT3PT.
- FIG7- ARRAYPOLAR PARA CRIAR AS RESTANTES FACES LATERIAS.
- FIG8- MIROR PARA CRIAR AS RESTANTES FACES DO ICOSAEDRO.
- FIG9- ROTATE 36° PARA ENCAIXAR AS FACES.
- FIG10- MOVE PARA LIGAR TODAS AS FACES.
- FIG11-USO DO COMANDO SPHERE COM UM RAIOS DE 1/3 DA ARESTA PARA ENCONTRAR OS PONTOS DE TRUNCAÇÃO DOS VÉRTICES ATÉ 1/3 DA ARESTA.
- FIG12-LIGAÇÃO DOS PONTOS COM UMA POLYLINE.
- FIG13-MIRROR E ARRAY POLAR DAS POLYLINES NOS OUTROS VÉRTICES.
- FIG14-SÓLIDO FINAL ATRAVÉZ DA TRUNCAÇÃO USANDO O COMANDO WIRECUT.

CONSTRUÇÃO DO ICOSIDODECAEDRO



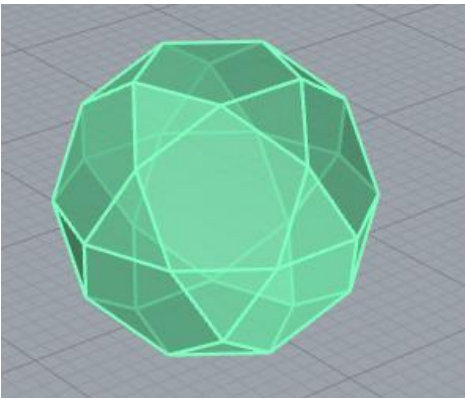
- FIG1- PARTIMOS DO ICOSAEDRO.
- FIG2- USO DO COMANDO SPHERE COM RAO ATÉ METADE DA ARESTA PARA ENCONTRAR OS PONTOS DE TRUNCAÇÃO DOS VÉRTICES ATÉ METADE DA ARESTA.
- FIG3- LIGAÇÃO DOS PONTOS COM UMA POLYLINE.
- FIG4- MIRROR E ARRAYPOLAR DAS POLYLINES NOS OUTROS VÉRTICES.
- FIG5- SÓLIDO FINAL ATRAVÉZ DA TRUNCAÇÃO USANDO O COMANDO WIRECUT.

CONSTRUÇÃO DO ROMBICOSIDODECAEDRO

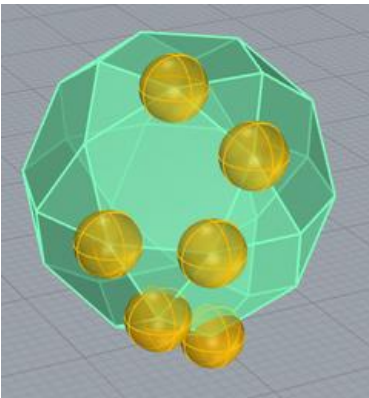


- FIG1- PARTIMOS DO ICOSIDODECAEDRO.
- FIG2- USO DO COMANDO SPHERE PARA ENCONTRAR OS PONTOS DE TRUNCAÇÃO DOS VÉRTICES ATÉ METADE DA ARESTA.
- FIG3- LIGAÇÃO DOS PONTOS COM UMA POLYLINE.
- FIG4- MIRROR E ARRAYPOLAR DAS POLYLINES NOS OUTROS VÉRTICES.
- FIG5- SÓLIDO FINAL ATRAVÉZ DA TRUNCAÇÃO USANDO O COMANDO WIRECUT.

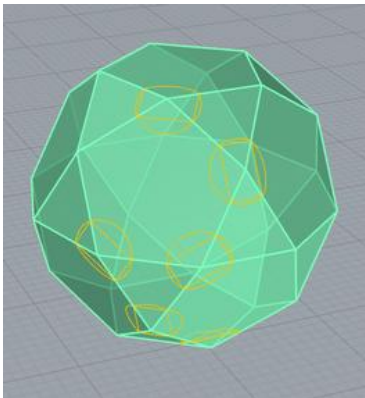
CONSTRUÇÃO DO GRAN ROMBICOSIDODECAEDRO



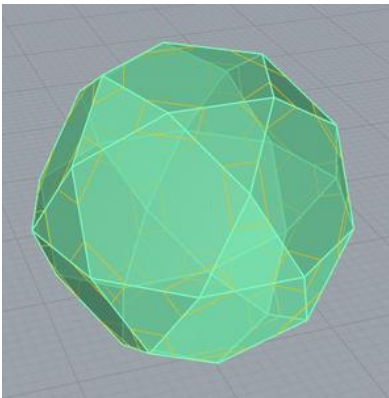
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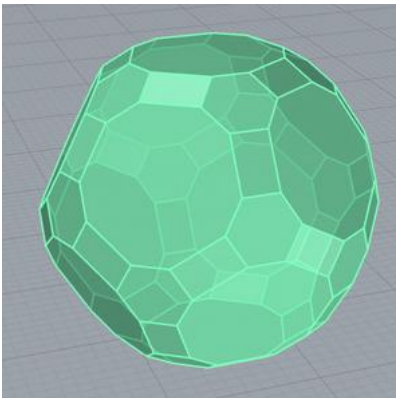
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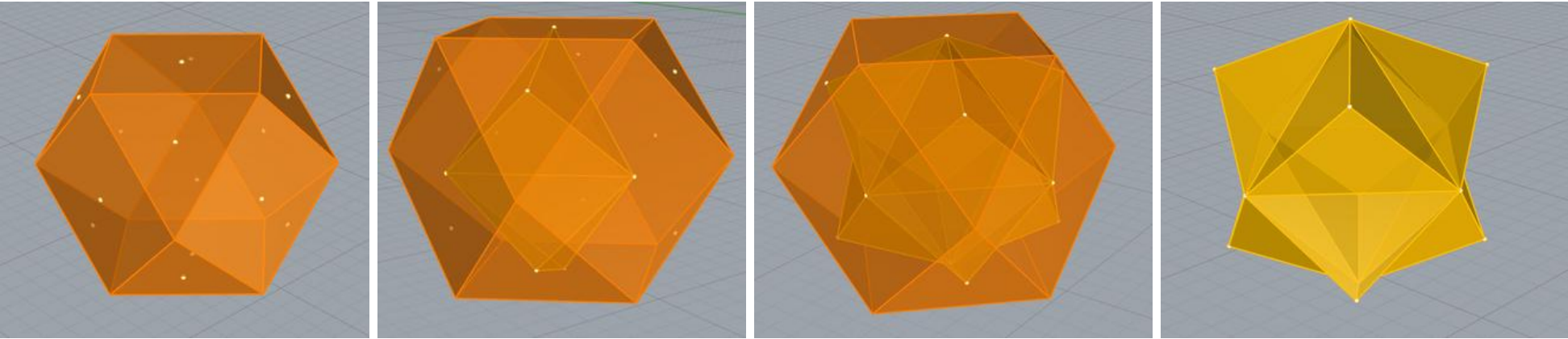
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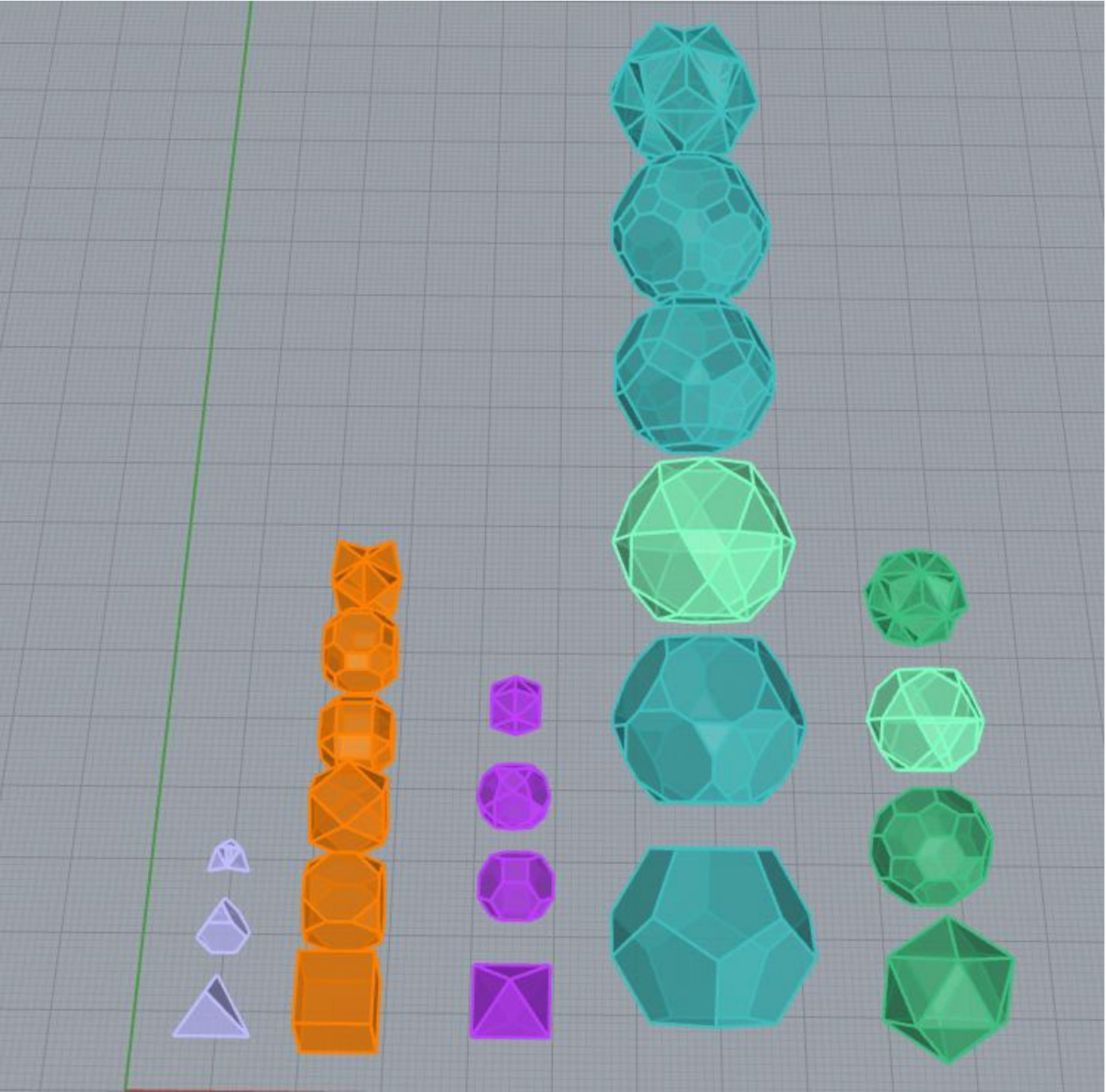
- FIG1- PARTIMOS DO ICOSIDODECAEDRO.
- FIG2- USO DO COMANDO SPHERE PARA ENCONTRAR OS PONTOS DE TRUNCAÇÃO DOS VÉRTICES ATÉ 1/3 DA ARESTA.
- FIG3- LIGAÇÃO DOS PONTOS COM UMA POLYLINE.
- FIG4- MIRROR E ARRAYPOLAR DAS POLYLINES NOS OUTROS VÉRTICES.
- FIG5- SÓLIDO FINAL ATRAVÉZ DA TRUNCAÇÃO USANDO O COMANDO WIRECUT.

CONSTRUÇÃO DOS DUALS



1 2 3 4
EXEMPLO DA CONSTRUÇÃO DOS DUALS

- FIG1- PARTIMOS DO CUBOCTAEDRO E METEMOS POINTS NO CENTRO DE TODAS AS FACES.
- FIG2- COM O COMANDO SURFACE LIGAMOS DOIS PONTOS DE DUAS FACES NÃO TRUNCADAS A OUTRO PONTO DE UMA FACE TRUNCADA. REPETIMOS AS SUPERFÍCIES ATÉ CHEGARMOS À FACE DA BASE INFERIOR.
- FIG3- COM O COMANDO ARRAYPOLAR LIGAMOS TODOS OS RESTANTES PONTOS E FORMAMOS TODAS AS SUPERFÍCIES.
- FIG4- O RESULTADO FINAL É O DUAL DO CUBOCTAEDRO.
- FIG5- AO CONSTRUIR OS DUALS DOS SÓLIDOS ARQUIMEDIANOS ANALISAMOS QUE TODOS OS DUALS QUE PARTEM DO MESMO SÓLIDO PLATÔNICO VÃO SER IGUAIS.



5

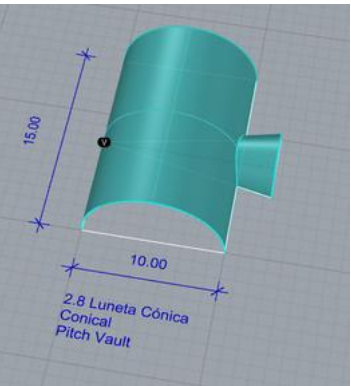
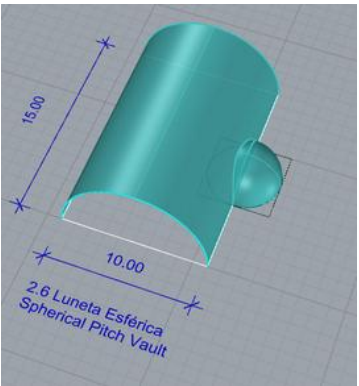
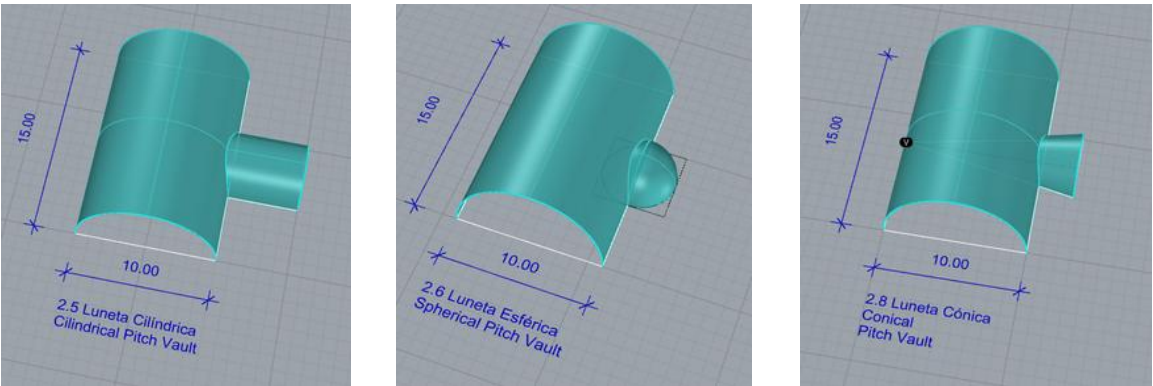
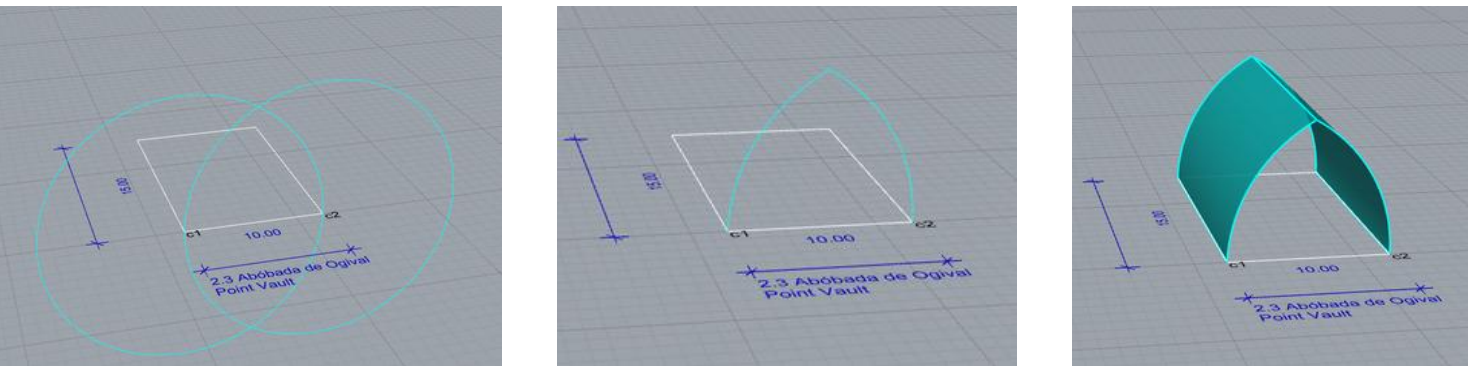
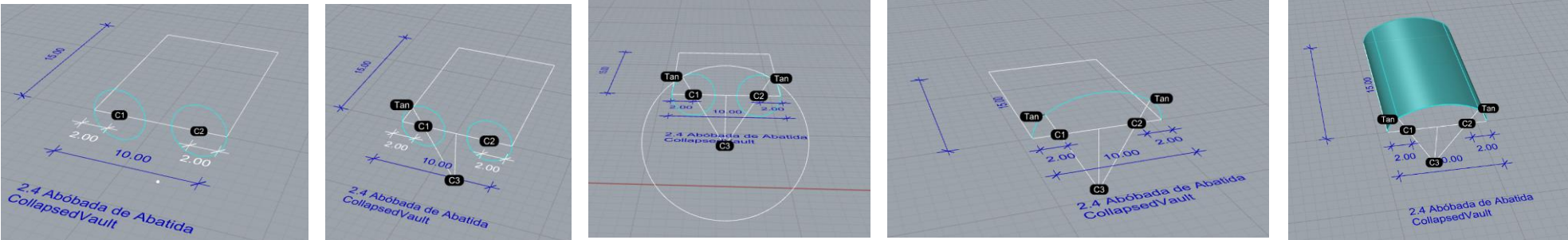
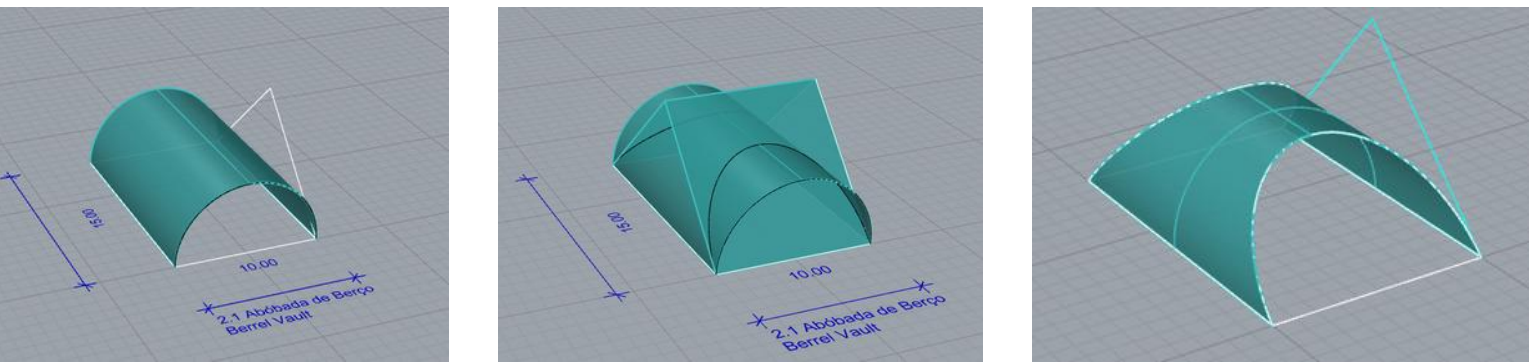
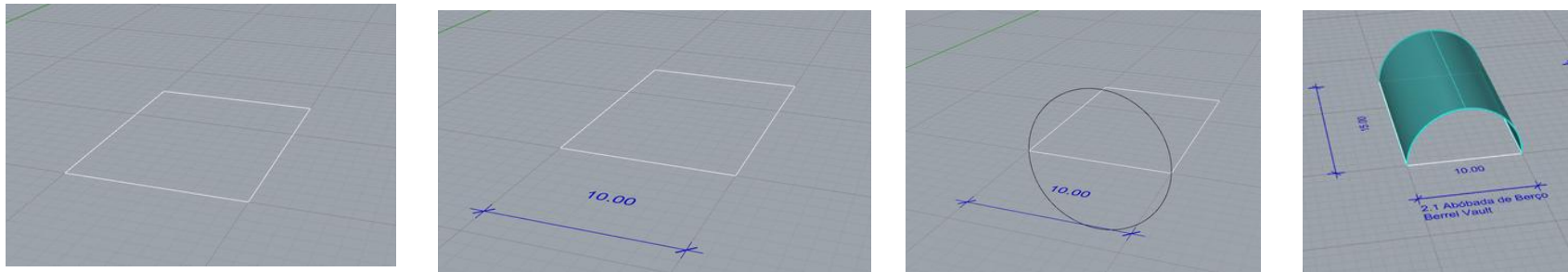
FIM DOTRABALHO 1

TRABALHO 1- ANÁLISE

Sumário 17/3/26

•CRIAÇÃO DE ABÓBADAS

USO DOS COMANDOS RECTANLGE,CIRCLE, EXTRUDE, SPHERE E TRIM PARA CONSTRUIR AS ABÓBADAS

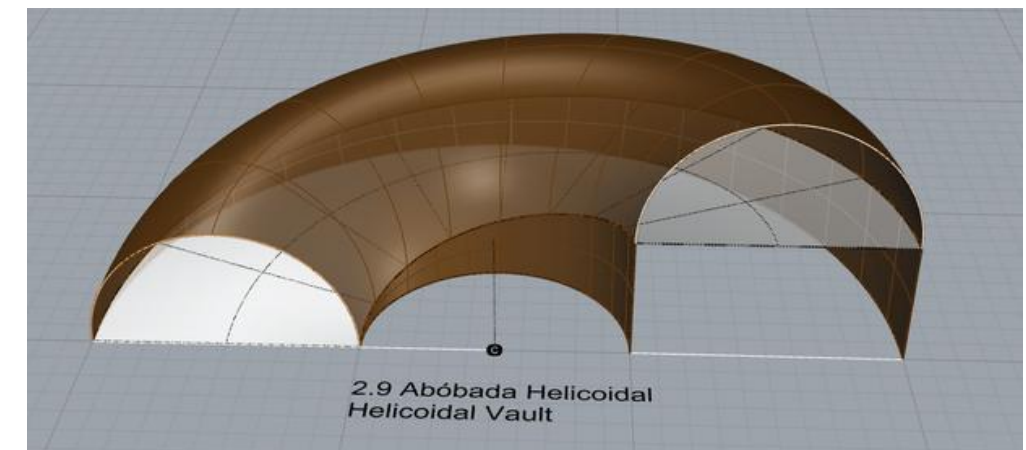
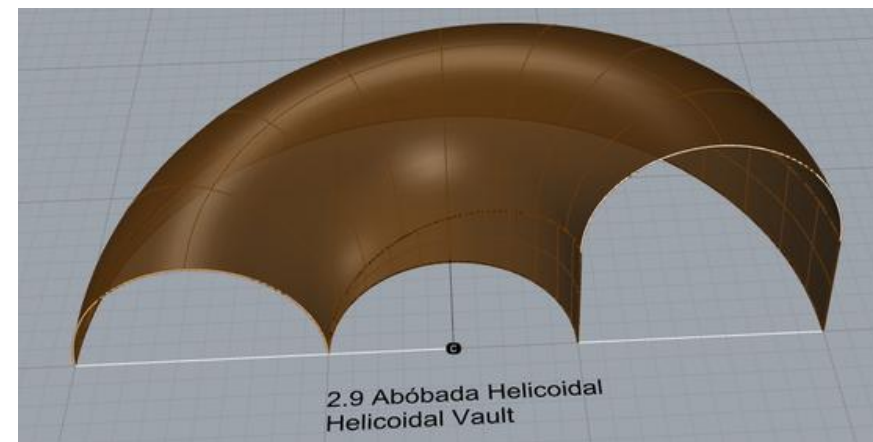
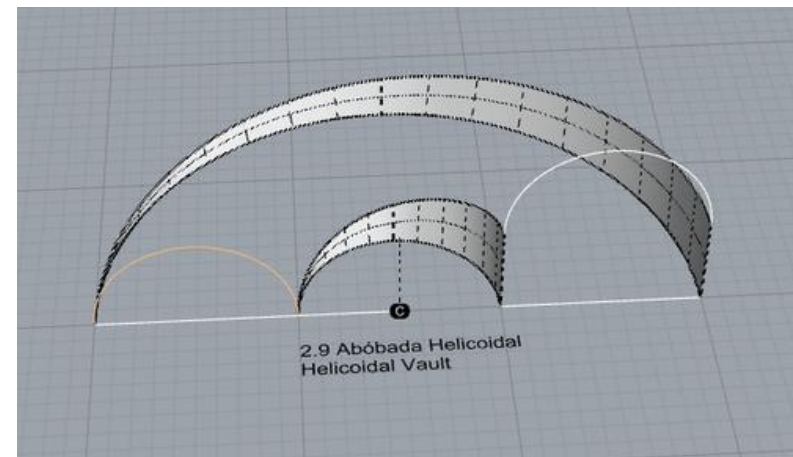
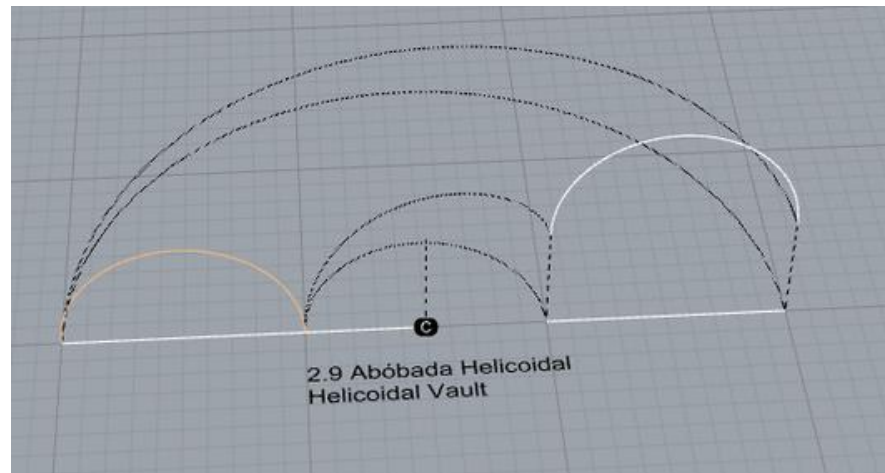
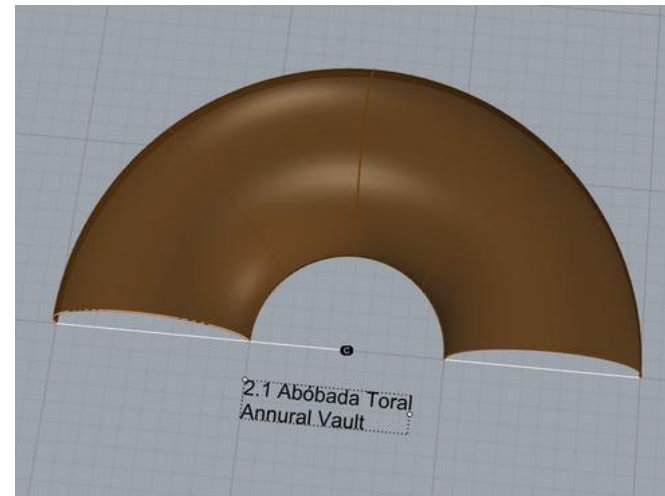
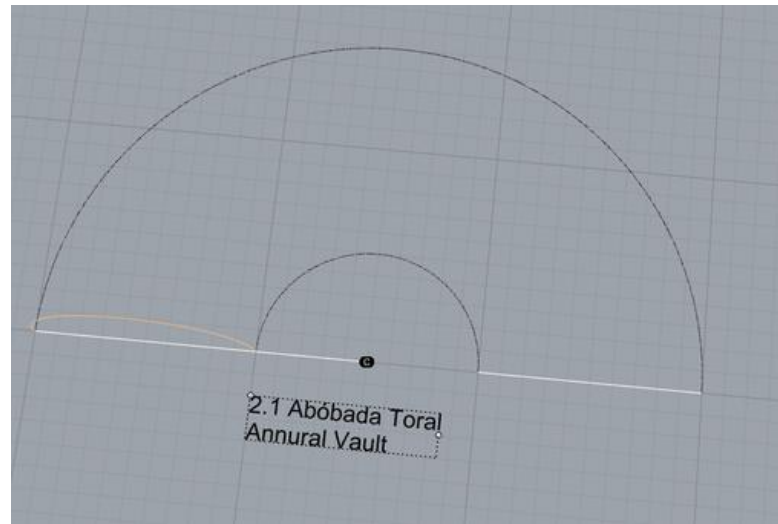


Aula. 5 – RHINO

Sumário 19/3/26

- CONTINUAÇÃO DO TRABALHO DE CONSTRUÇÃO DE ABÓBADAS

USO DOS COMANDOS CIRCLE, HÉLIX, LOFT, SWEEP2 PARA CONSTRUIR AS ABÓBADAS

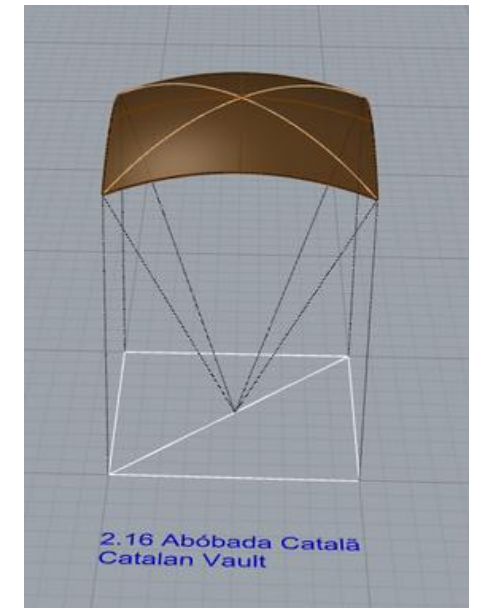
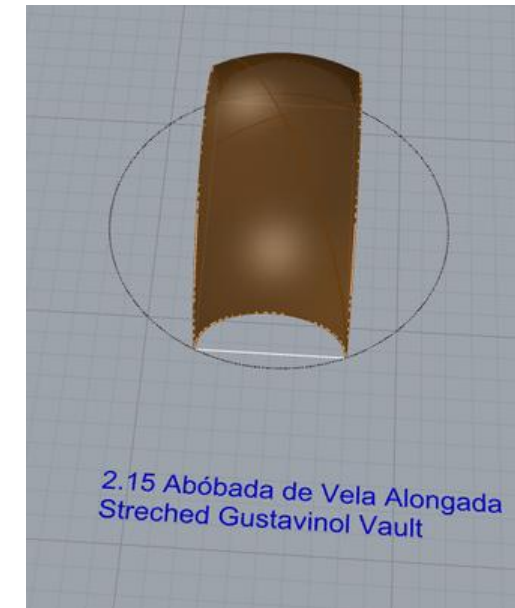
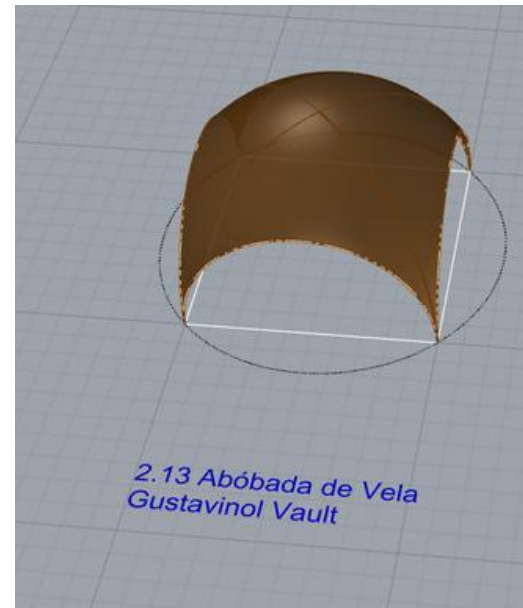
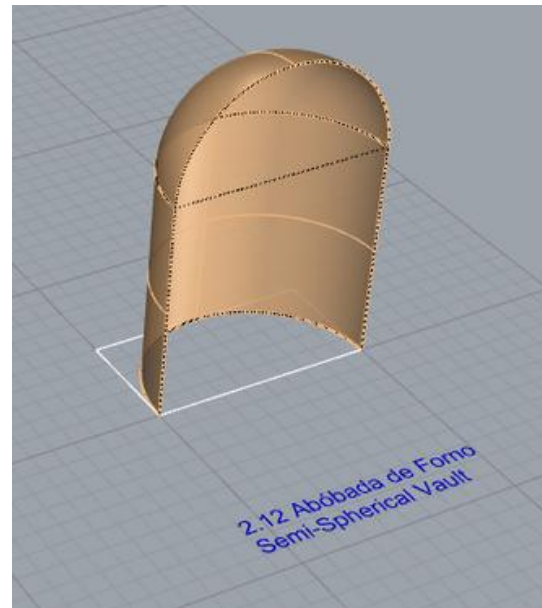
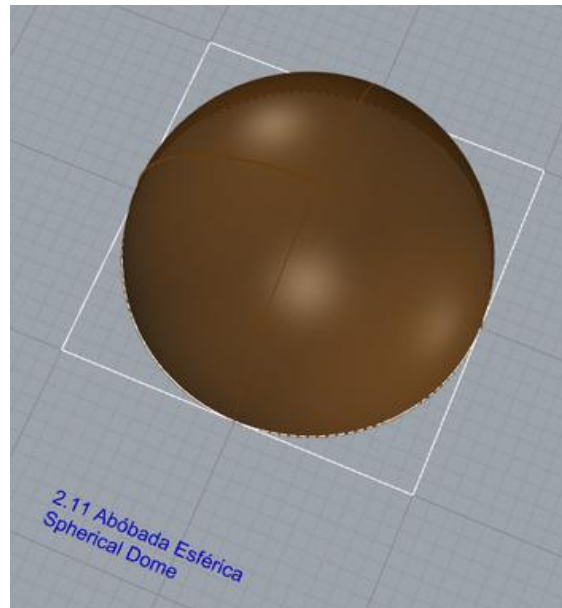


Aula. 6 – RHINO

Sumário 19/3/26

- CONTINUAÇÃO DO TRABALHO DE CONSTRUÇÃO DE ABÓBADAS

USO DOS COMANDOS RECTANLGE,CIRCLE, EXTRUDE, SPHERE PROJECT CURVES E TRIM PARA CONSTRUIR AS ABÓBADAS

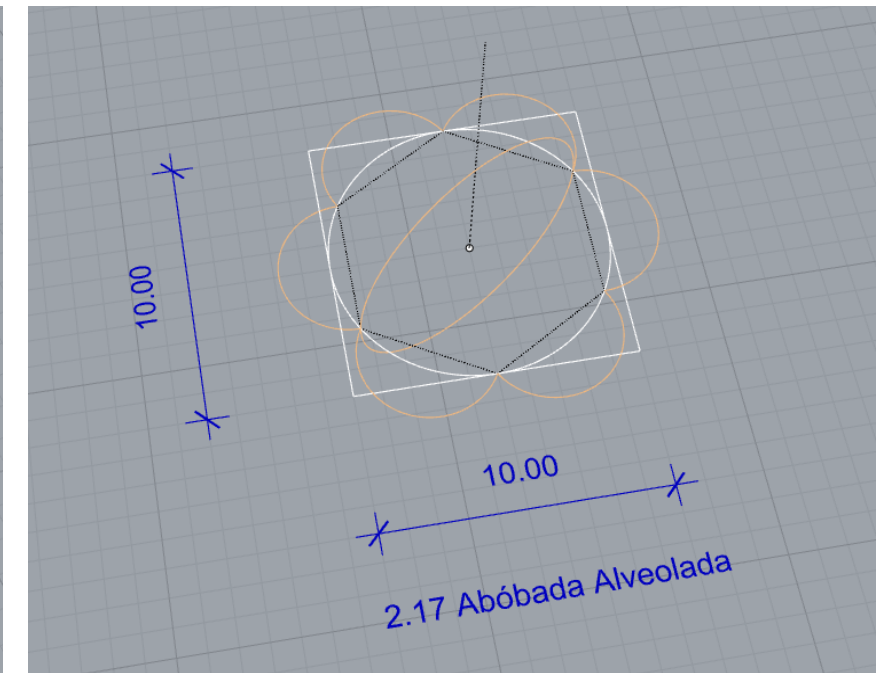
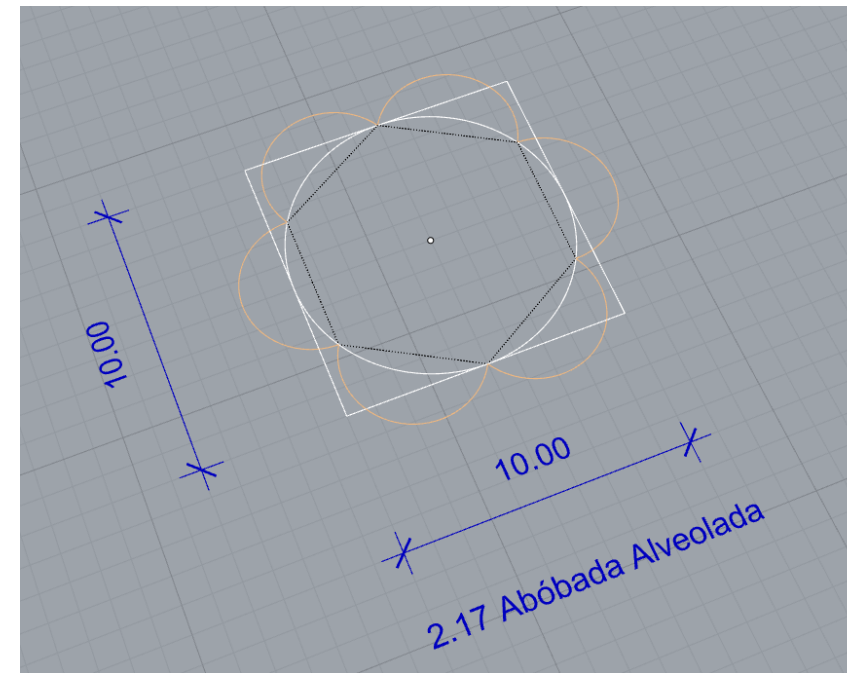
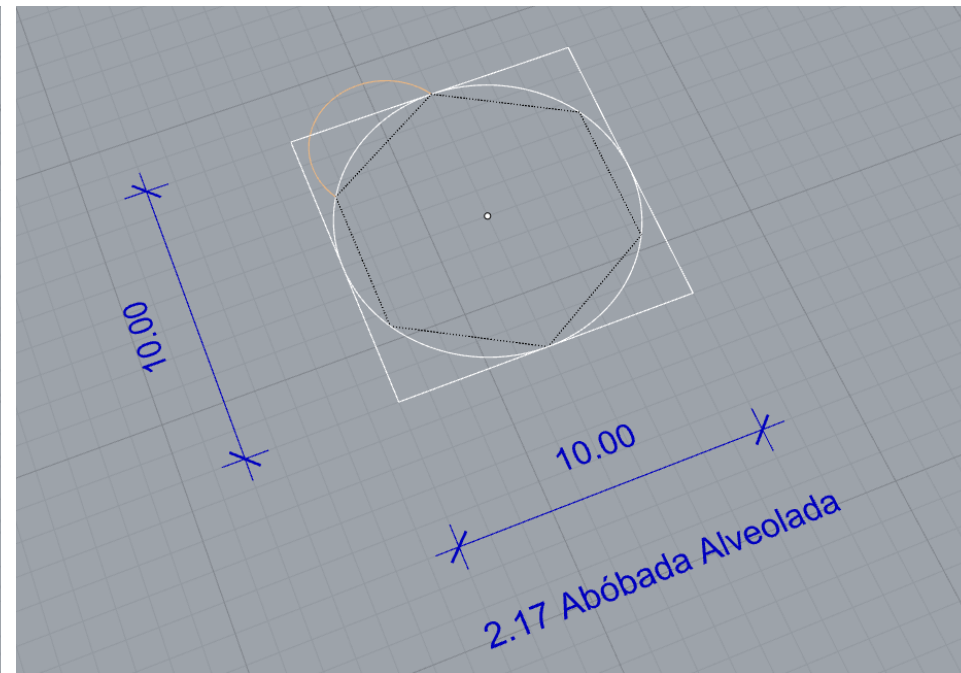
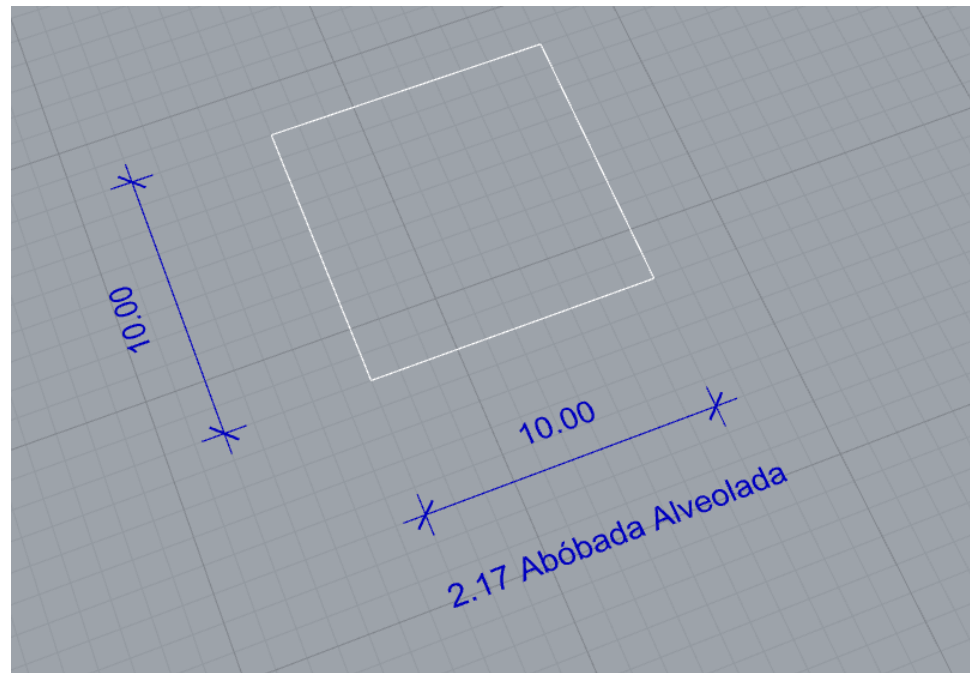
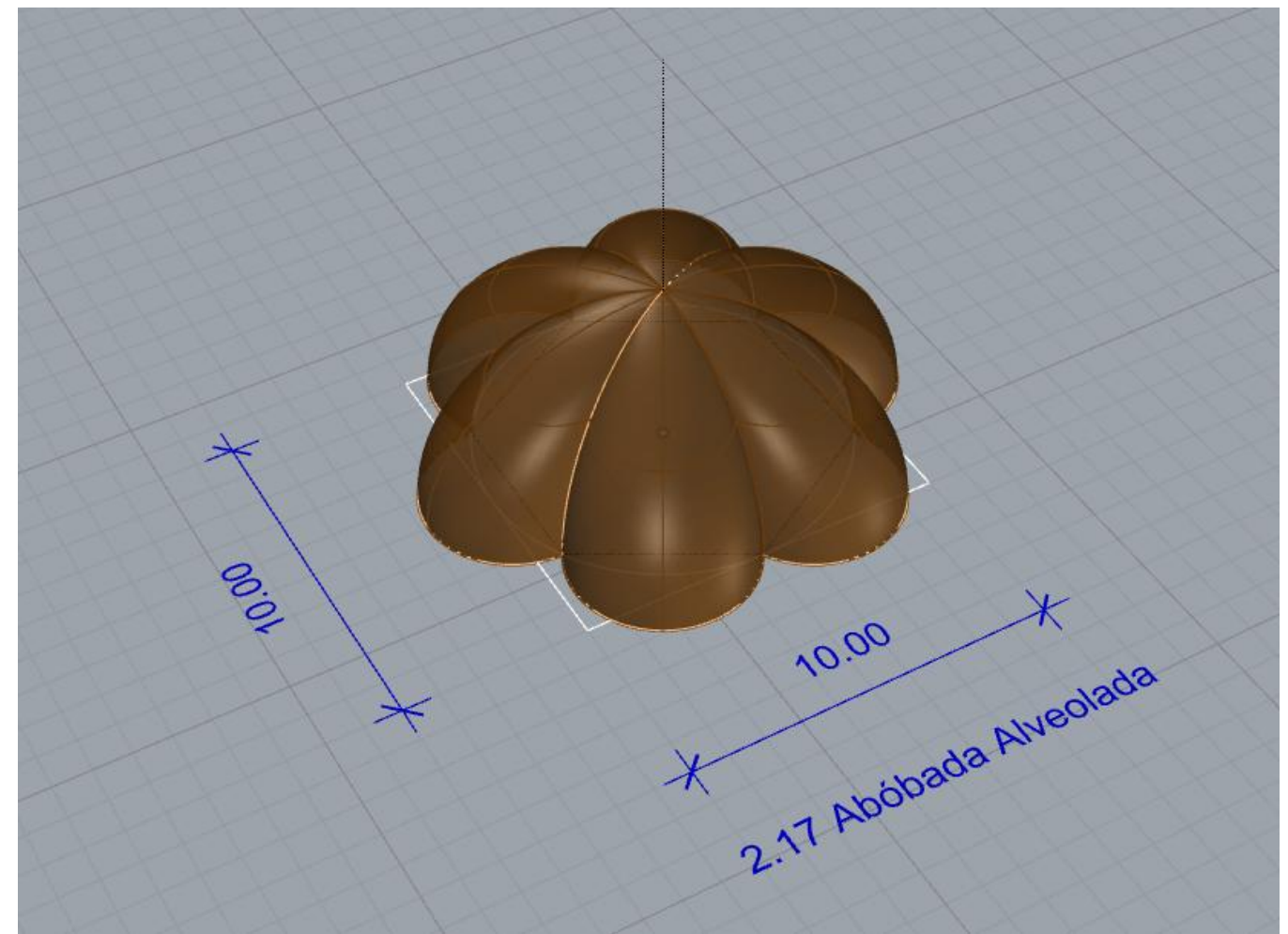


Aula. 6 – RHINO

Sumário 19/3/26

- CONTINUAÇÃO DO TRABALHO DE CONSTRUÇÃO DE ABÓBADAS

USO DOS COMANDOS RECTANLGE,CIRCLE, POLAR ARRAY E RAIL REVOLVE

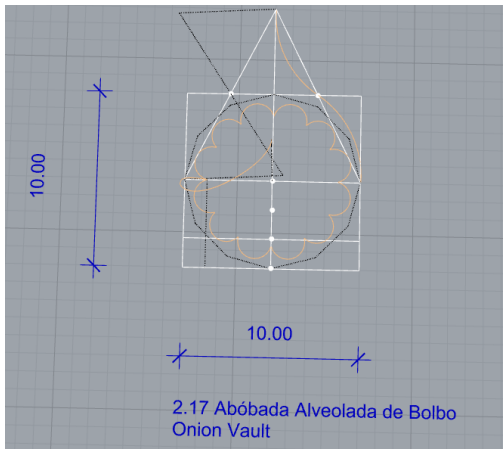
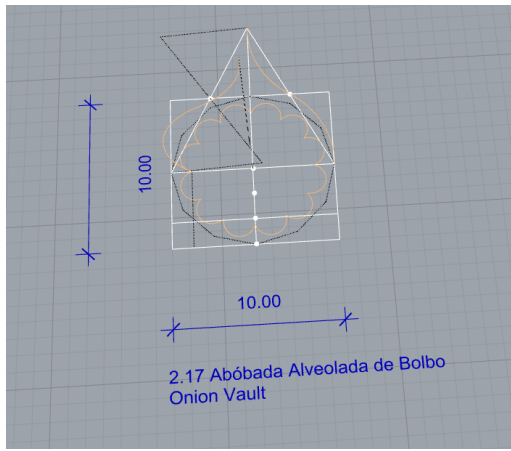
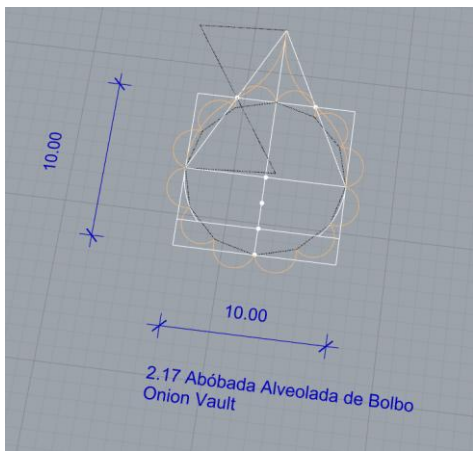
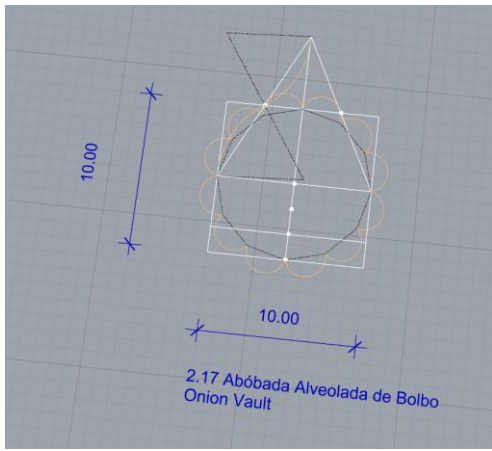
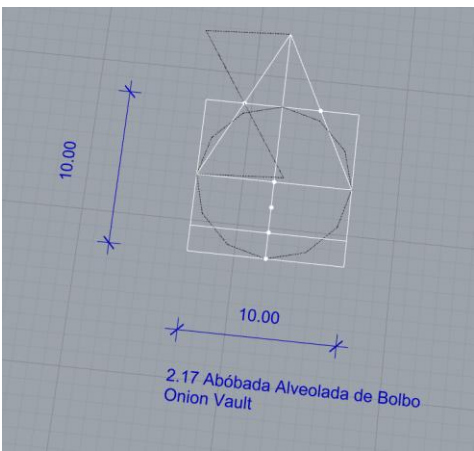
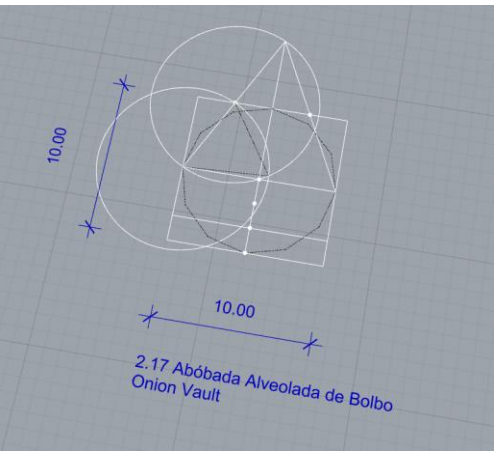
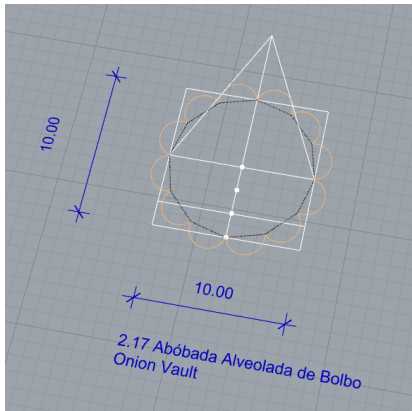
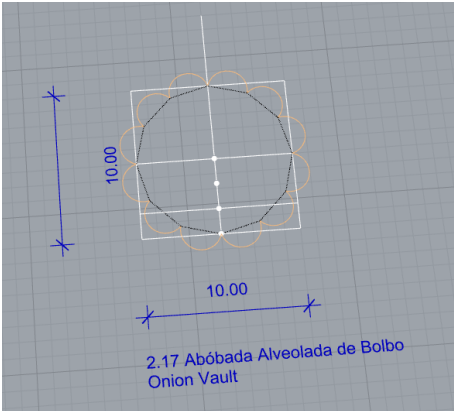
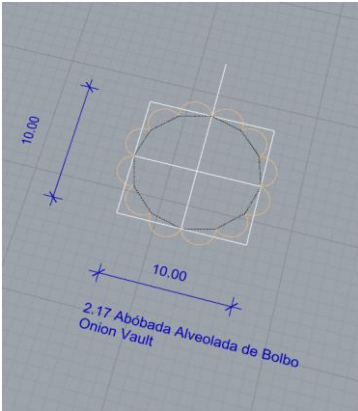
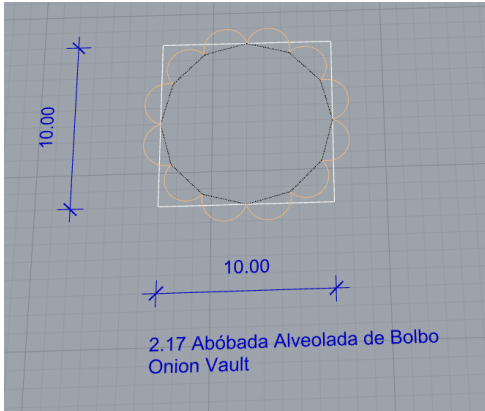
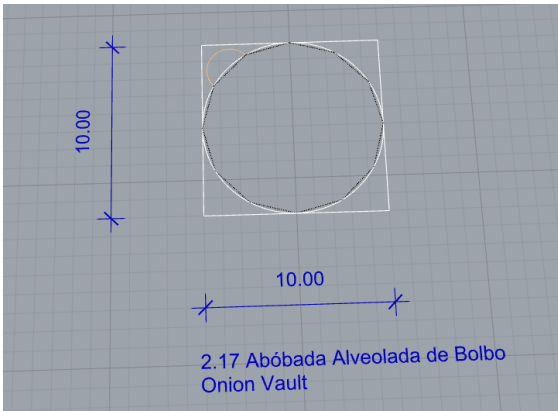
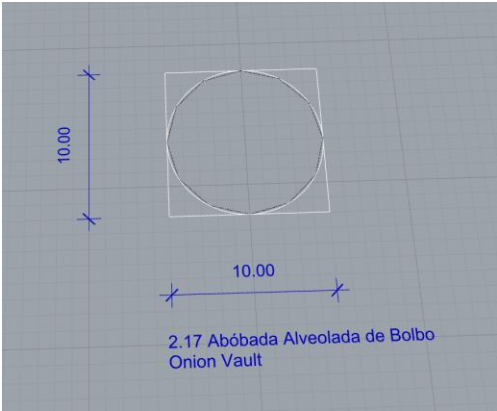


Aula. 6 – RHINO

Sumário 19/3/26

- CONTINUAÇÃO DO TRABALHO DE CONSTRUÇÃO DE ABÓBADAS

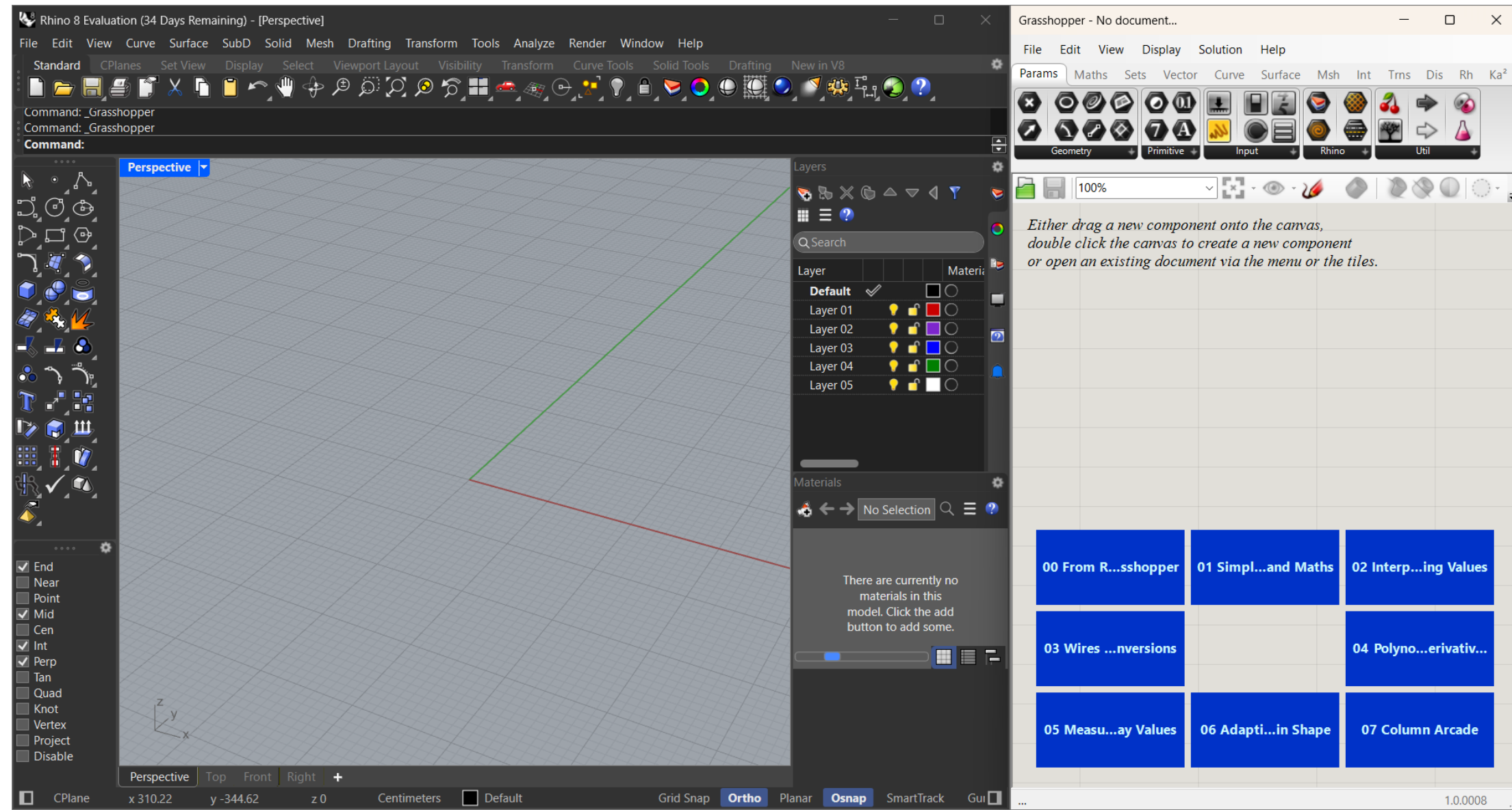
USO DOS COMANDOS RECTANLGE,CIRCLE, POLAR ARRAY E RAIL REVOLVE



Aula. 6 – RHINO

Sumário 7/4/26

- INTRODUÇÃO AO GRASSHOPPER
- CRIAÇÃO DE MOLUSCOS

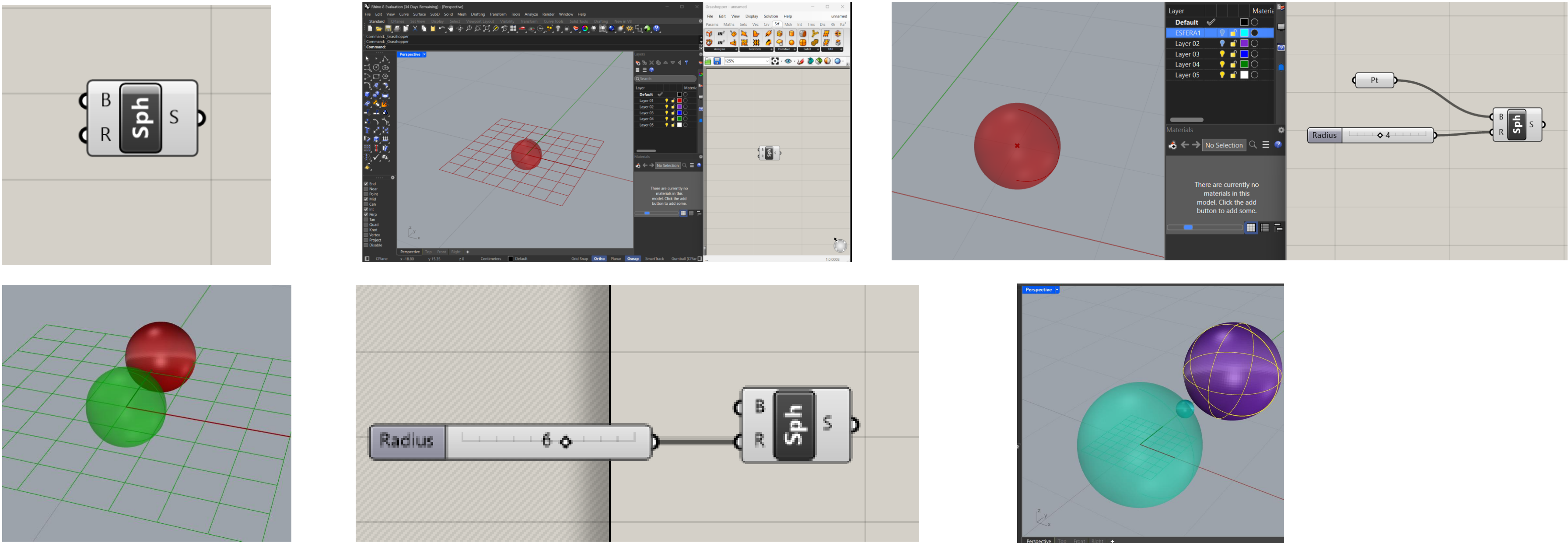


Aula. 7 – RHINO/GRASSHOPPER

Sumário 7/4/26

- INTRODUÇÃO AO GRASSHOPPER
- CRIAÇÃO DE MOLUSCOS
- SPIRULA PLANORBI NAUTILUS CARACOL CARAMUJO DO MAR

CONSTRUÇÃO DE ESFERAS COM O GRASSHOPPER

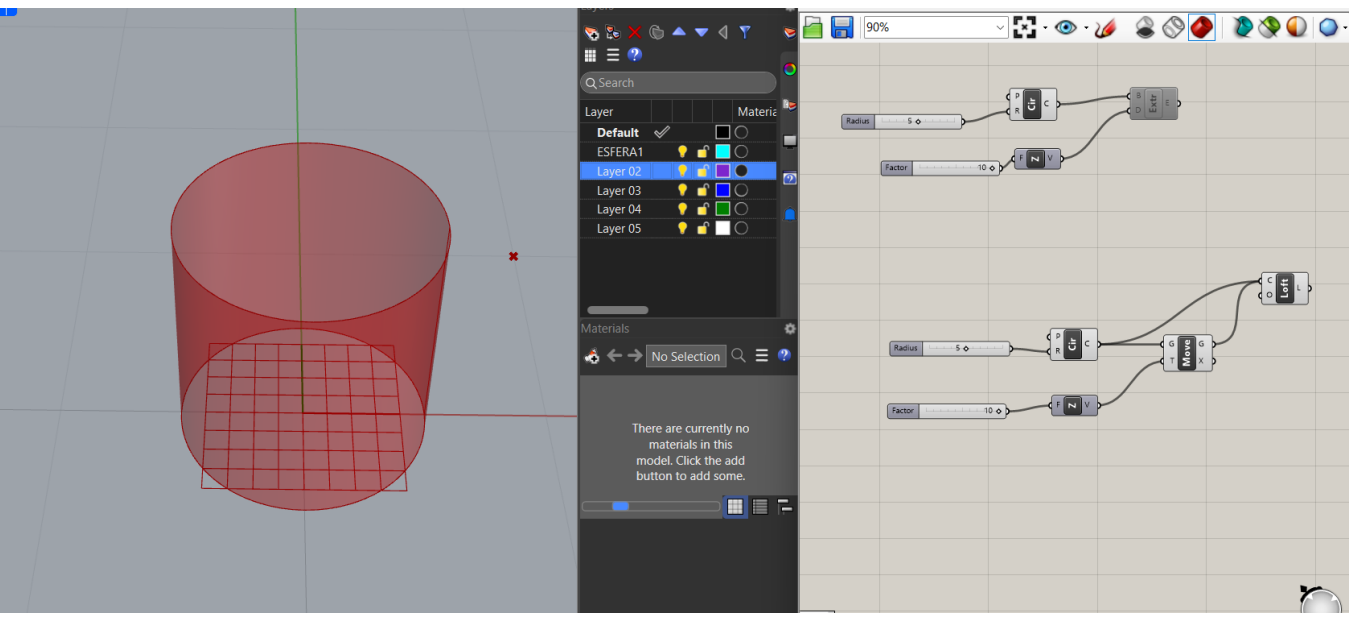
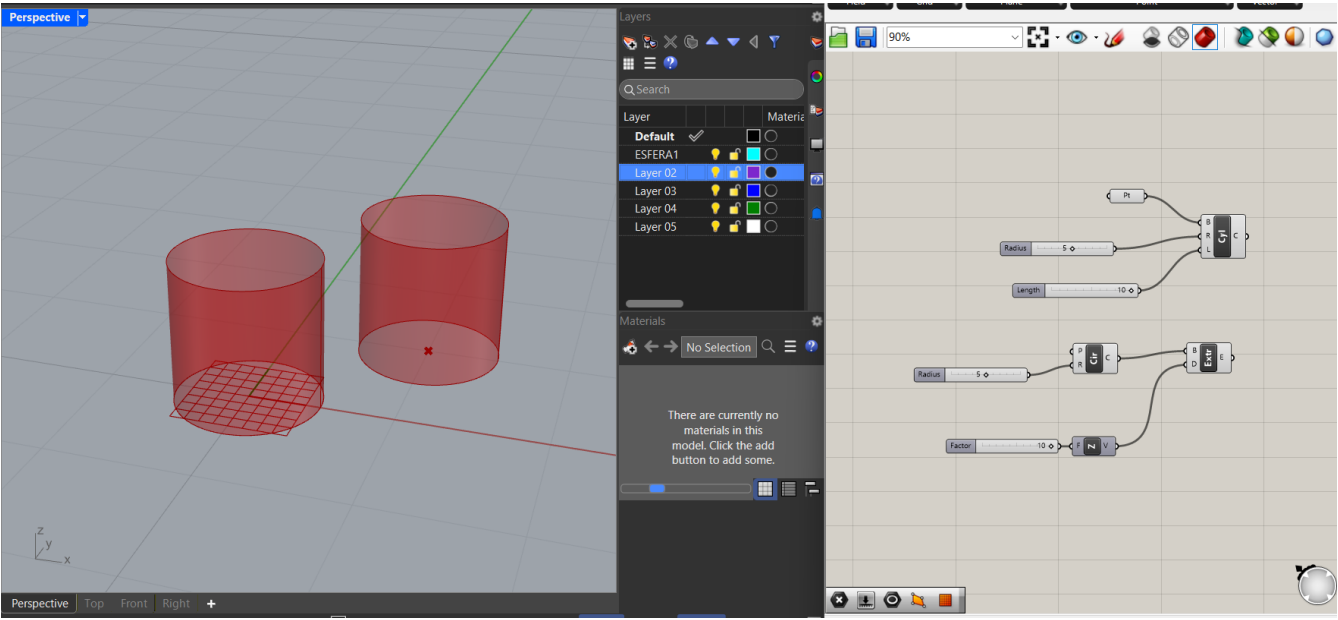
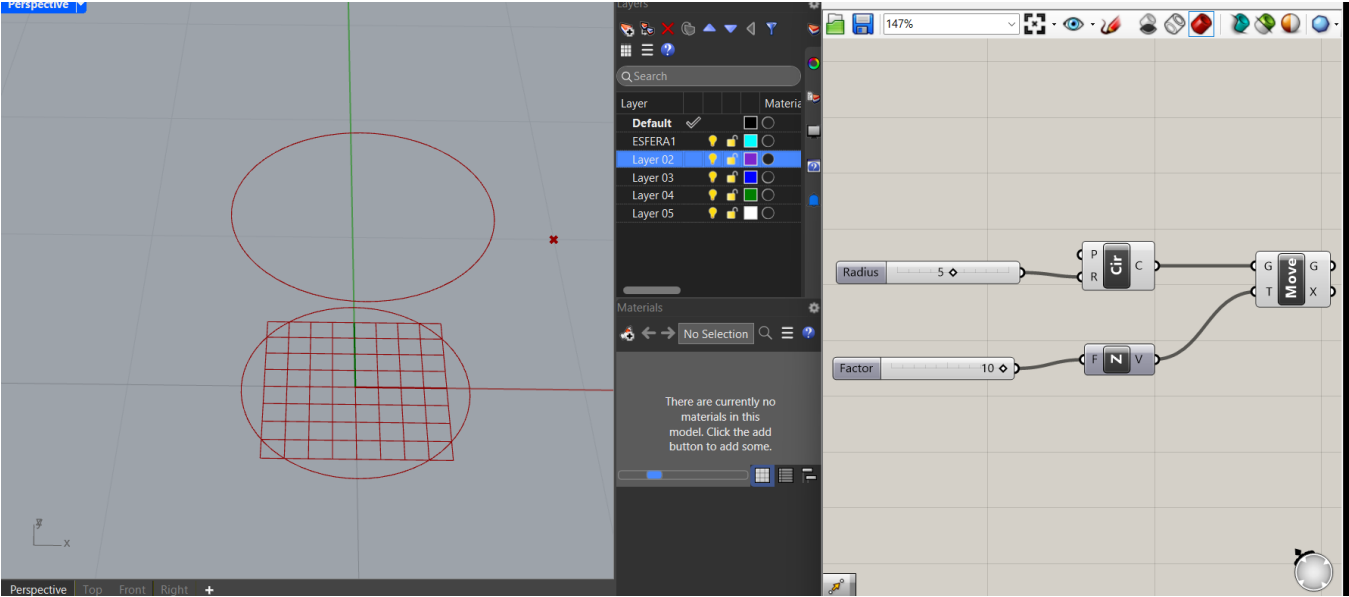
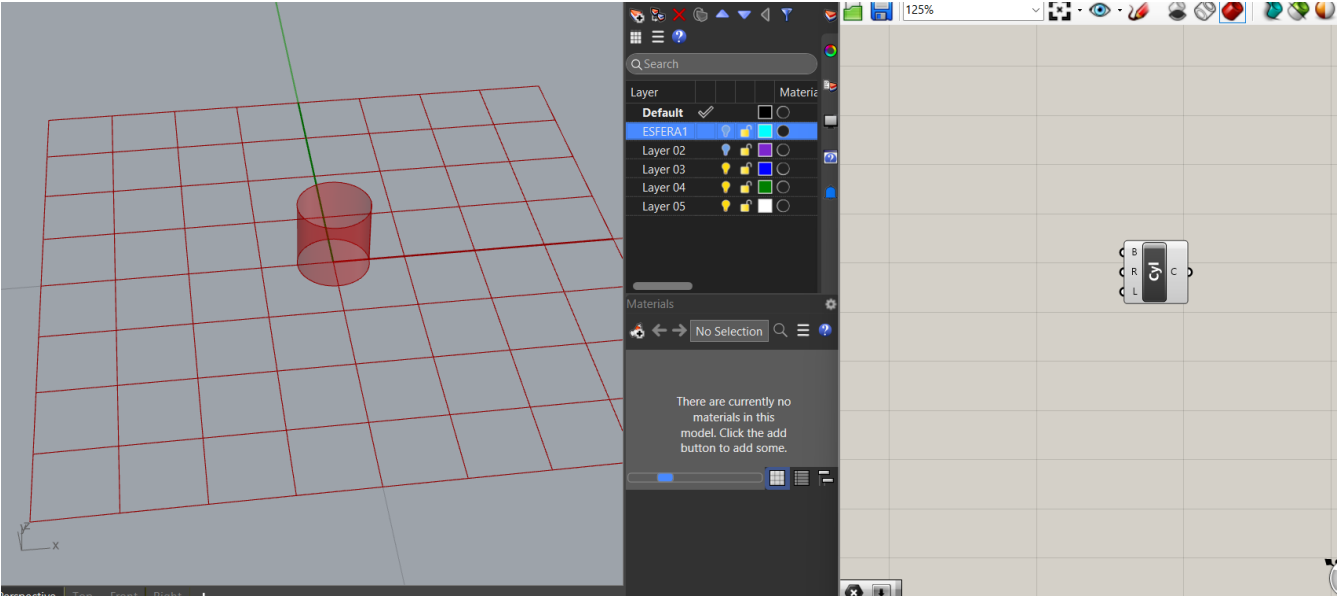


Aula. 7 – RHINO/GRASSHOPPER

Sumário 7/4/26

- INTRODUÇÃO AO GRASSHOPPER
- CRIAÇÃO DE MOLUSCOS
- SPIRULA PLANORBI NAUTILUS CARACOL CARAMUJO DO MAR

DIFERENTES MANEIRAS DE CONSTRUÇÃO DE CILINDROS COM O GRASSHOPPER

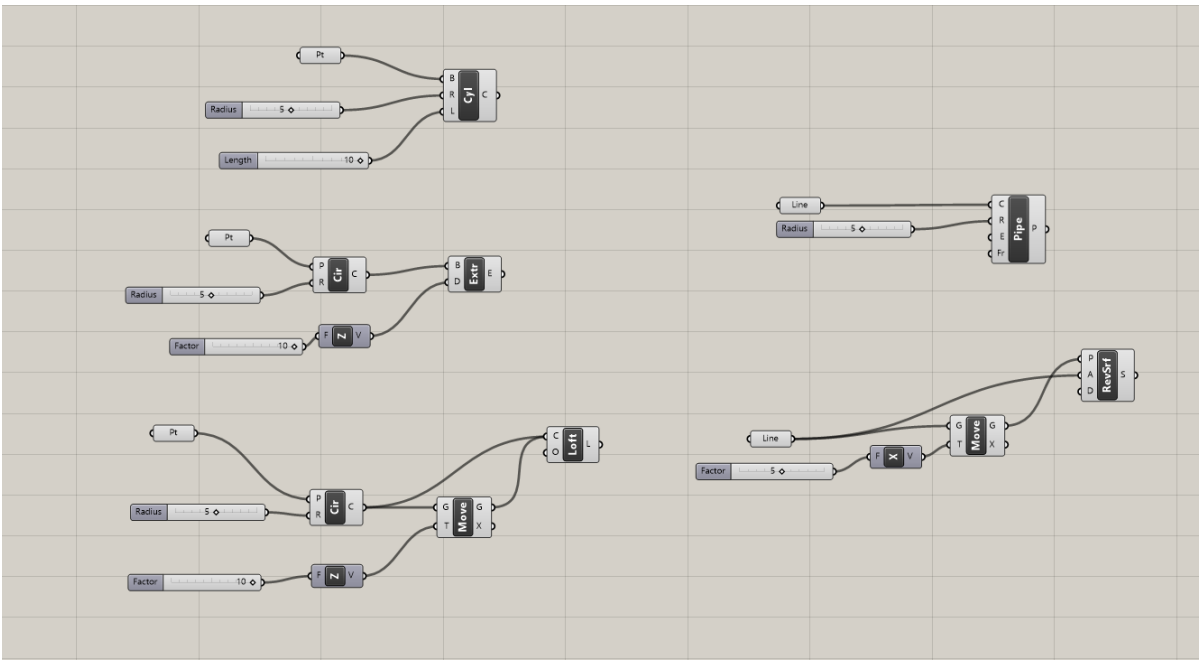
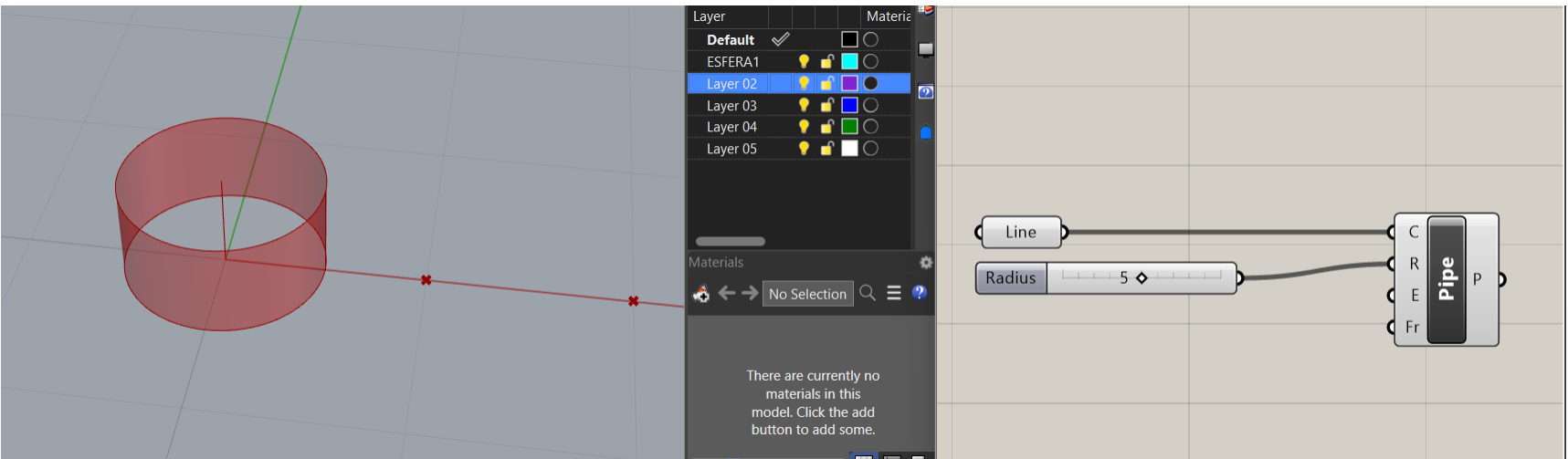
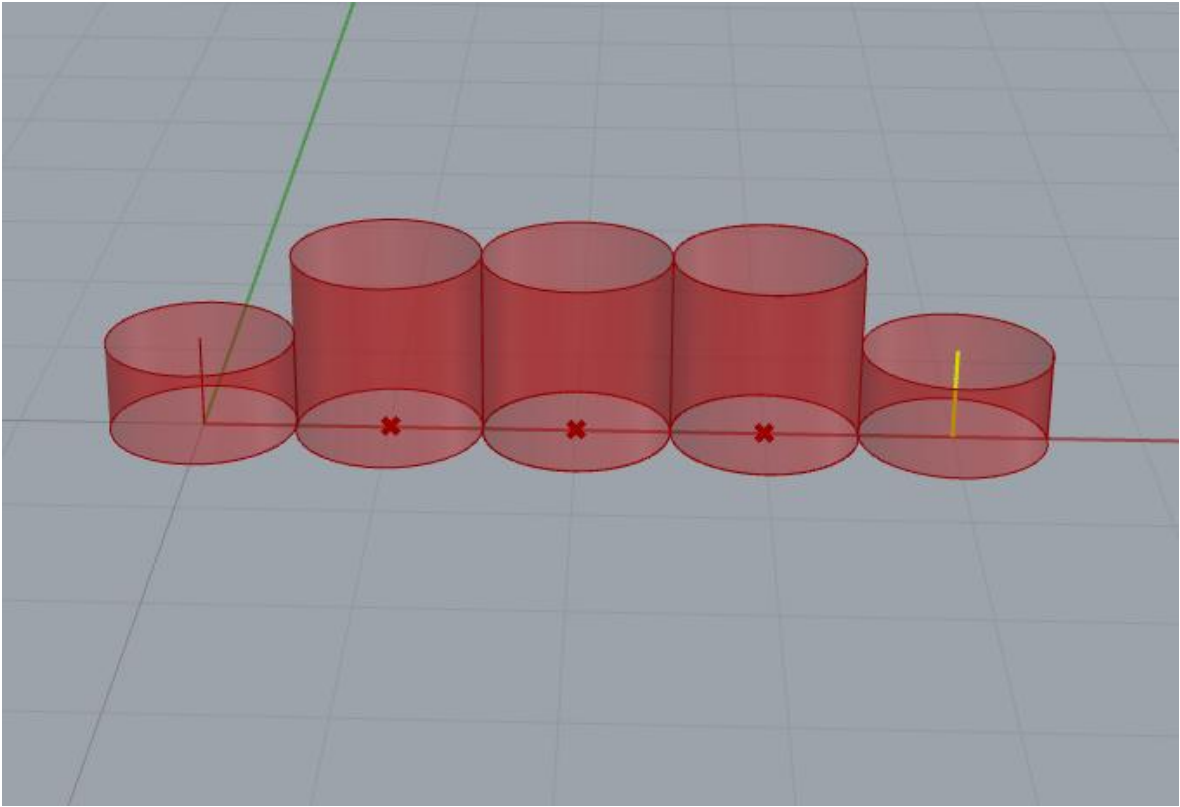
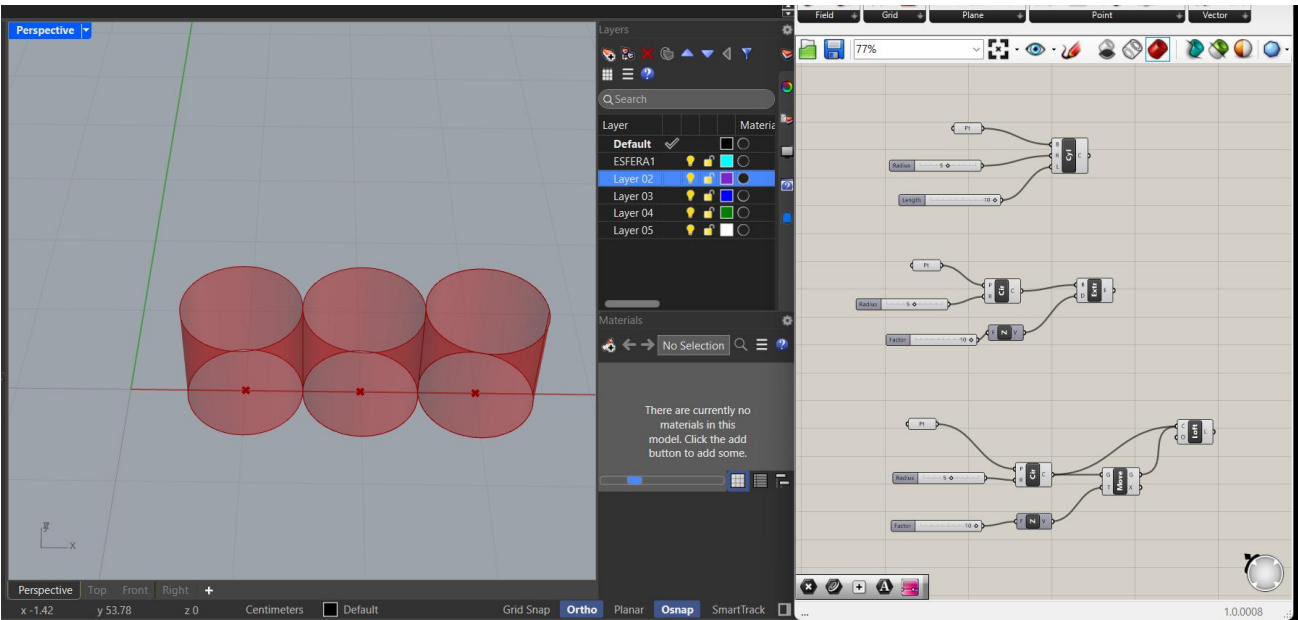


Aula. 7 – RHINO/GRASSHOPPER

Sumário 7/4/26

- INTRODUÇÃO AO GRASSHOPPER
- CRIAÇÃO DE MOLUSCOS
- SPIRULA PLANORBI NAUTILUS CARACOL CARAMUJO DO MAR

DIFERENTES MANEIRAS DE CONSTRUÇÃO DE CILINDROS COM O GRASSHOPPER

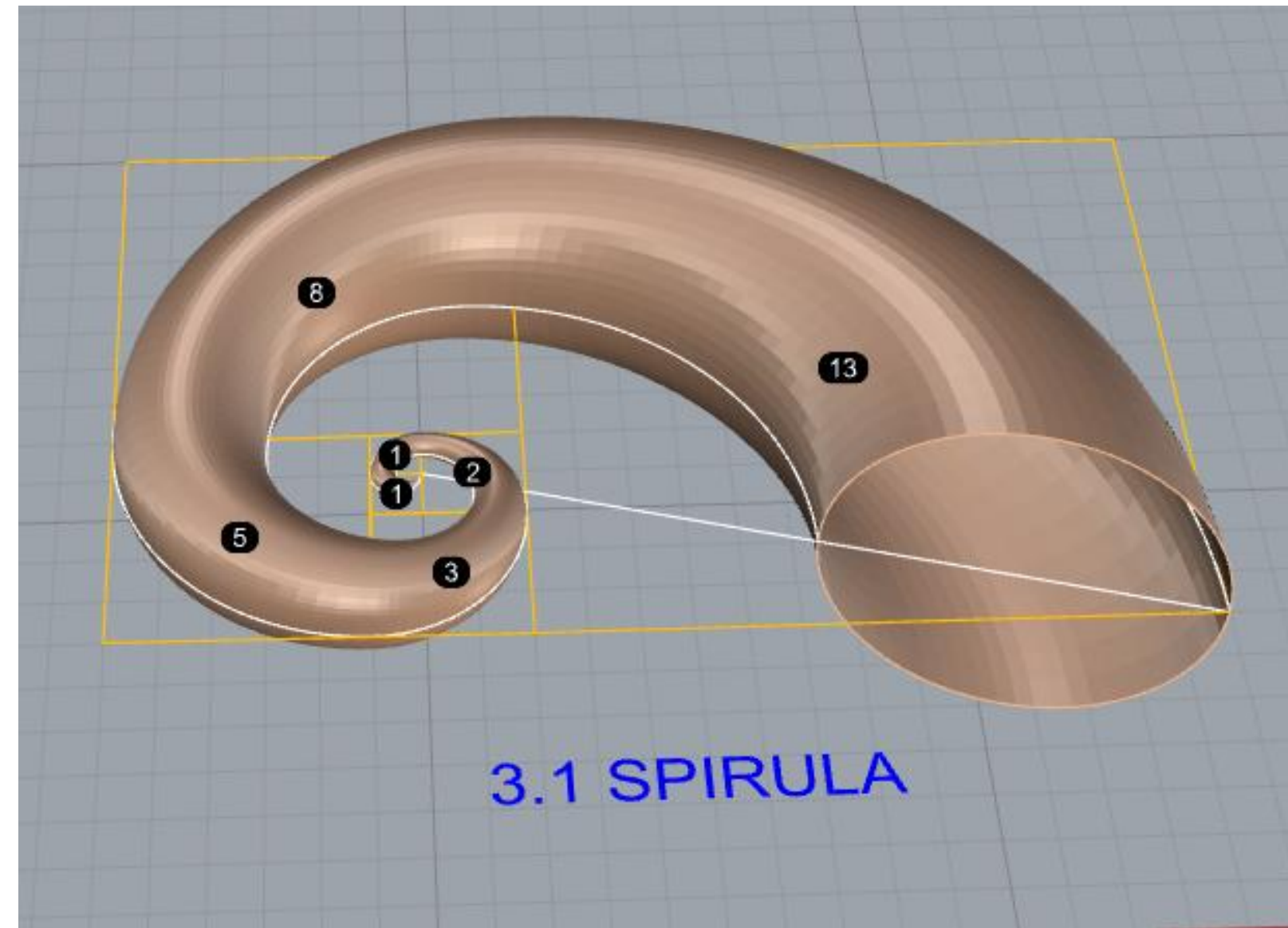
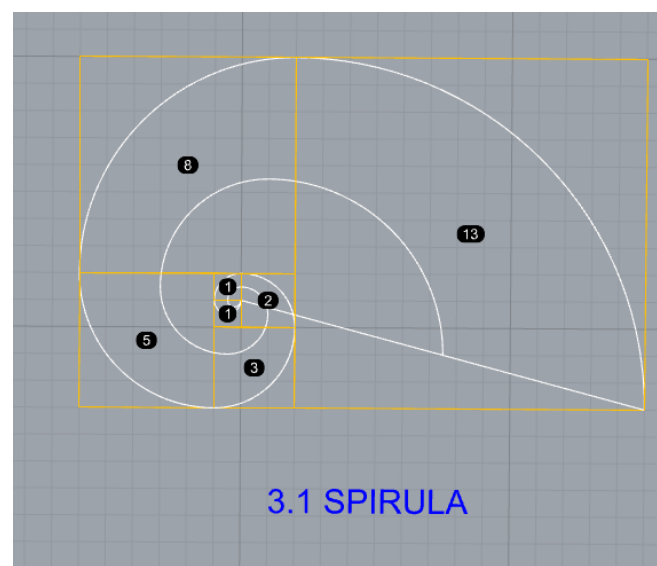
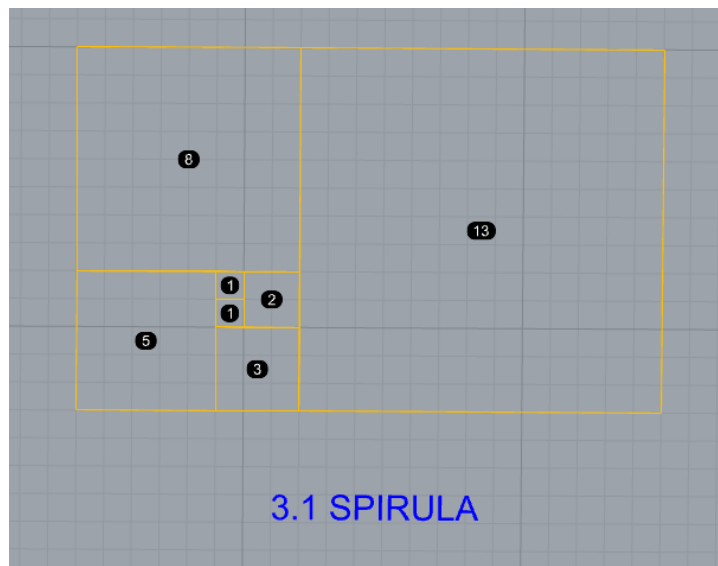
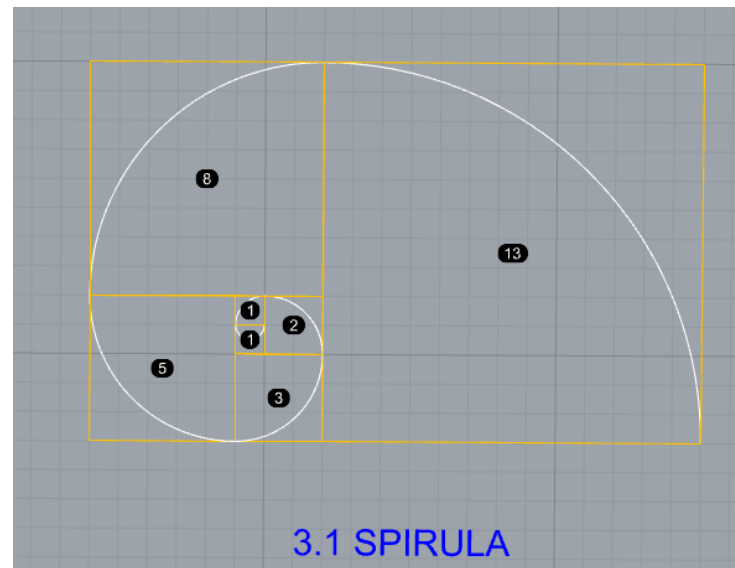
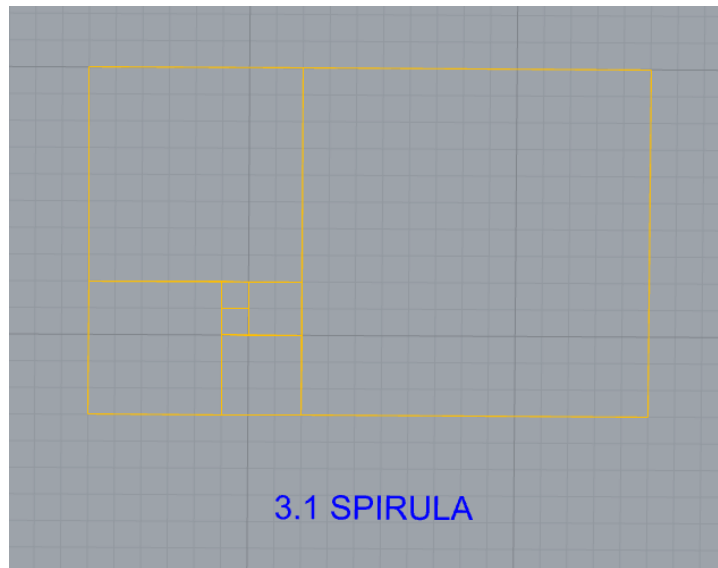


Aula. 7 – RHINO/GRASSHOPPER

Sumário 7/4/26

- INTRODUÇÃO AO GRASSHOPPER
- CRIAÇÃO DE MOLUSCOS
- SPIRULA PLANORBI NAUTILUS CARACOL CARAMUJO DO MAR

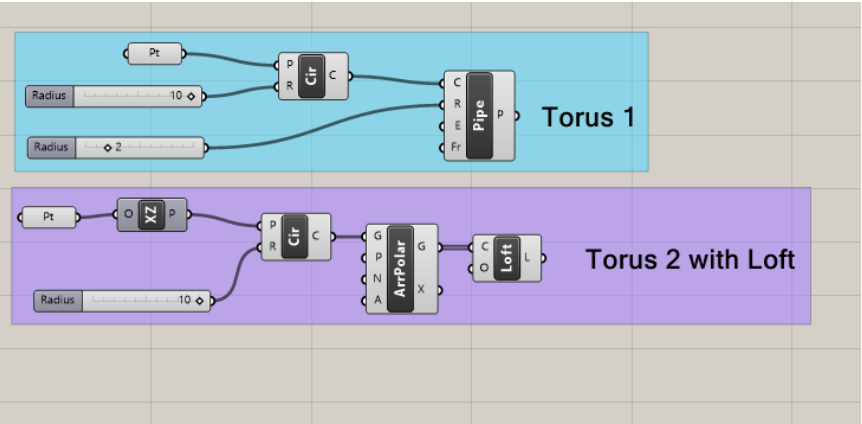
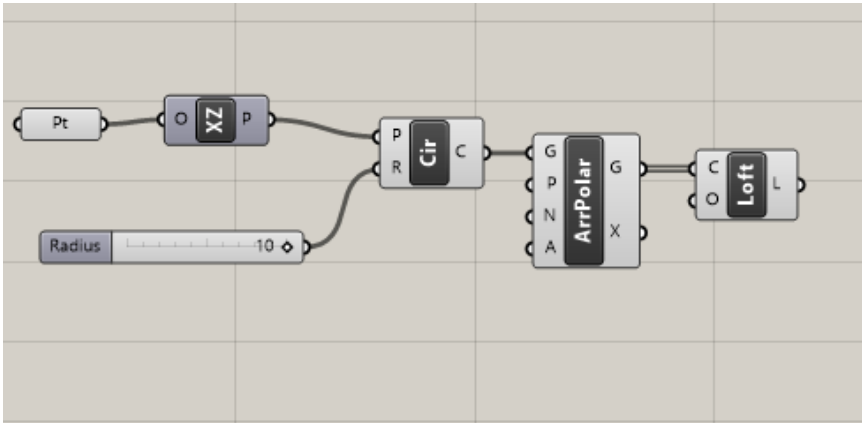
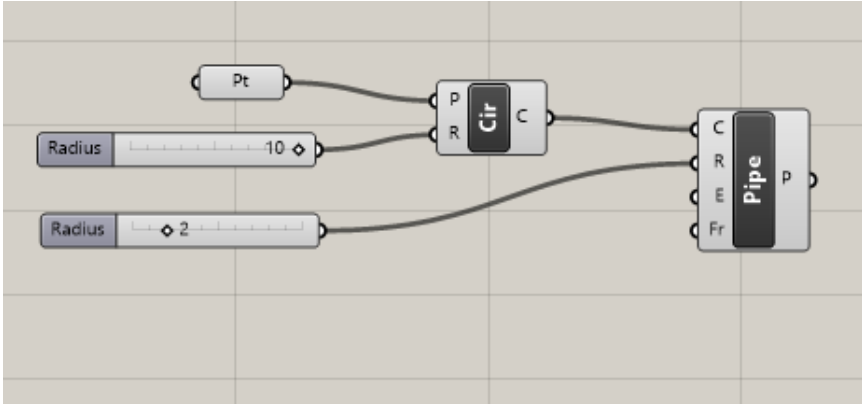
CONSTRUÇÃO DA SPIRULA, USO DOS COMANDOS CIRCLE, RECTANGLE E SWEEP2



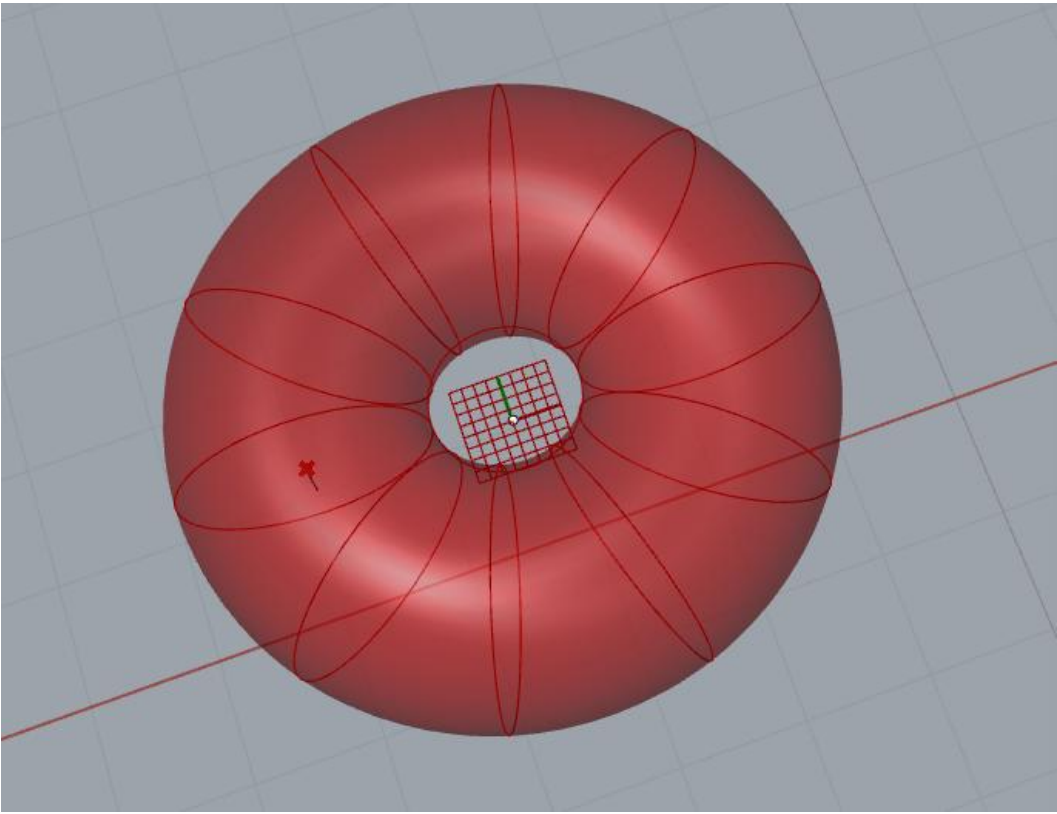
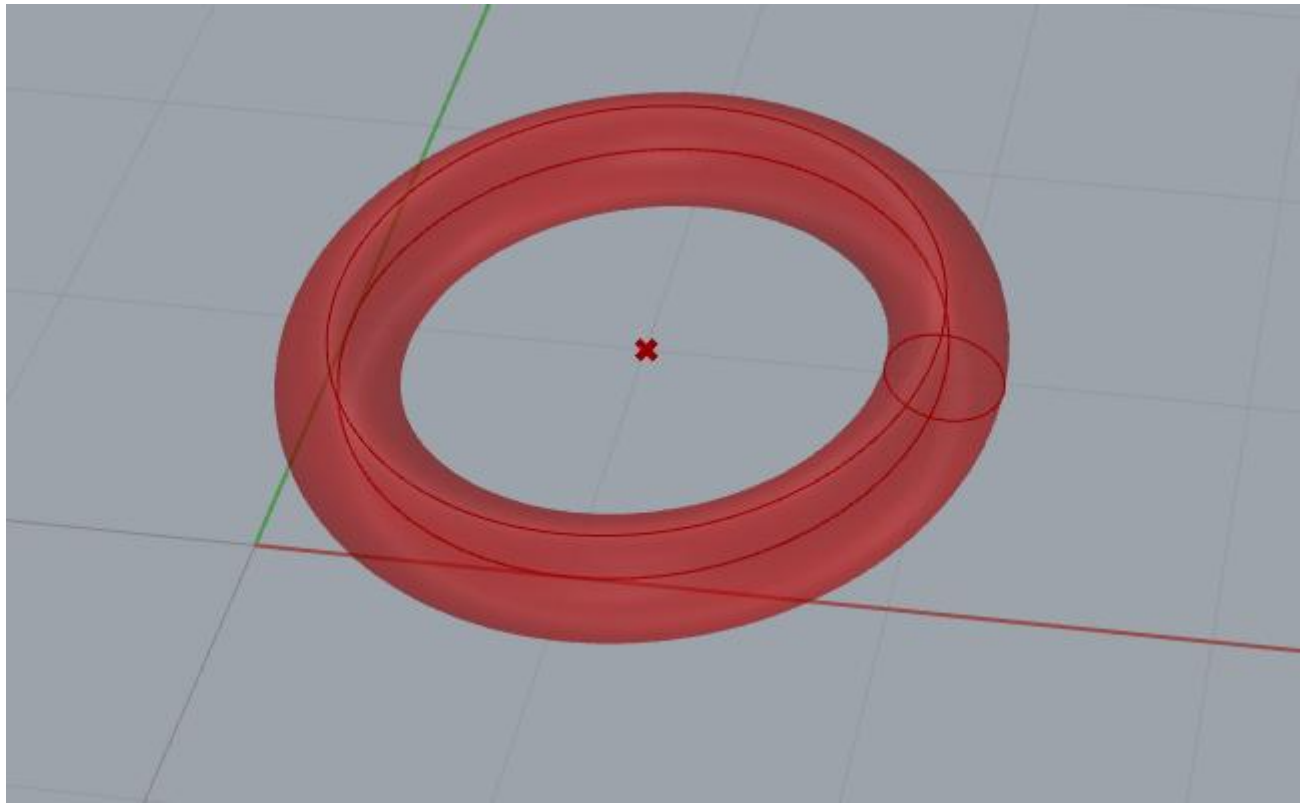
Aula. 7 – RHINO/GRASSHOPPER

Sumário 14/4/26

- CONSTRUÇÃO DE ABÓBADAS NO GRASSHOPPER
- CONSTRUÇÃO DE UM TORUS



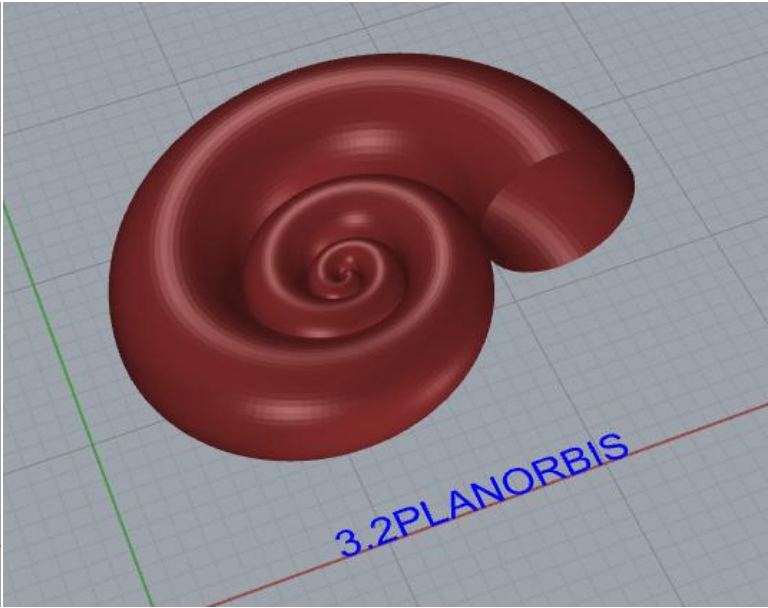
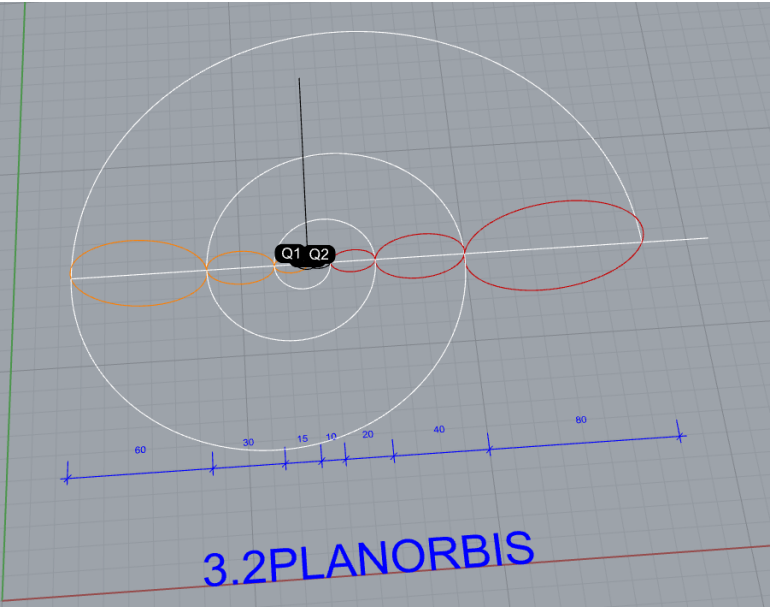
DUAS MANEIRAS DIFERENTES DE CONSTRUIR UM TORUS



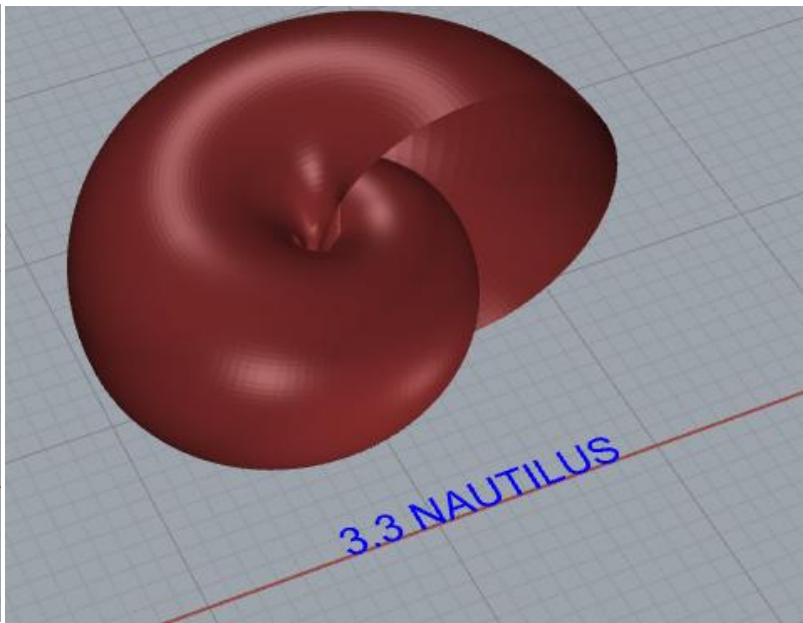
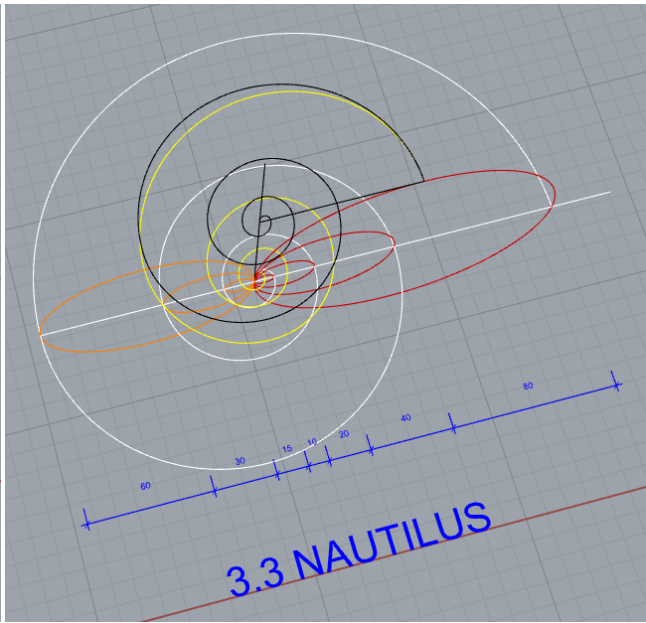
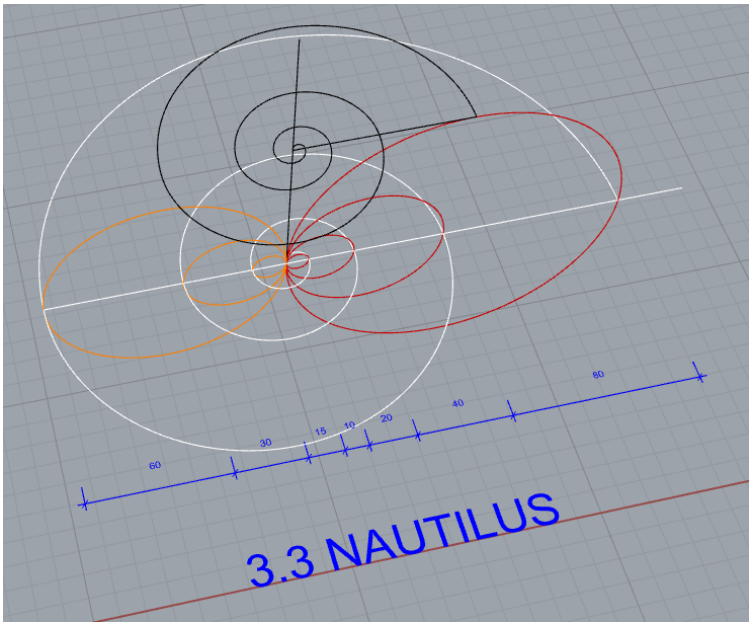
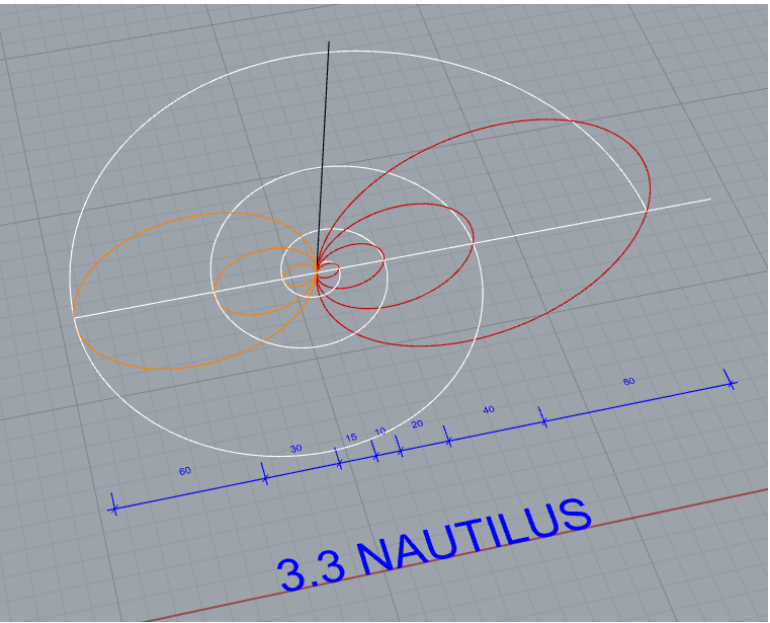
Aula. 8 – RHINO/GRASSHOPPER

Sumário 21/4/26

- CONTINUAÇÃO DA CONSTRUÇÃO DOS MOLUSCOS
- CONSTRUÇÃO DE LISTAS NO GRASSHOPPER E A SUA COMUNICAÇÃO NO GREASSHOPPER



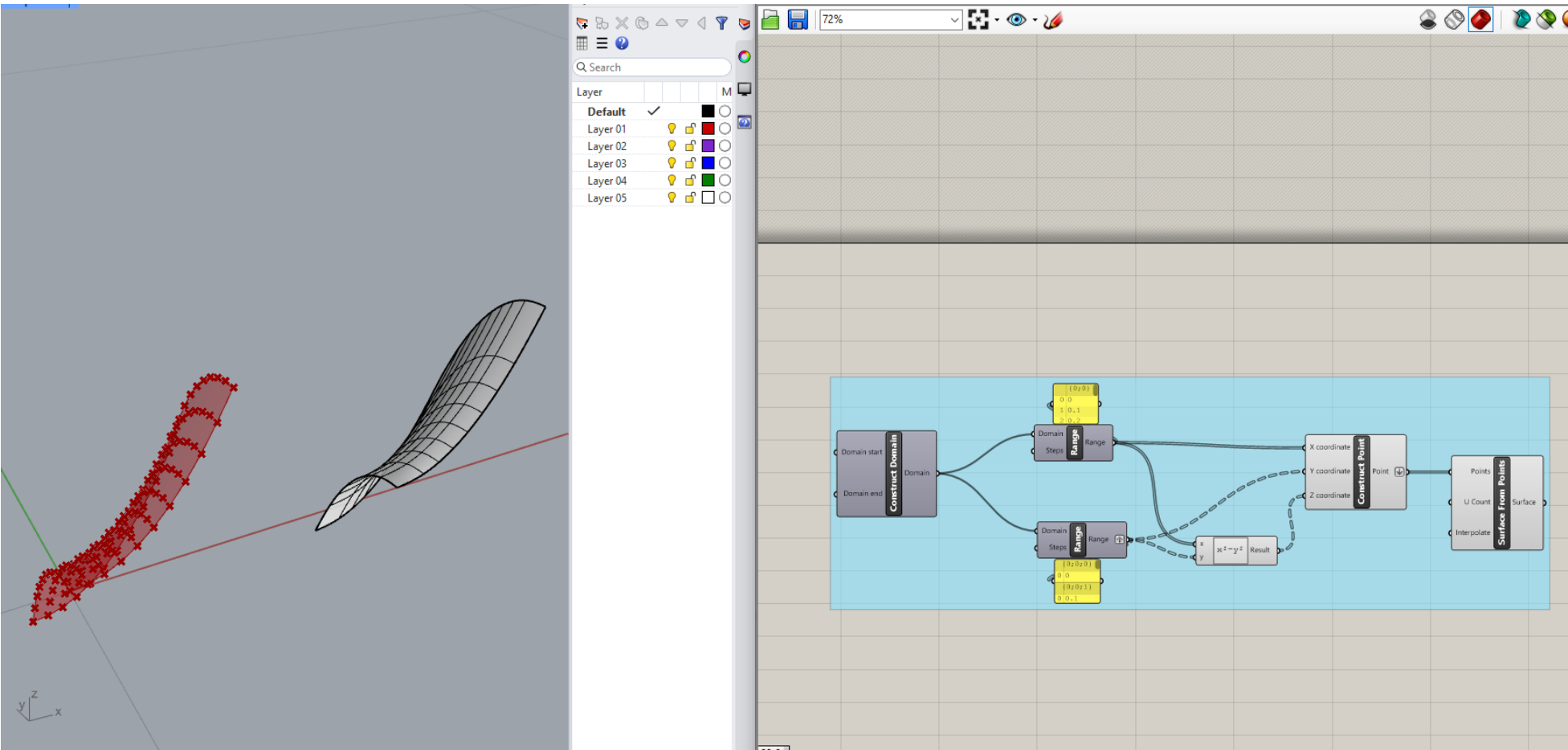
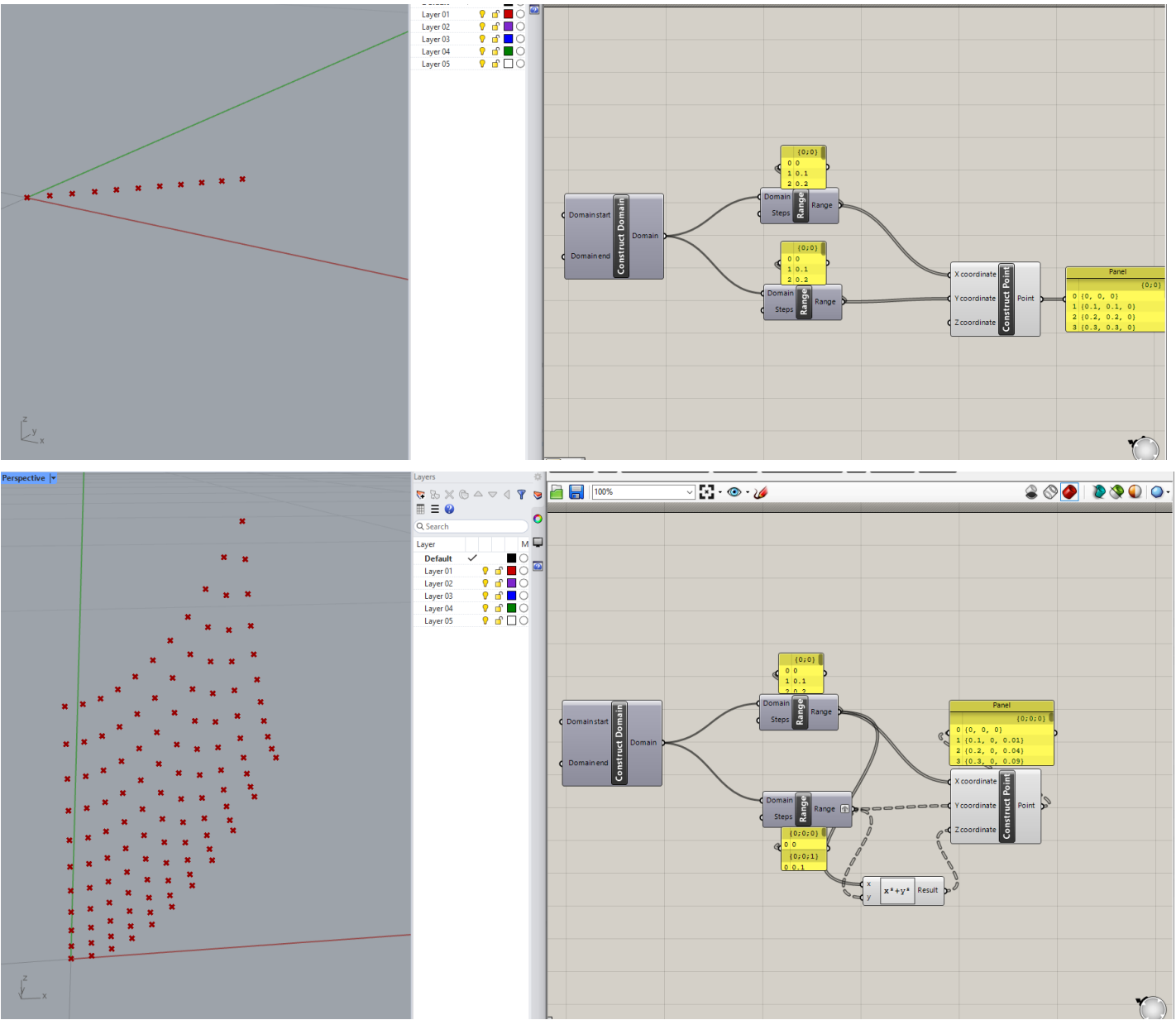
CONSTRUÇÃO DA PLANORBIS E DO NAUTILUS, USO DOS COMANDOS CIRCLE, RECTANGLE, HÉLIX E SWEEP2



Aula. 9 – RHINO/GRASSHOPPER

Sumário 21/4/26

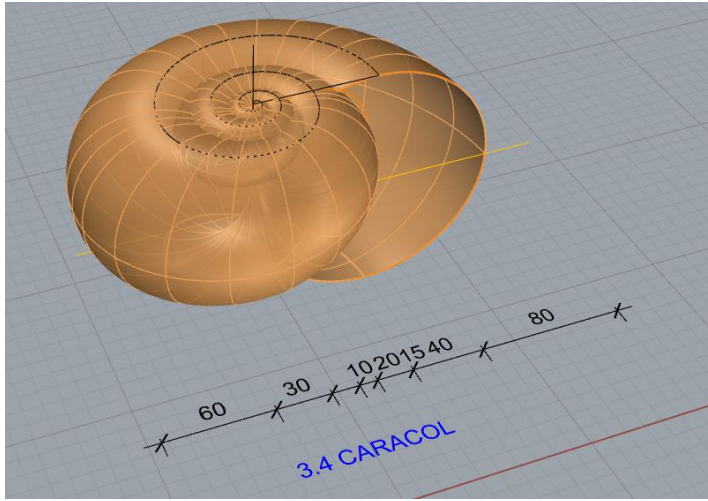
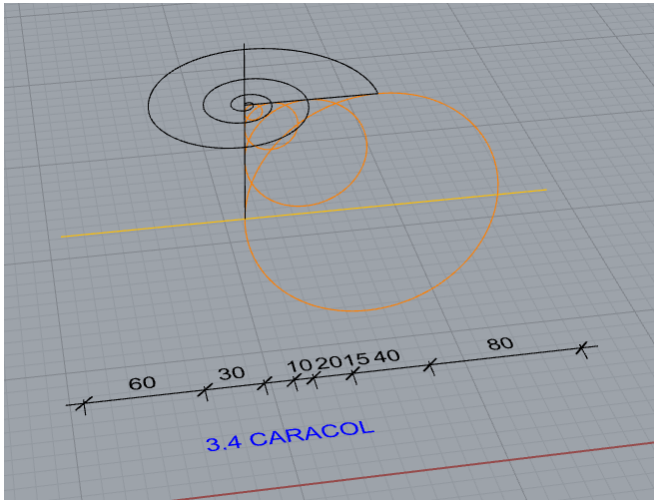
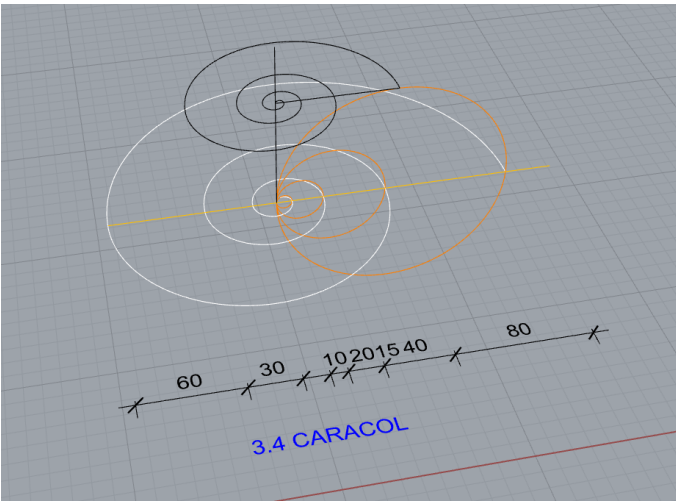
- CONTINUAÇÃO DA CONSTRUÇÃO DOS MOLUSCOS
- CONSTRUÇÃO DE LISTAS NO GRASSHOPPER E A SUA COMUNICAÇÃO NO GREASSHOPPER



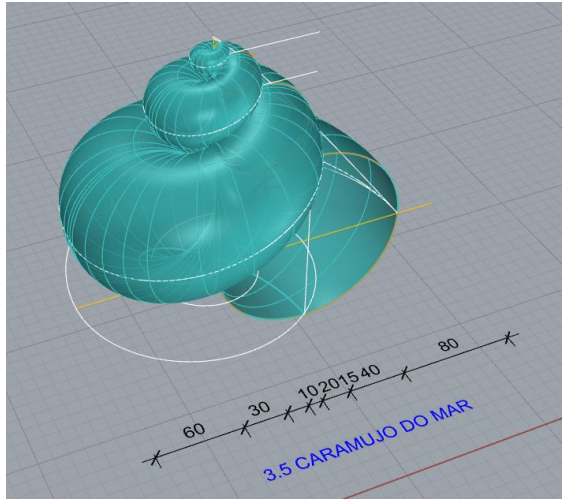
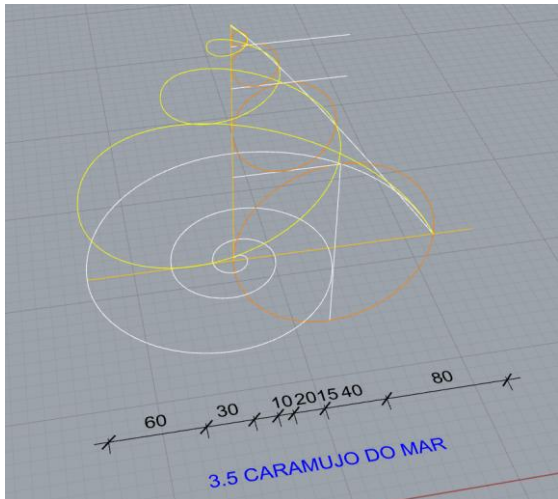
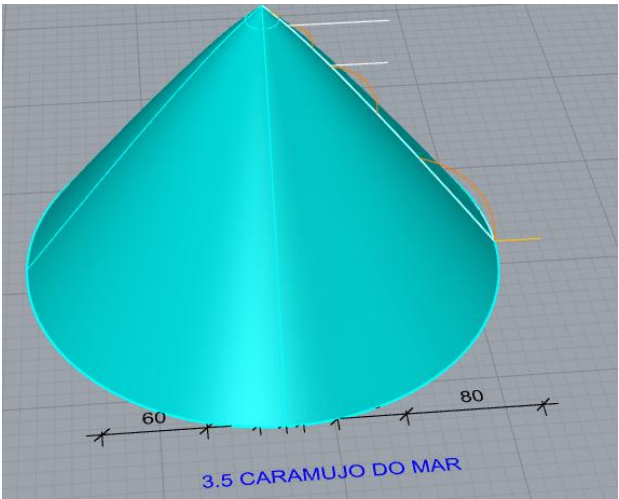
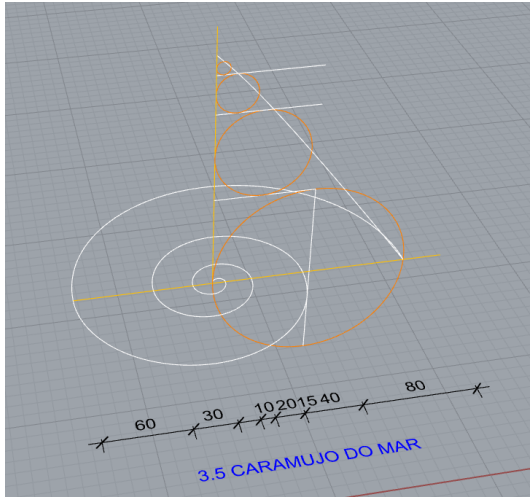
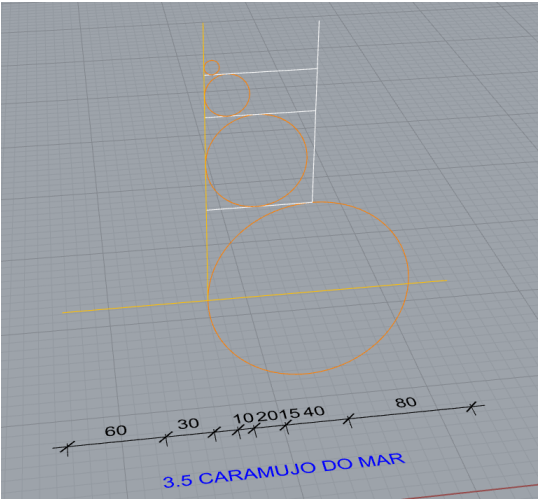
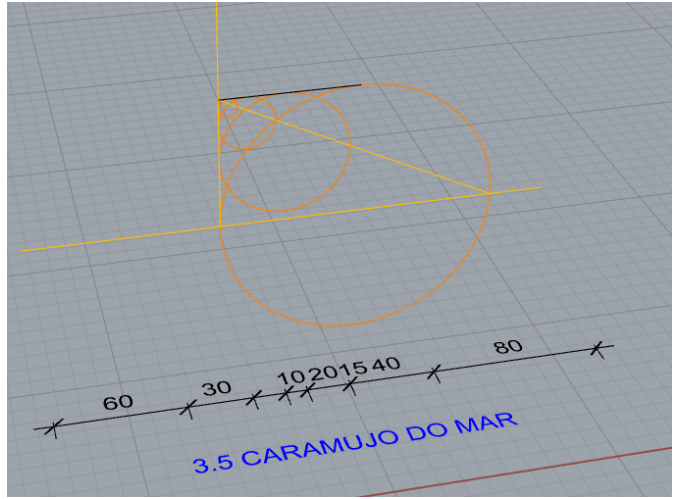
Aula. 9 – RHINO/GRASSHOPPER

Sumário 28/4/26

- CONTINUAÇÃO DA CONSTRUÇÃO DOS MOLUSCOS.
- CARACOL E CARAMUJO DO MAR



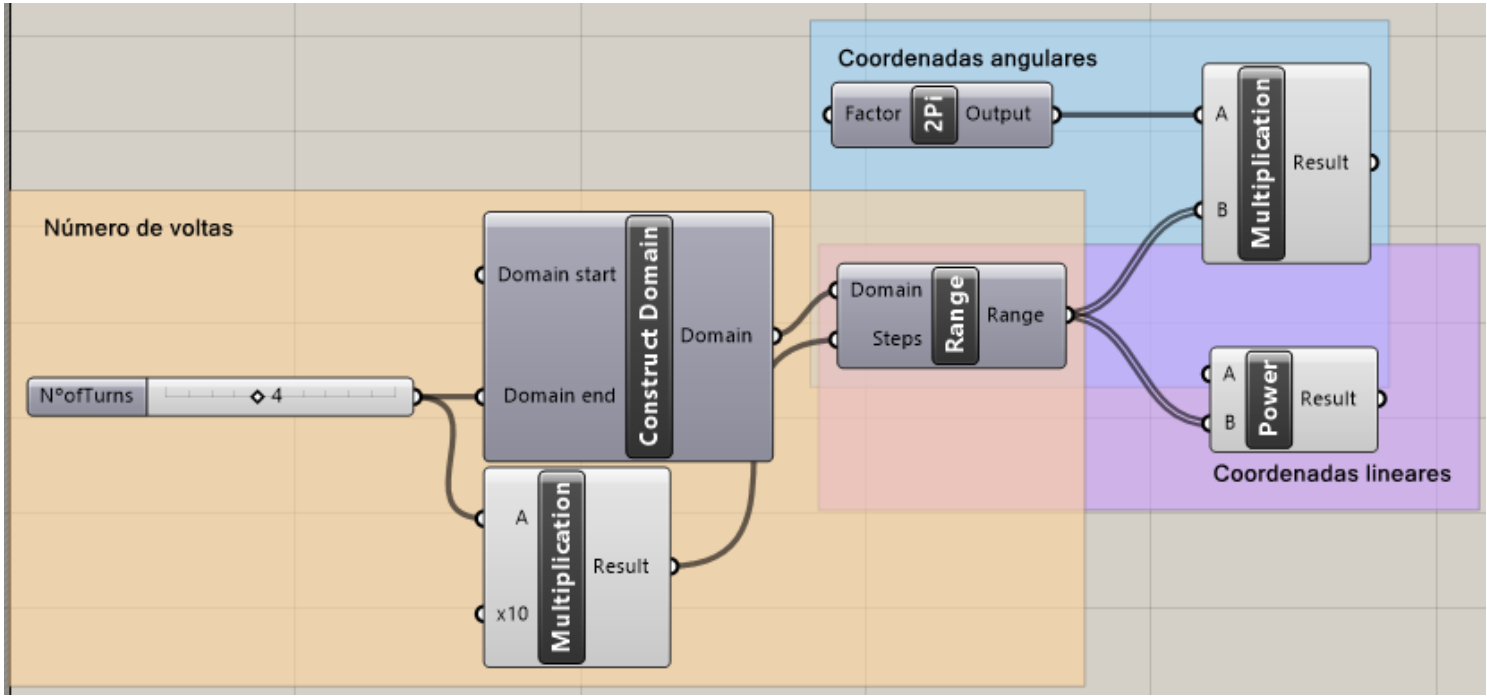
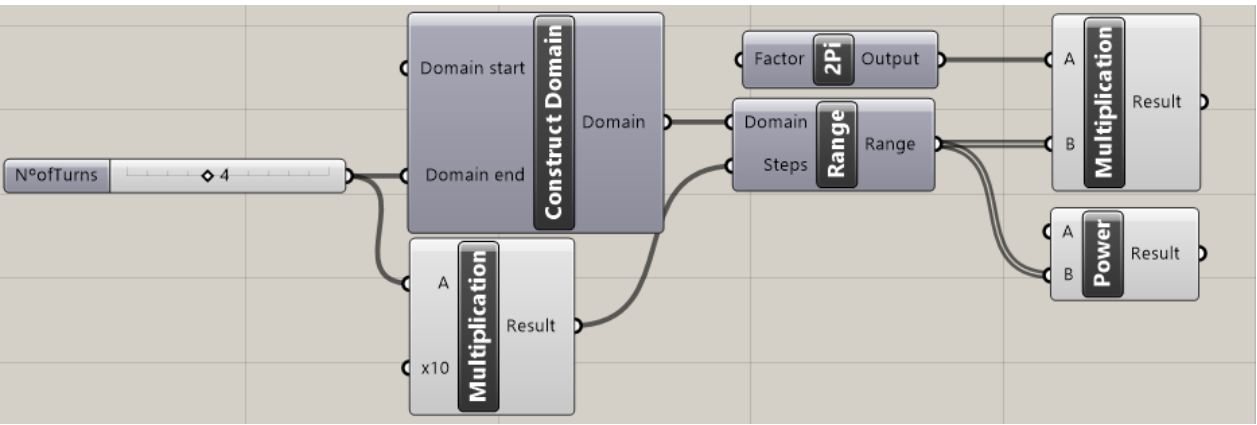
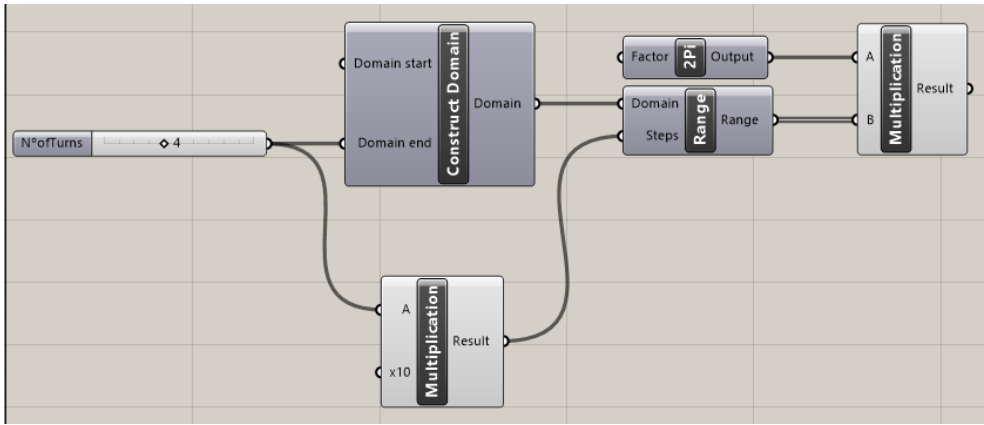
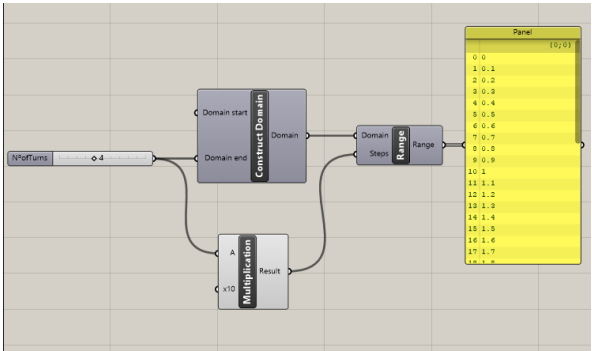
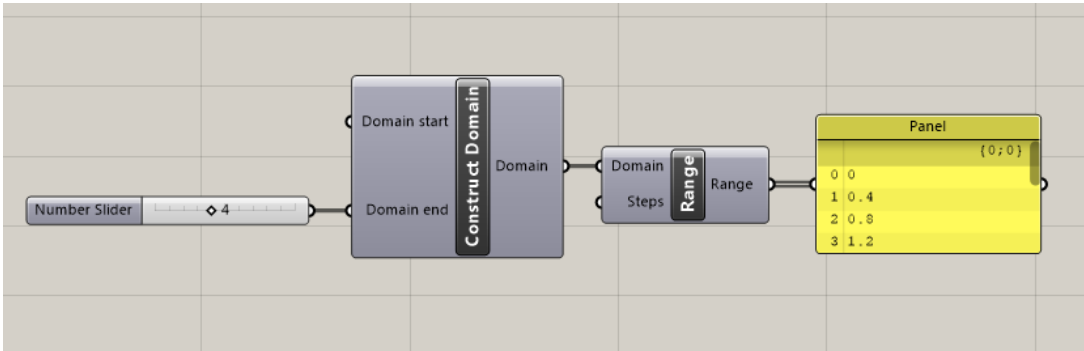
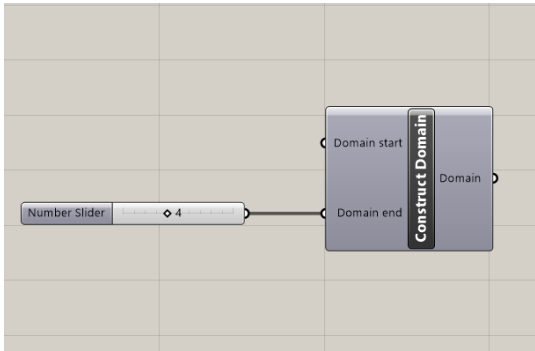
CONSTRUÇÃO DO CARACOL E O CARAMUJO DO COM OS COMANDOS REVOLVE E SWEEP2



Aula. 10 – RHINO

Sumário 5/5/26

•CONSTRUÇÃO DO CARAMUJO DO MAR NO GRASSHOPPER.

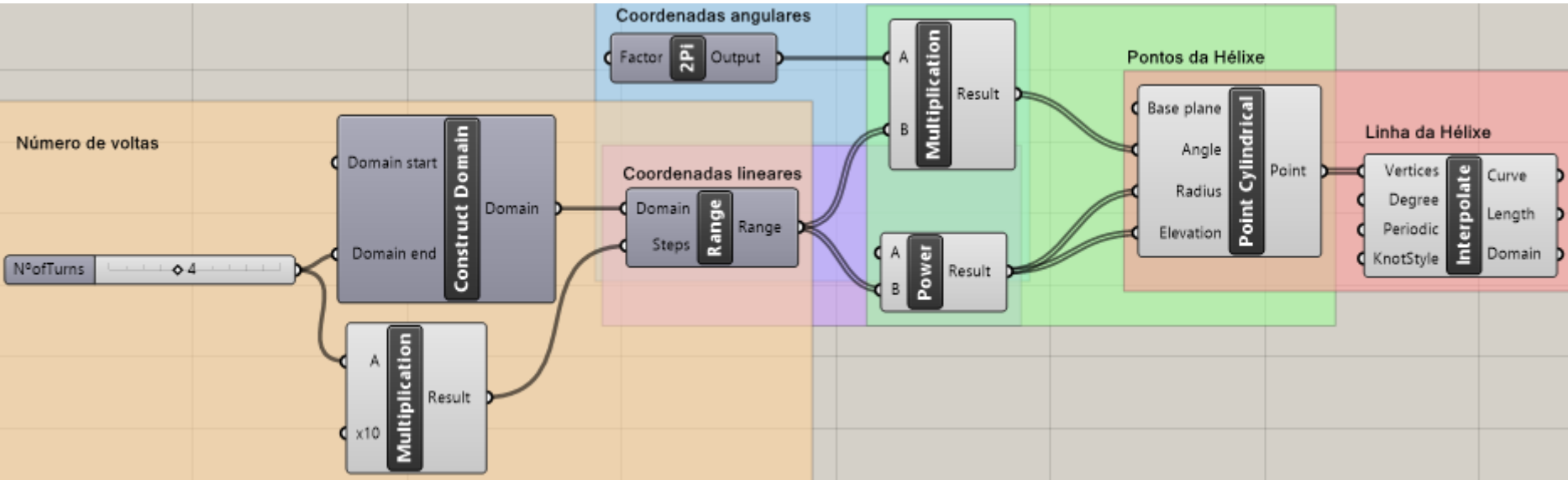
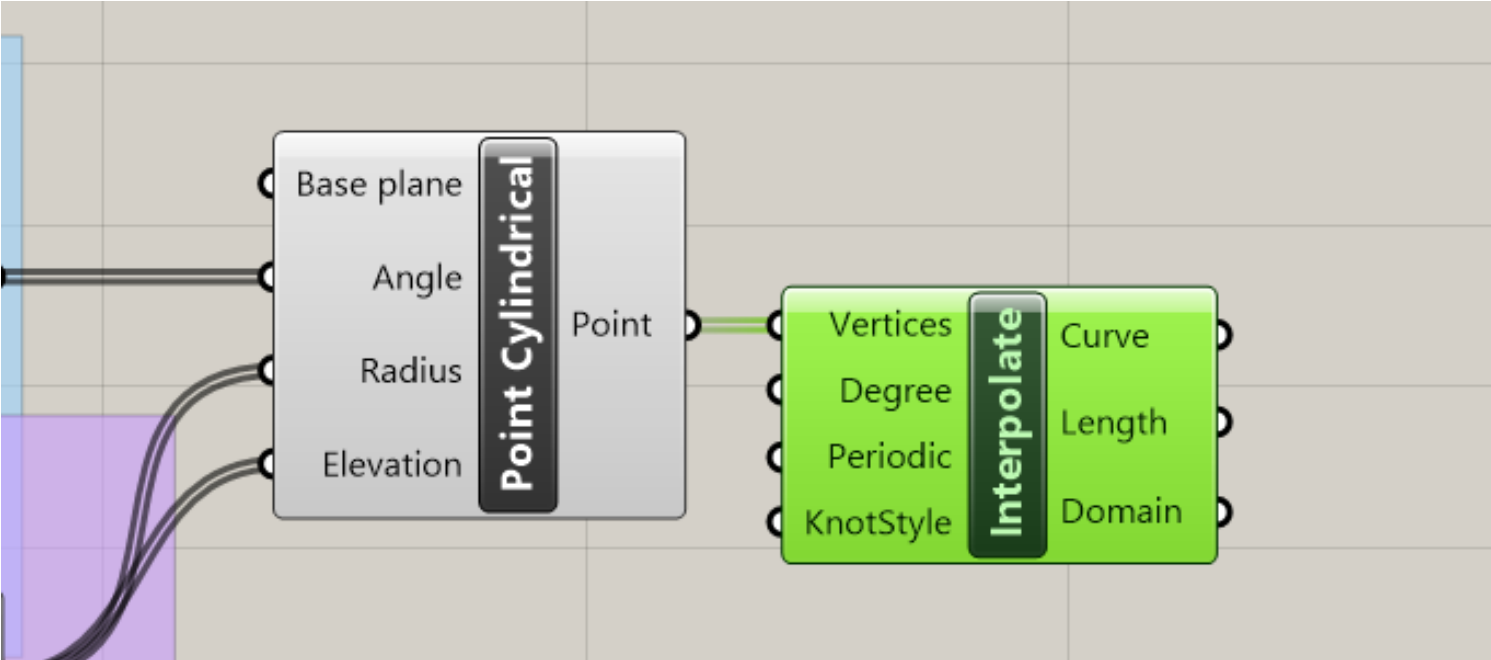
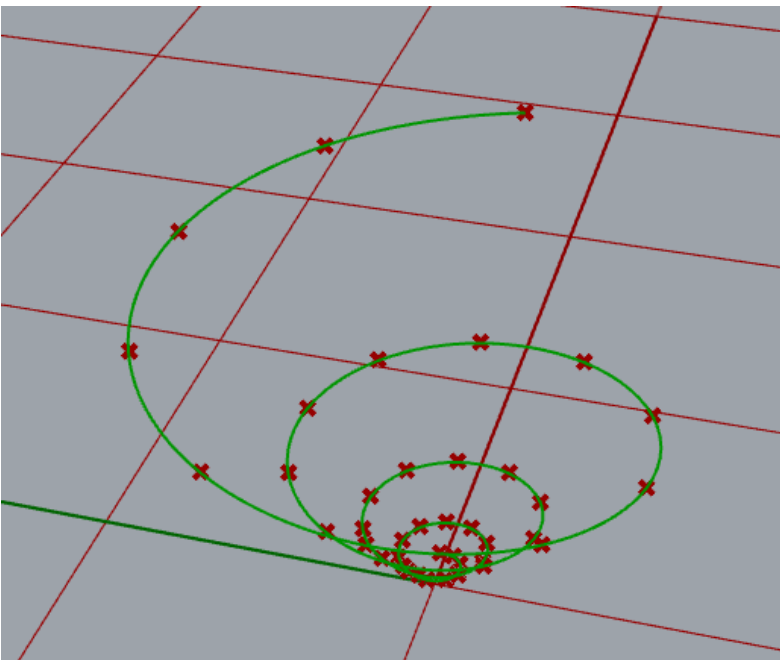
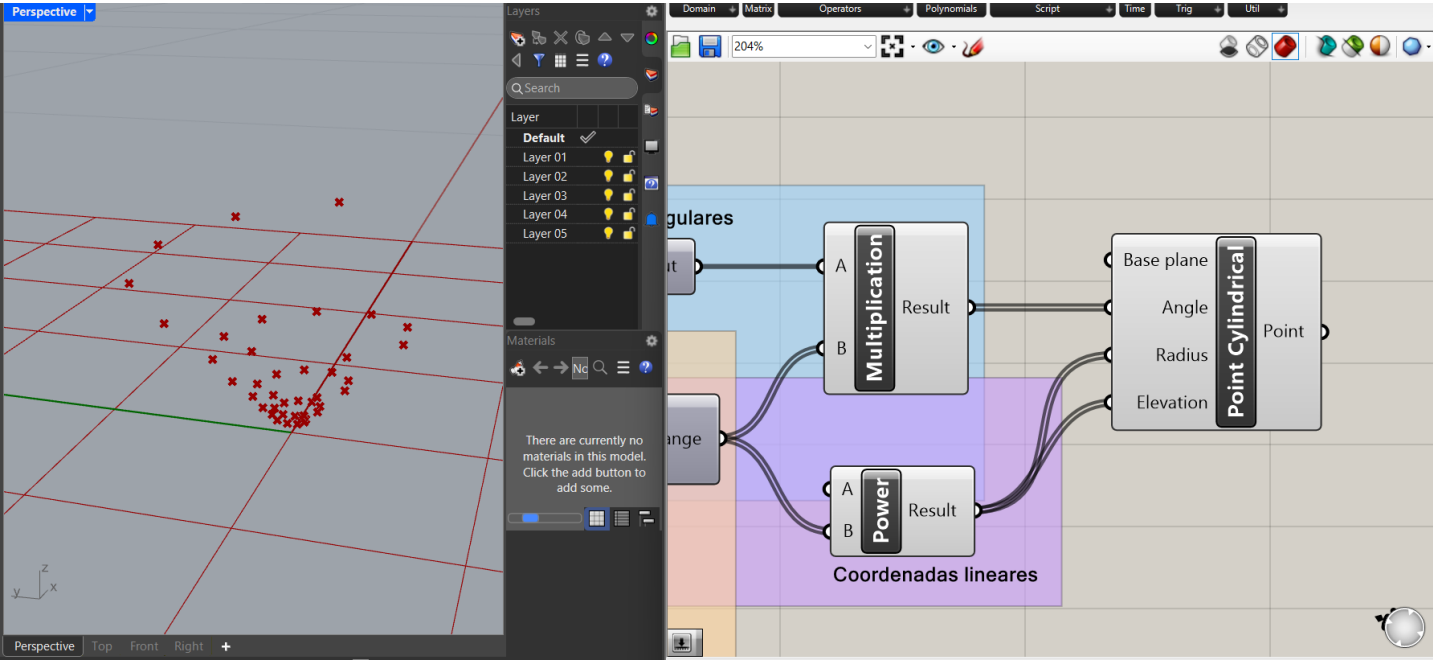


Aula. 11 – RHINO/GRASSHOPPER

Sumário 5/5/26

•CONSTRUÇÃO DO CARAMUJO DO MAR NO GRASSHOPPER.

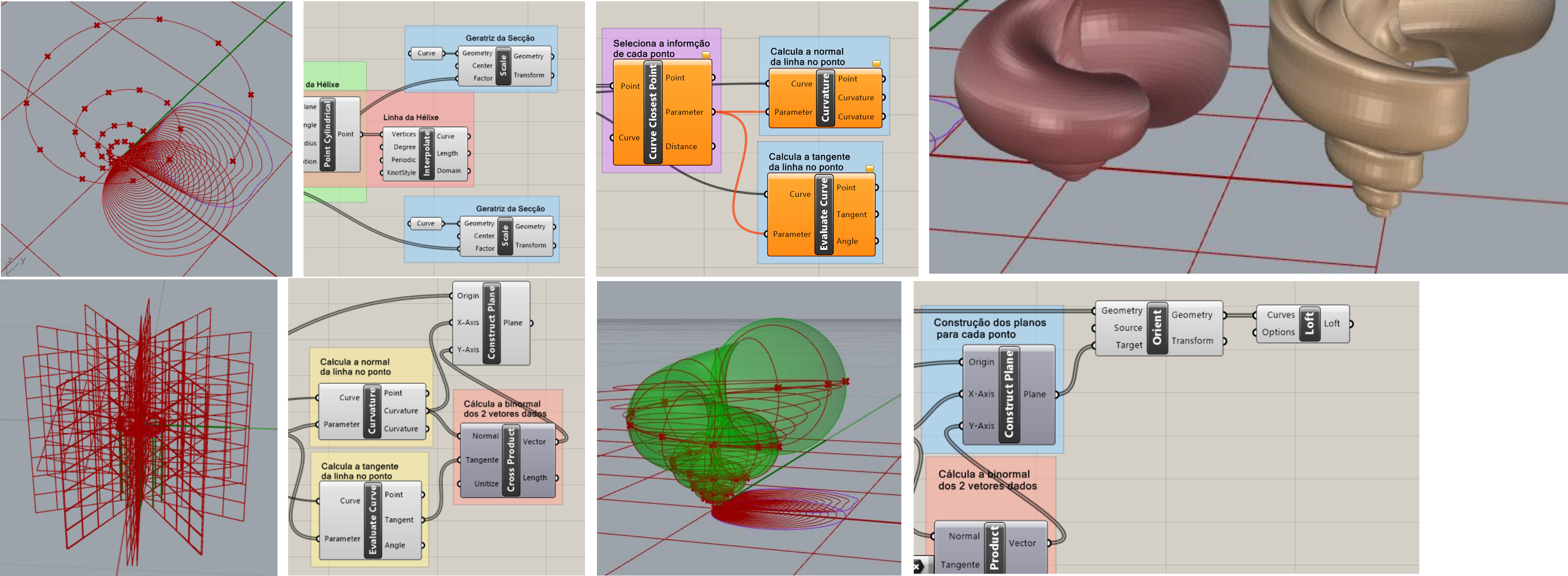
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Aula. 11 – RHINO/GRASSHOPPER

Sumário 5/5/26

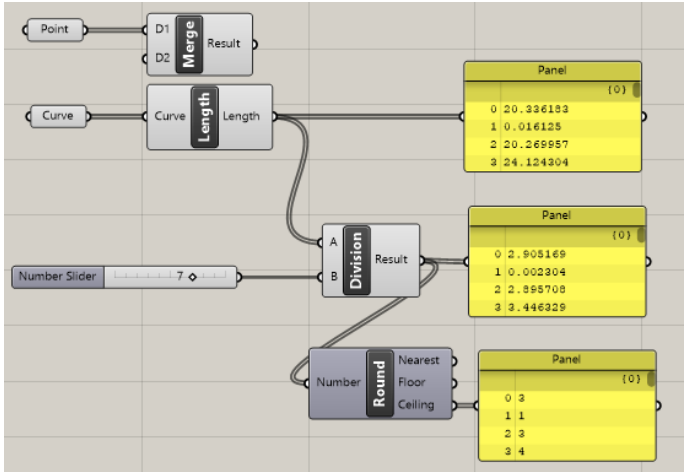
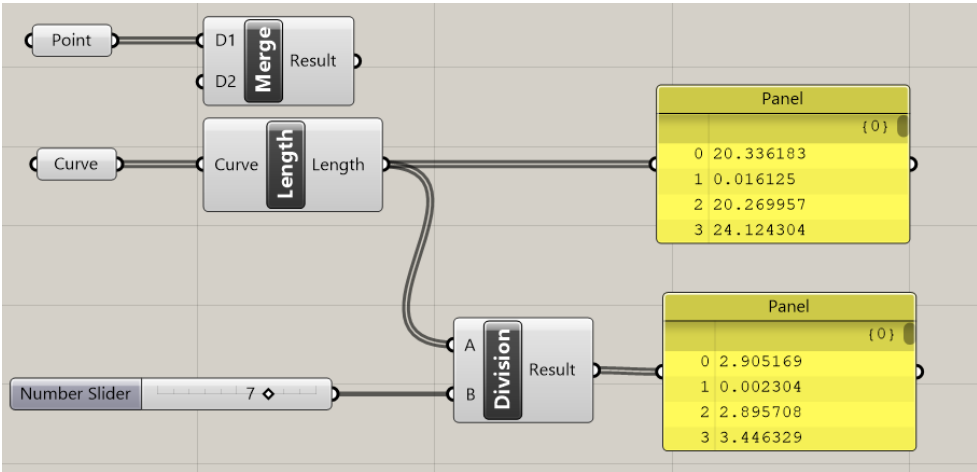
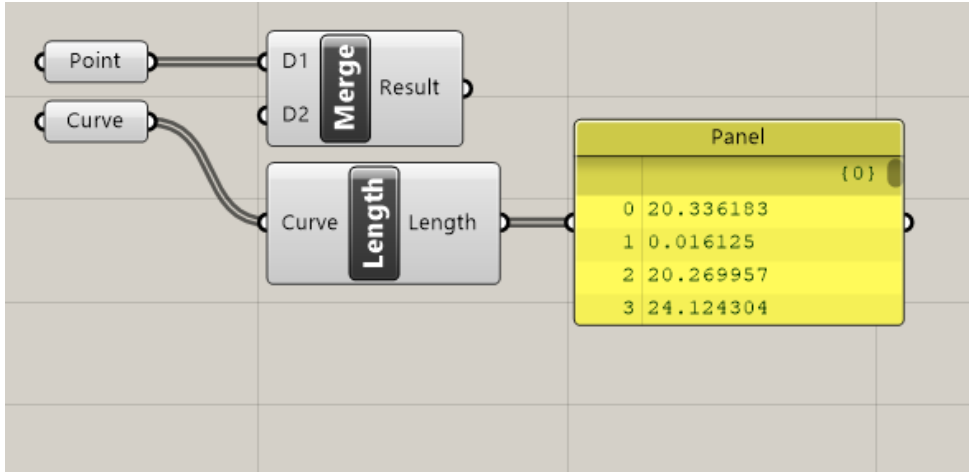
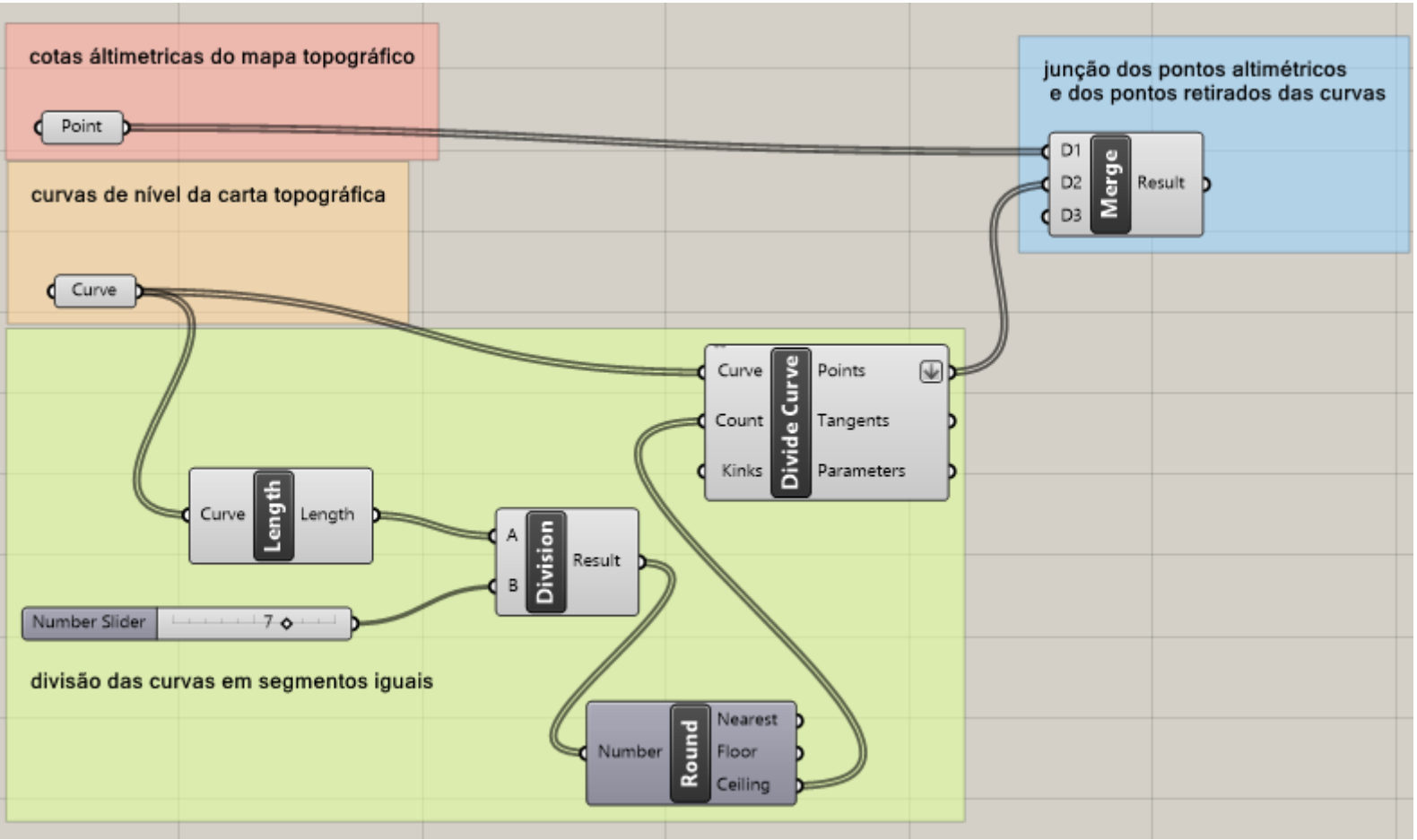
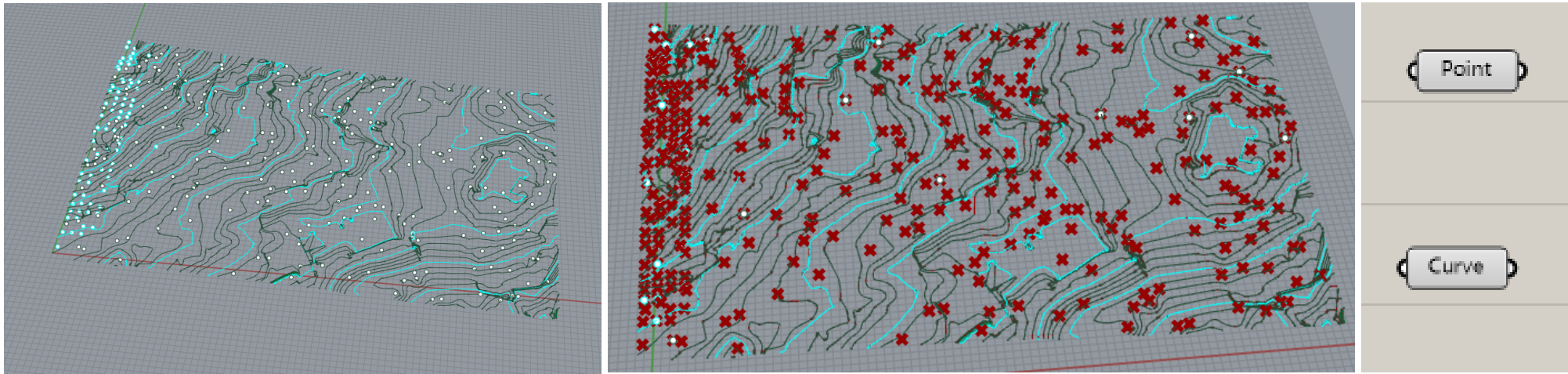
•CONSTRUÇÃO DO CARAMUJO DO MAR NO GRASSHOPPER.



Aula. 11 – RHINO/GRASSHOPPER

Sumário 12/5/26

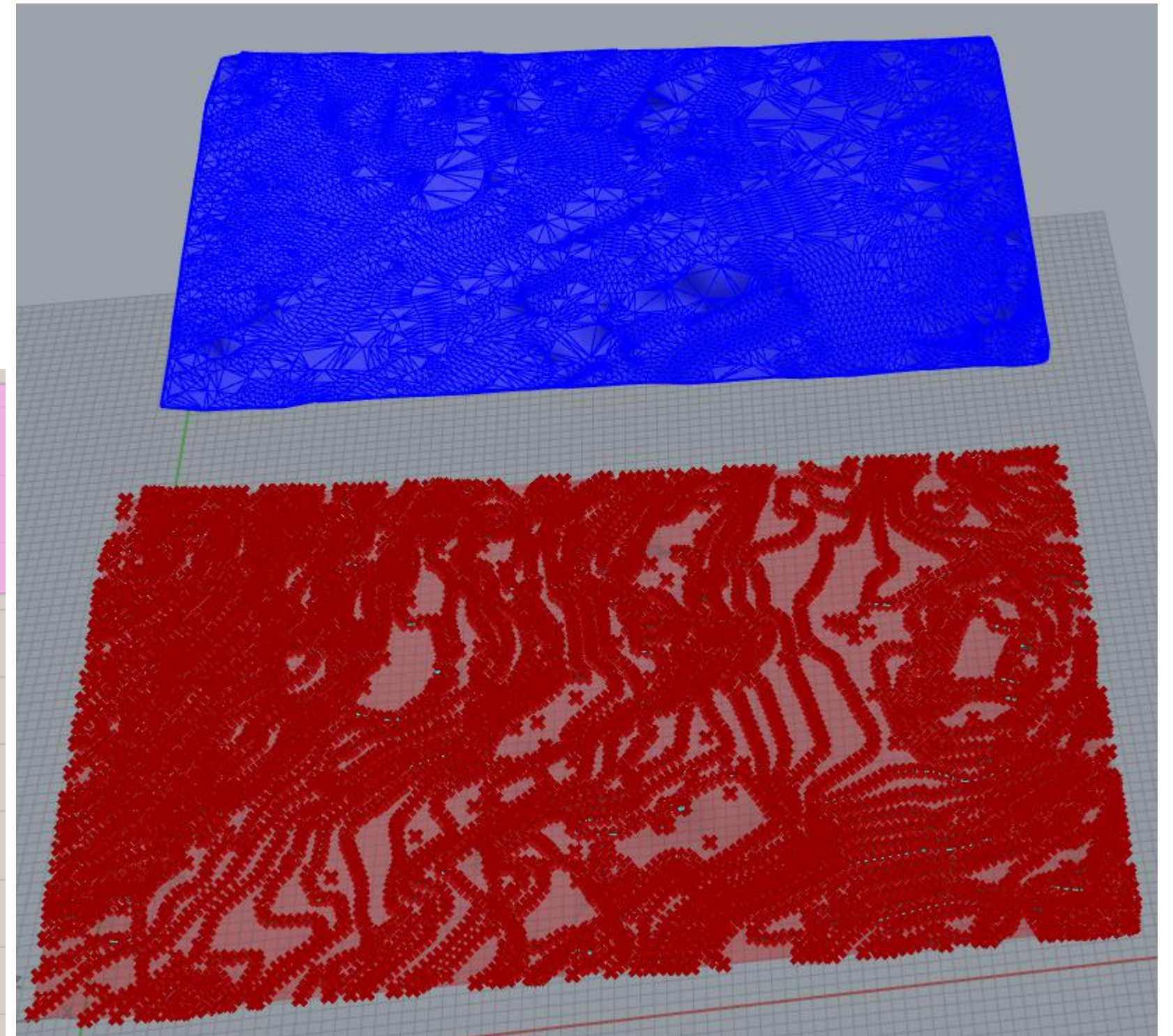
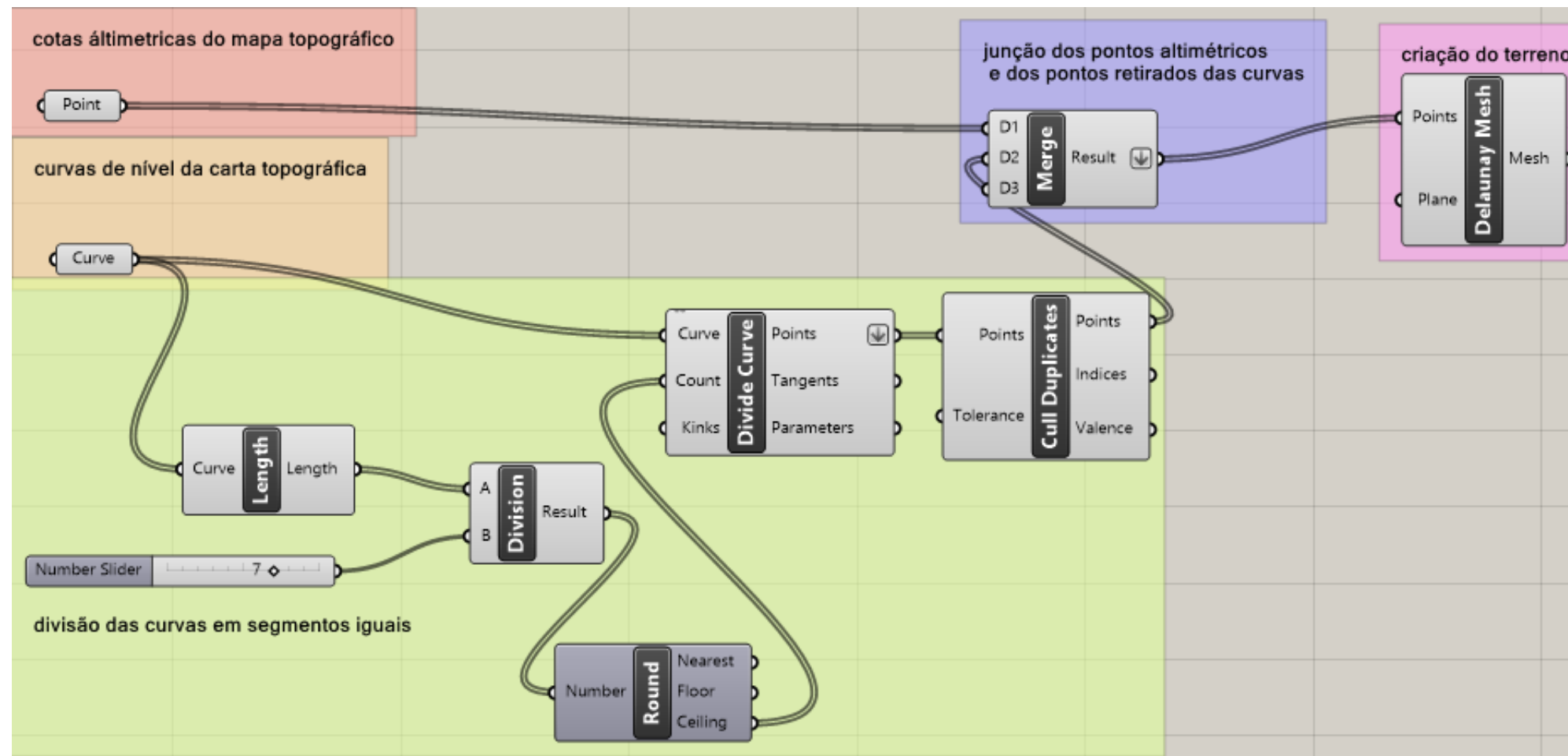
•CONSTRUÇÃO DE UM TERRENO A PARTIR DE UMA CARTA ALTIMÉTRICA.



Aula. 12 – RHINO/GRASSHOPPER

Sumário 12/5/26

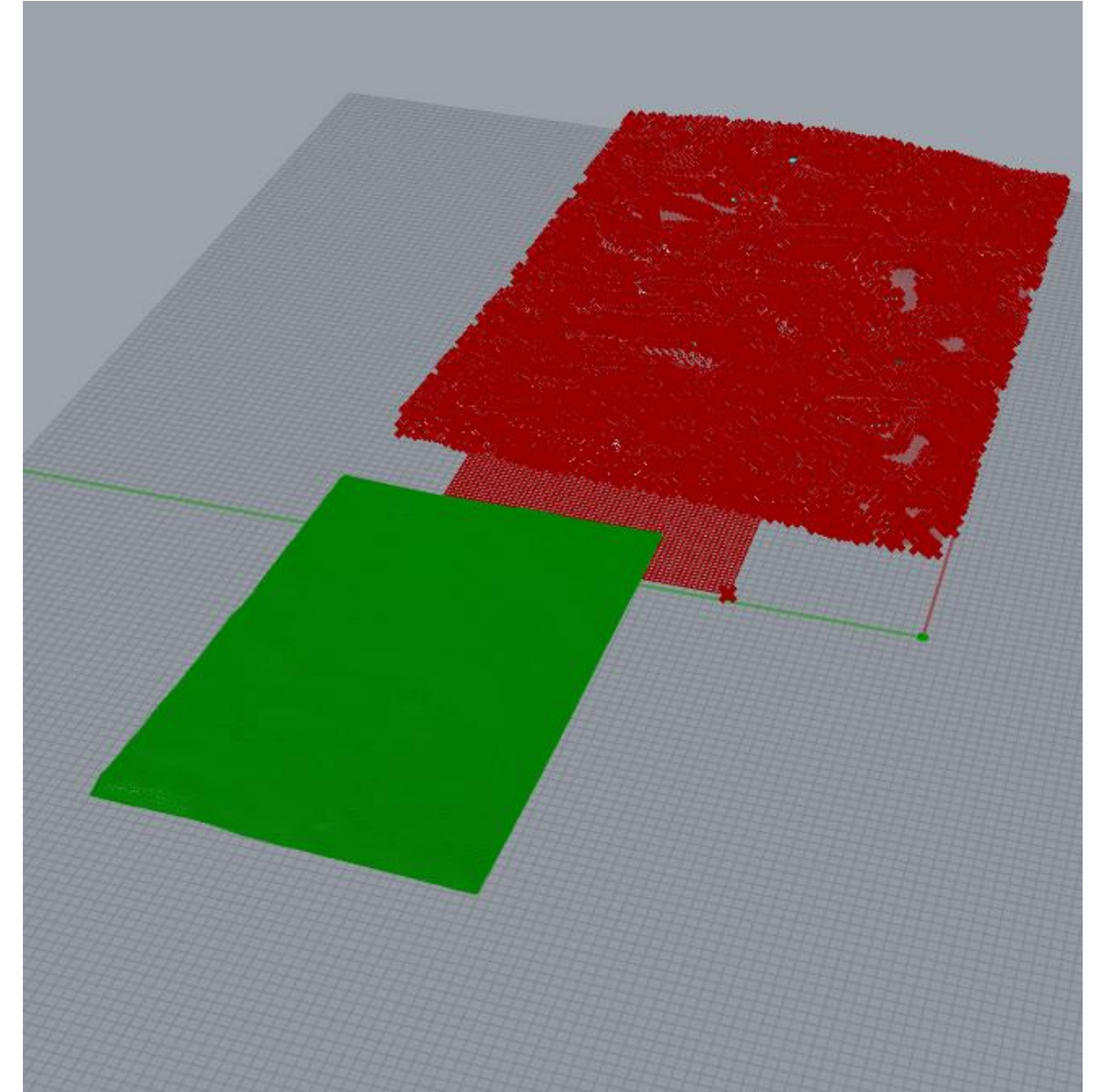
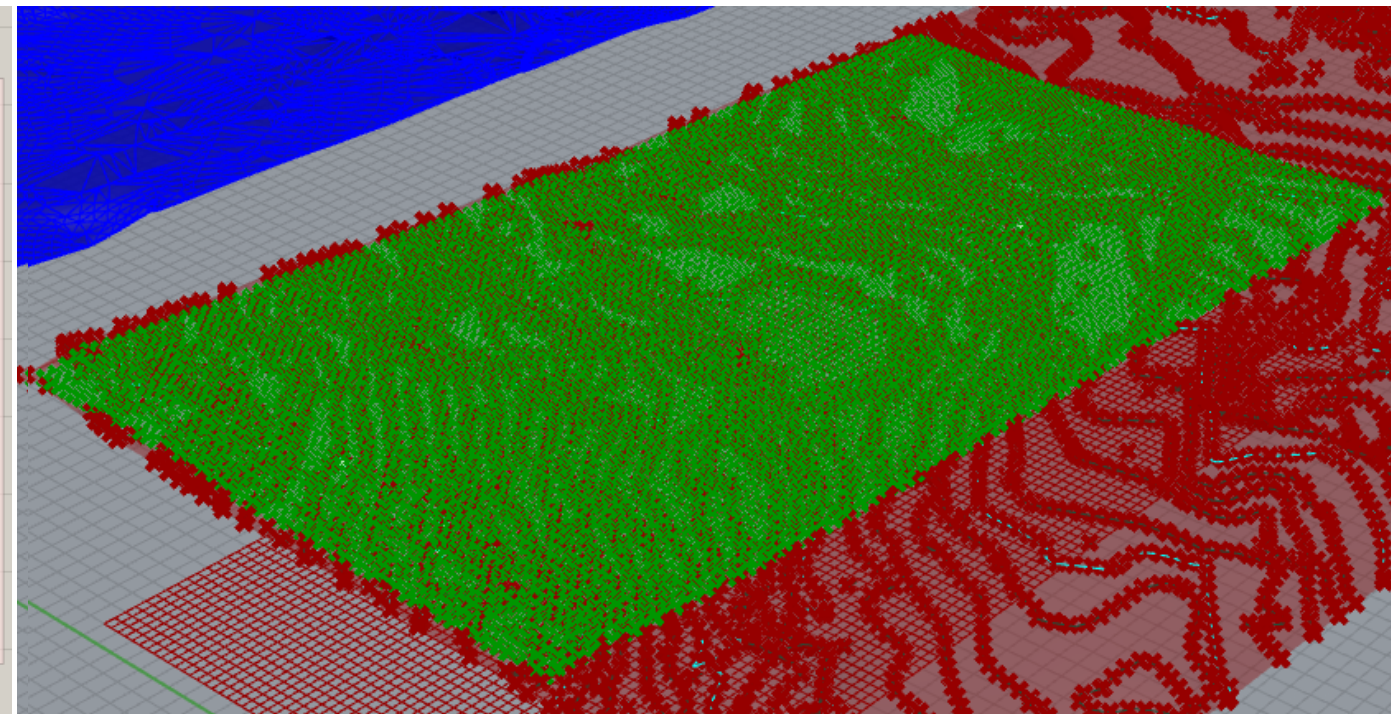
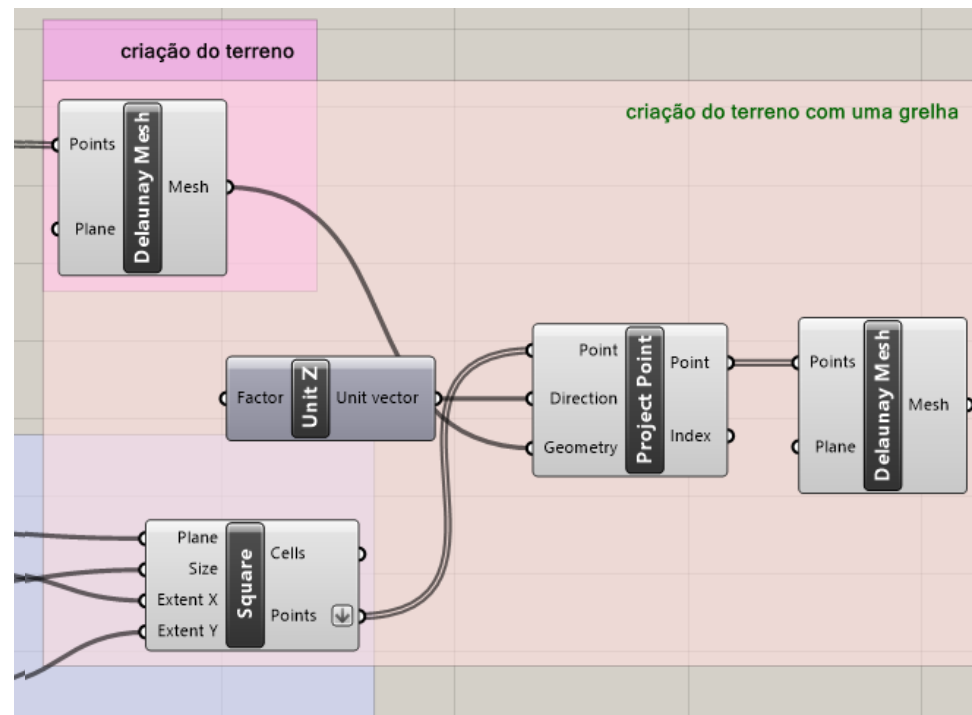
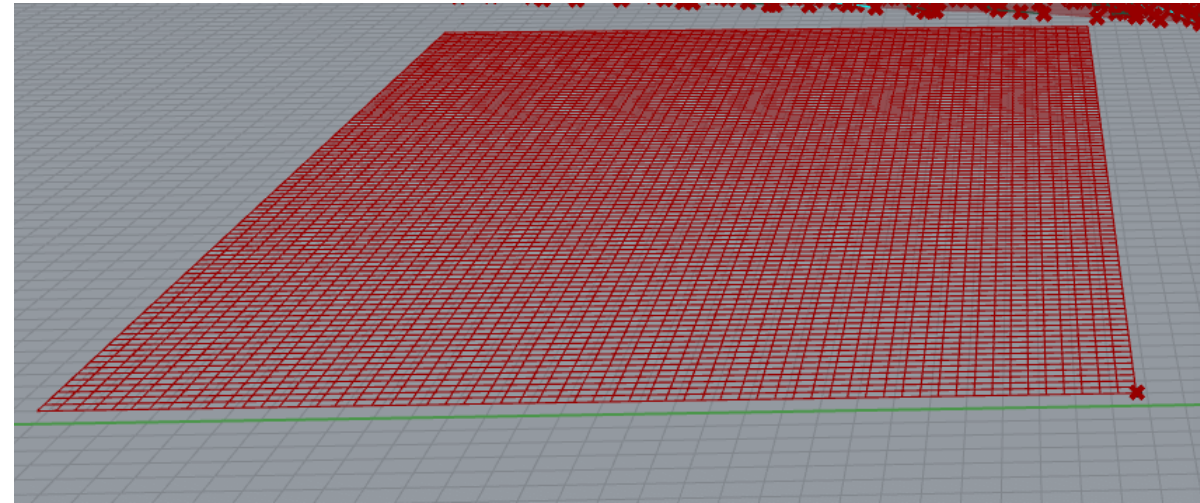
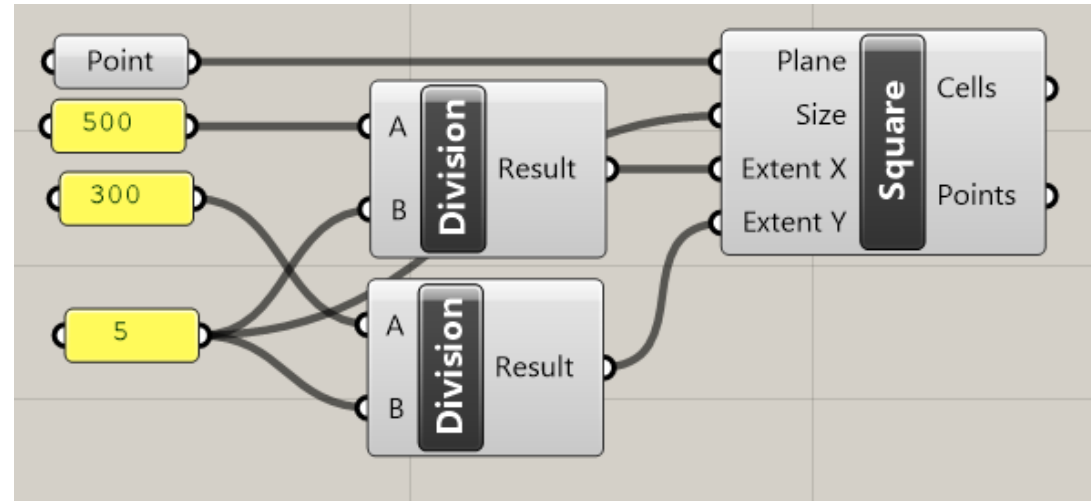
- CONSTRUÇÃO DE UM TERRENO A PARTIR DE UMA CARTA ALTIMÉTRICA.



Aula. 12 – RHINO/GRASSHOPPER

Sumário 12/5/26

- CONSTRUÇÃO DE UM TERRENO A PARTIR DE UMA CARTA ALTIMÉTRICA.



Aula. 12 – RHINO/GRASSHOPPER