

# Representação Digital

# 2023-2024

20221405

Rodrigo Gonçalves



## ÍNDICE

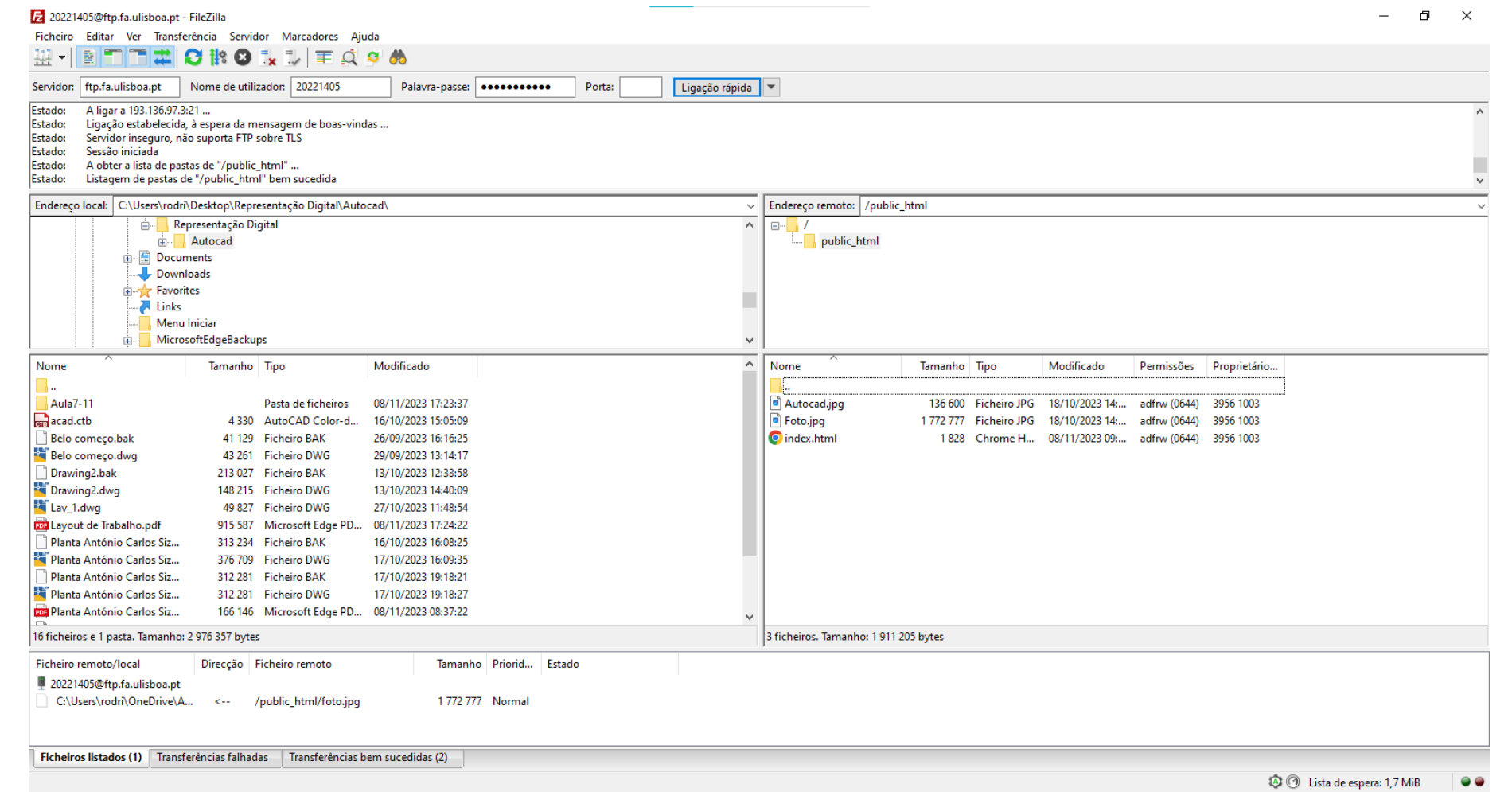
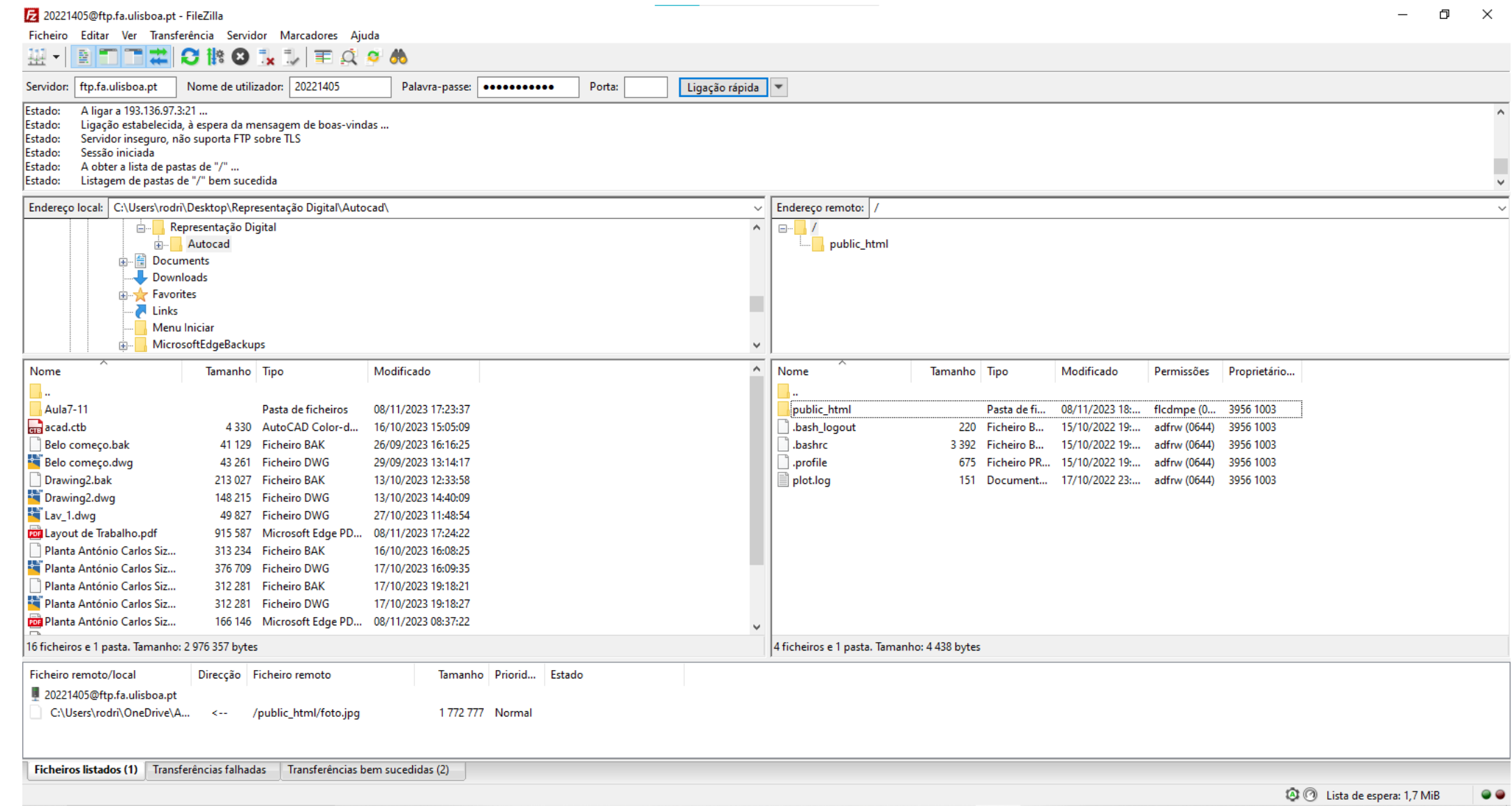
- Semana 1- Slide 4
- Semana 2- Slide 6
- Semana 3- Slide 14
- Semana 4- Slide 16
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- Semana 13
- Semana 14

## Introdução á U.C.

Criação do site, no qual serão realizadas todas as entregas:

- ftp.fa.ulisboa.pt
- nº do alunos
- Palavra-Passe do Moodle
- Criar Pasta public\_html
- Alterar os códigos do layout dado pelo professor no Notepad++
- Colocar o ficheiro editado e as fotografias no FileZilla com o nome index\_html

```
1 <html>
2 <head>
3 <title> Rodrigo Alexandre Tavares Gonçálcodedilvalves </title>
4 <style>
5 body {
6 background-color: grey;
7 font-family: Arial, monospace;
8 }
9 p.sansserif {
10 font-family: Arial, sans-serif;
11 }
12 h1 {
13 color: black;
14 text-align: left;
15 font-family: arial, sans-serif;
16 font-size: 35px;
17 }
18 footer {
19 color: black;
20 text-align: center;
21 font-family: arial, sans-serif;
22 font-size: 15px;
23 }
24 </style>
25 </head>
26 <link type="text/css" rel="stylesheet" href="estilos.css">
27 <body>
28 <div id="Autoacad.jpg" style="position: absolute; left: 850px; top: 100px; width: 430px; height: 50px; z-index: 0; margin-left: 300px; margin-bottom: 250px">
29 <br>
30 </div>
31 <div class="quadro">
32 <br>
33 <div id="Foto.jpg" style="position: absolute; left: 500px; top: 100px; width: 430px; height: 50px; z-index: 0; margin-left: 300px; margin-bottom: 250px">
34 <br>
35 </div>
36 <br>
37 <br>
38 </div>
39 <a href="http://home.fa.ulisboa.pt/~nmoalao/2023_2024_2ano_RD_Arq_Turma_B.html">Representaçãodedilvalves Digital</a><br>
40 <a href="http://www.fa.ulisboa.pt/">Faculdade de Arquitectura - Ulisboa </a>
41 </a>
42 </div>
43 <br>
```



# ReDig

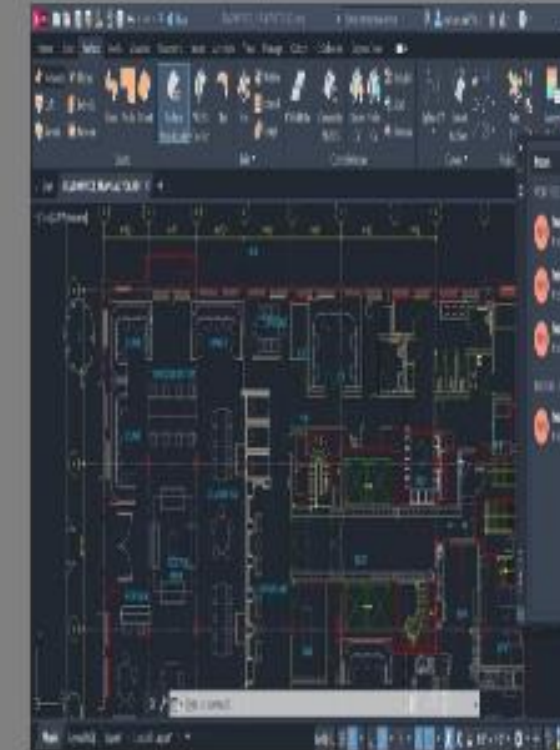
# Semana 1

[Representação Digital](#)  
[Faculdade de Arquitetura - ULisboa](#)

2023/2024  
Nuno Aíão

**Rodrigo Alexandre Tavares Gonçalves**

20221405  
Arq 2º Ano  
Turma E



[Entregas](#)  
[Entregas DWG](#)  
[Diário Gráfico](#)  
[rodrigotavaresgoncalves@gmail.com](mailto:rodrigotavaresgoncalves@gmail.com)

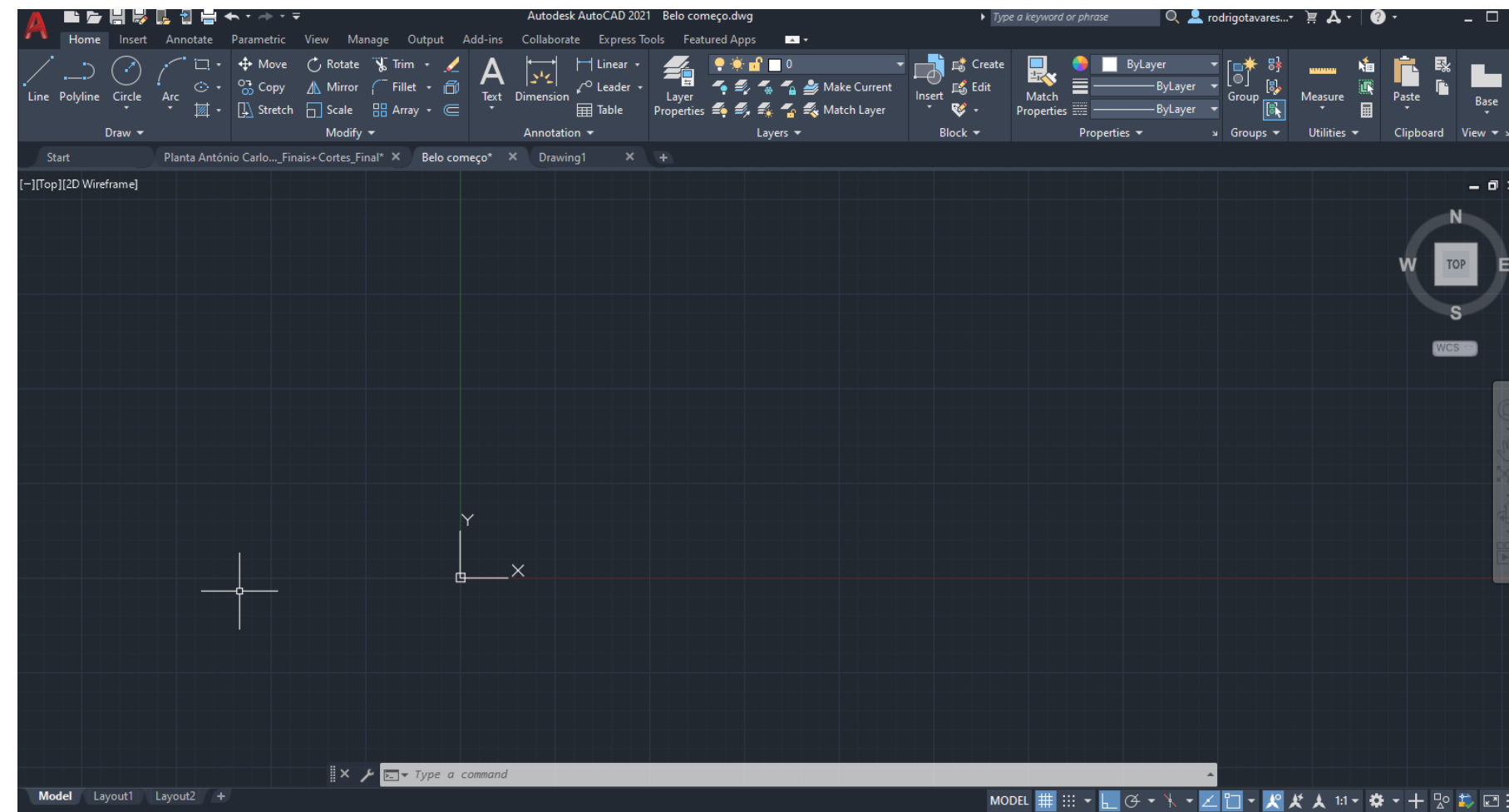
ReDig

Semana 1

## Primeiro contacto com o autocad na U.C

Comandos para a utilização do programa:

- L - Line
- PL – Polyline
- O – Offset
- TR – Trim
- STR – Stretch
- CL – Close
- DI – Dist
- H – Hatch
- M – Move
- E – Erase
- CO – Copy



## Coordenadas

Coordenadas Cartesianas (x,y,z) = #

- Absolutas
- Relativas

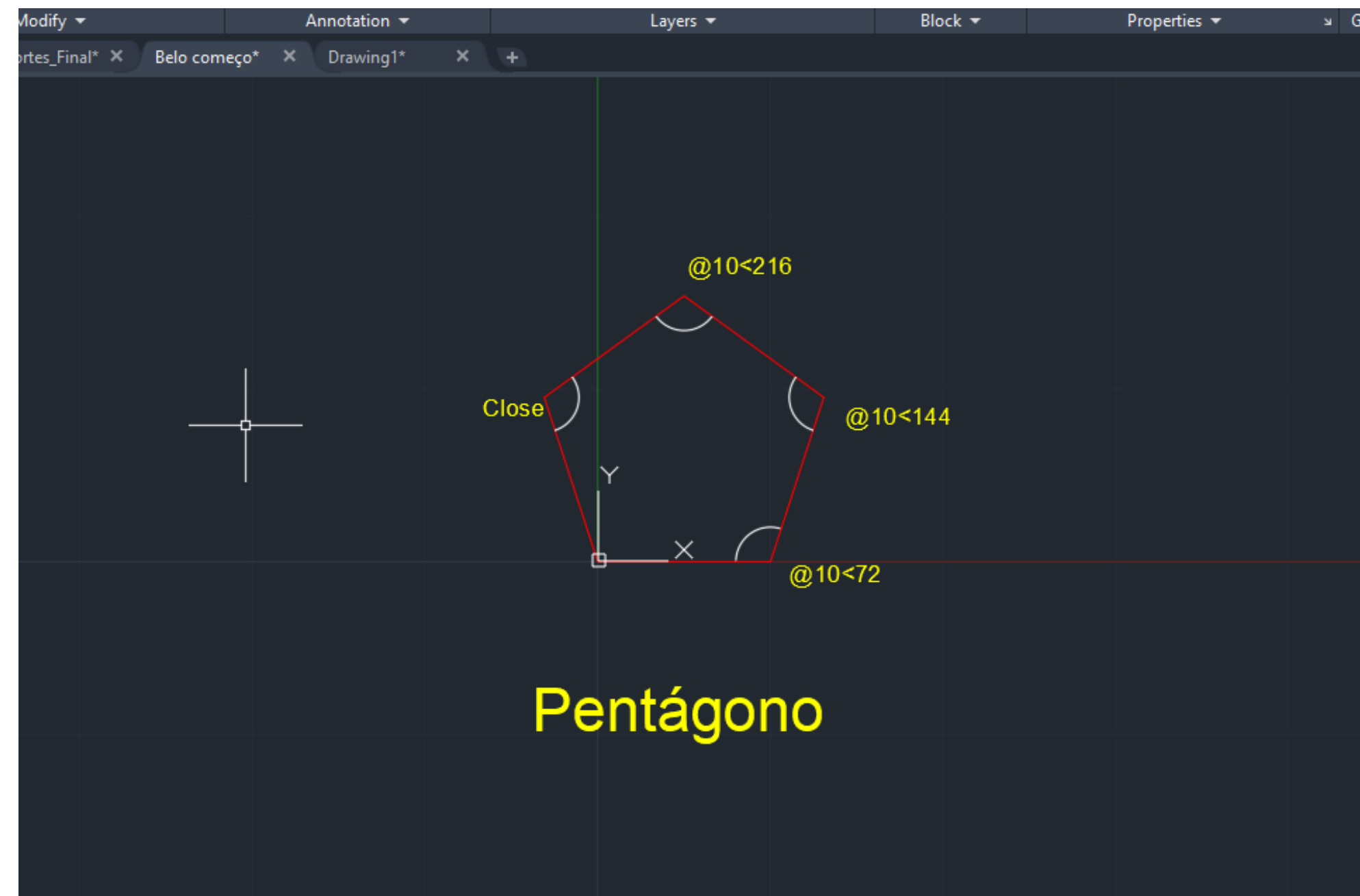
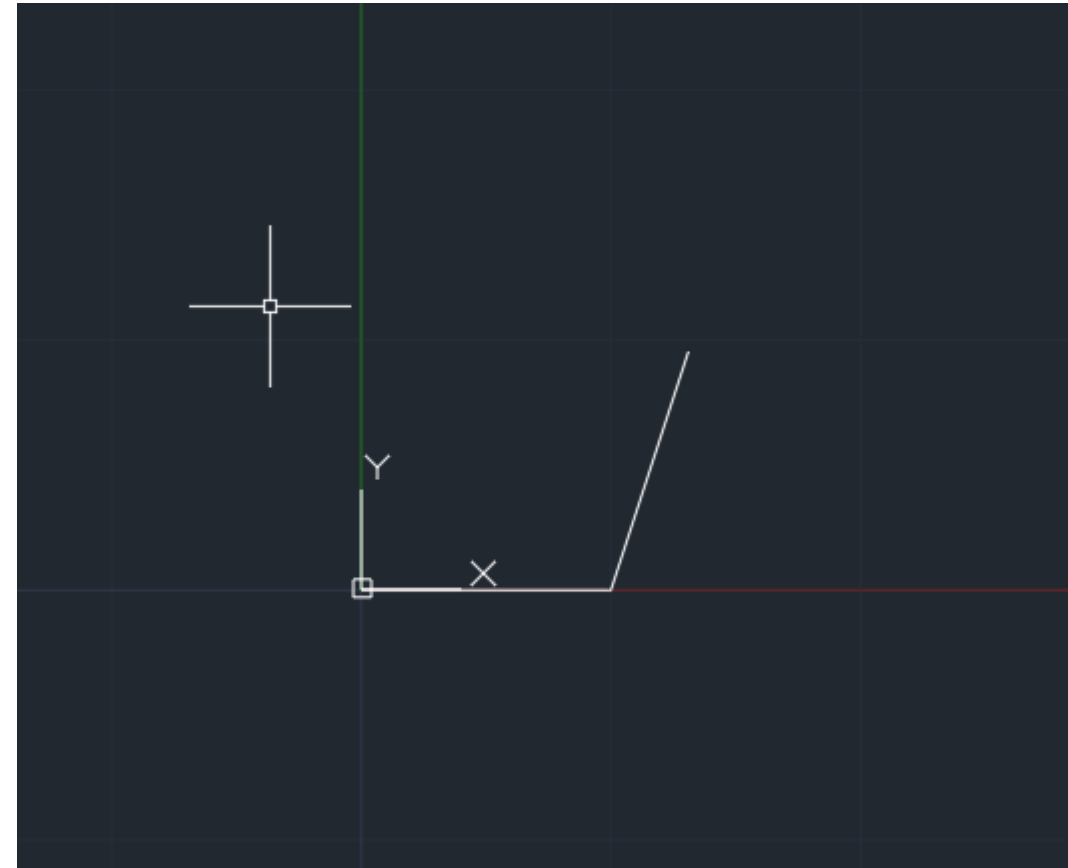
Coordenadas Polares = @

- Dist.< Ângulo

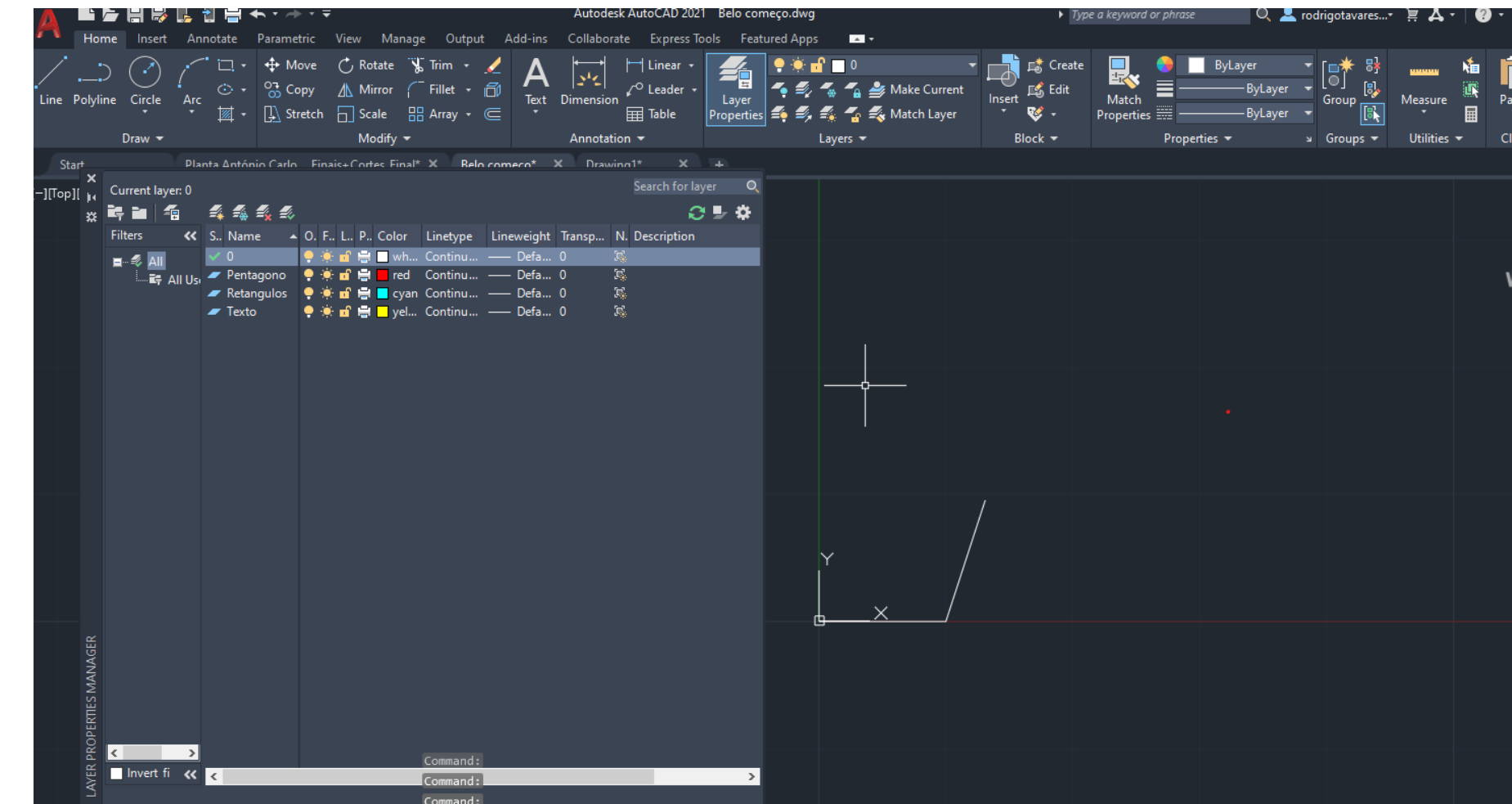
**Escala:** Medidas reais nas quais através de uma equação são representadas no desenho.

**Proporção:** Relação entre duas dimensões do mesmo objecto.

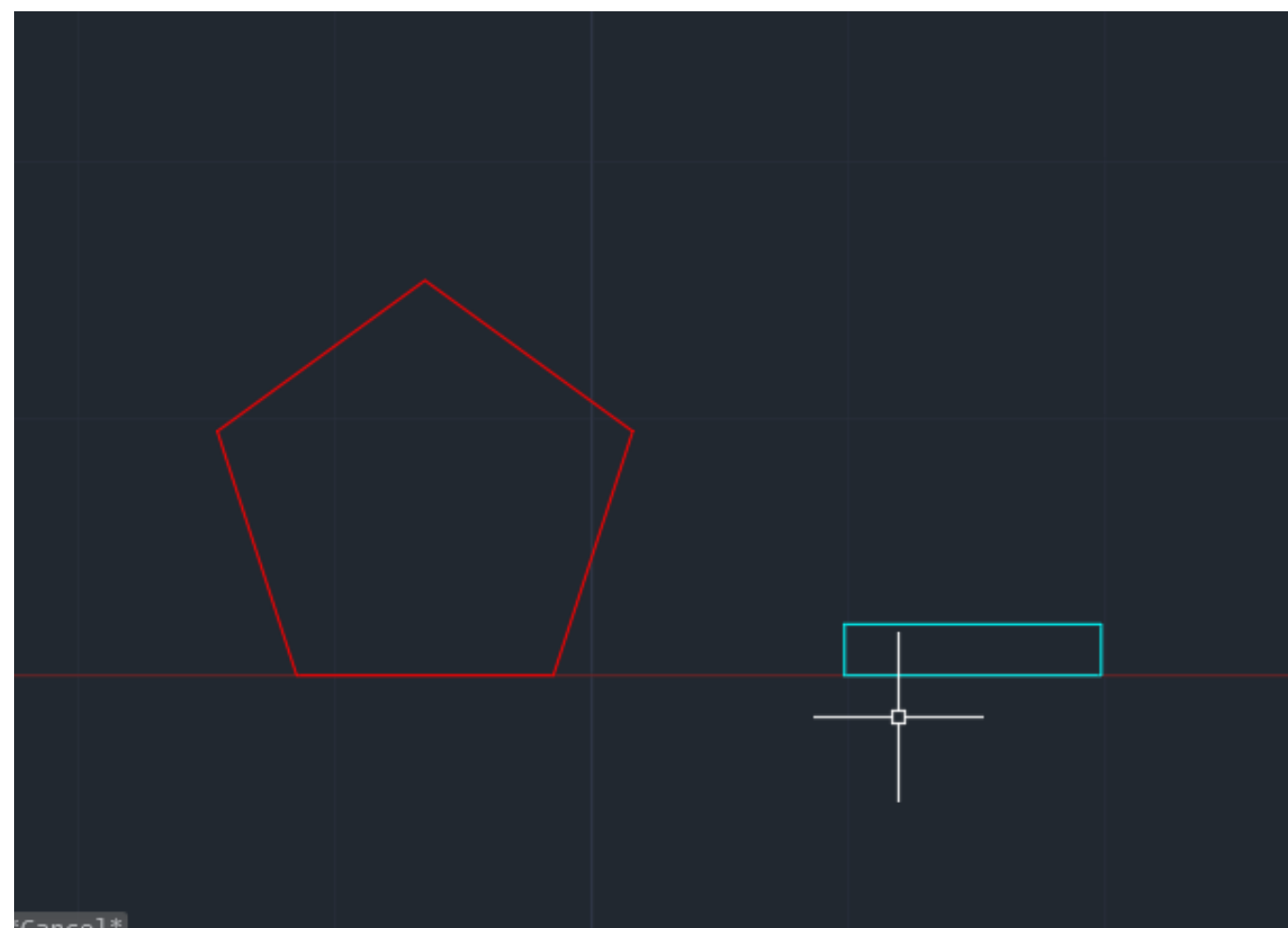
# Construção de um Pentágono



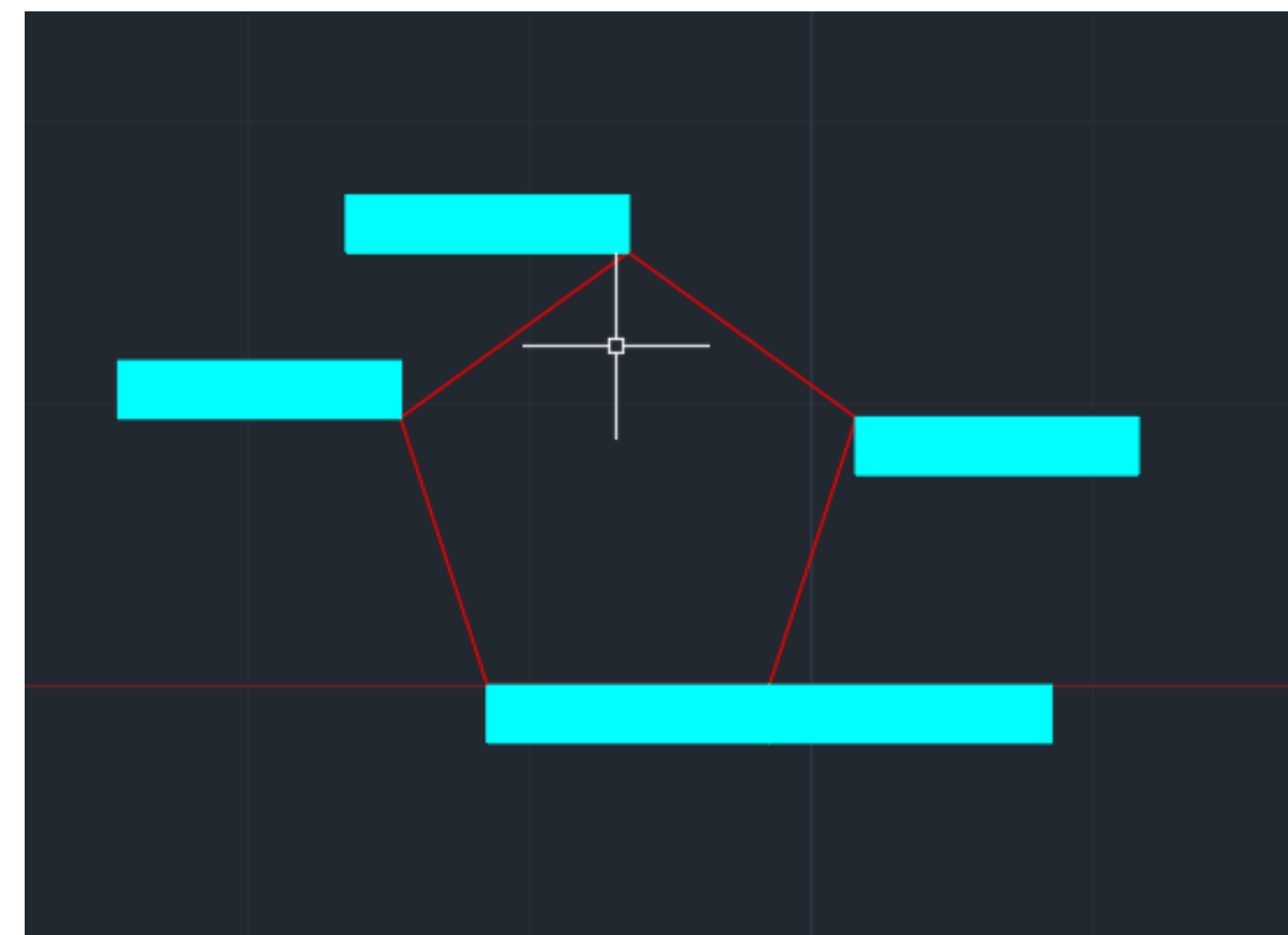
# Criação de Layers



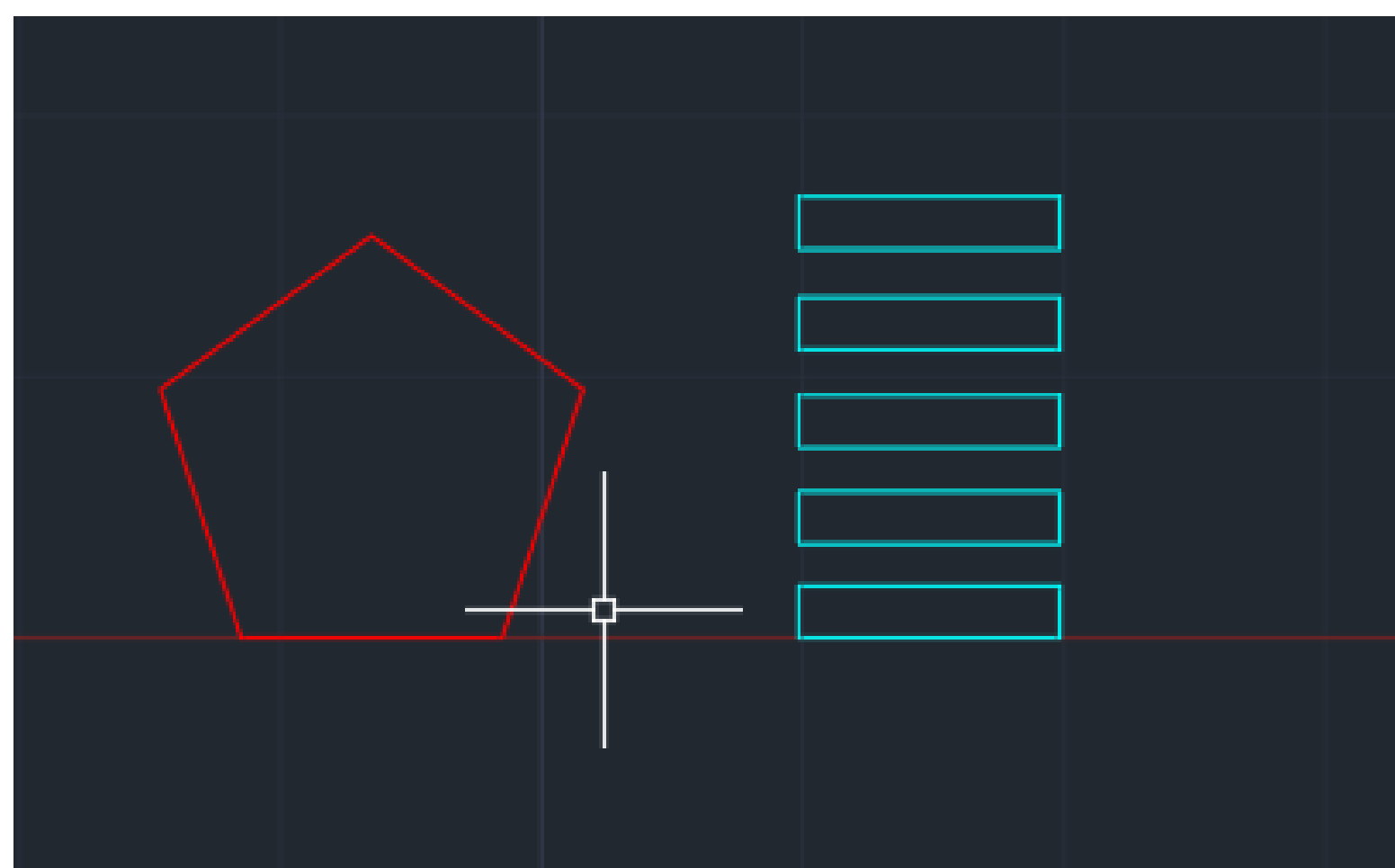
## Construção de um Pentágono



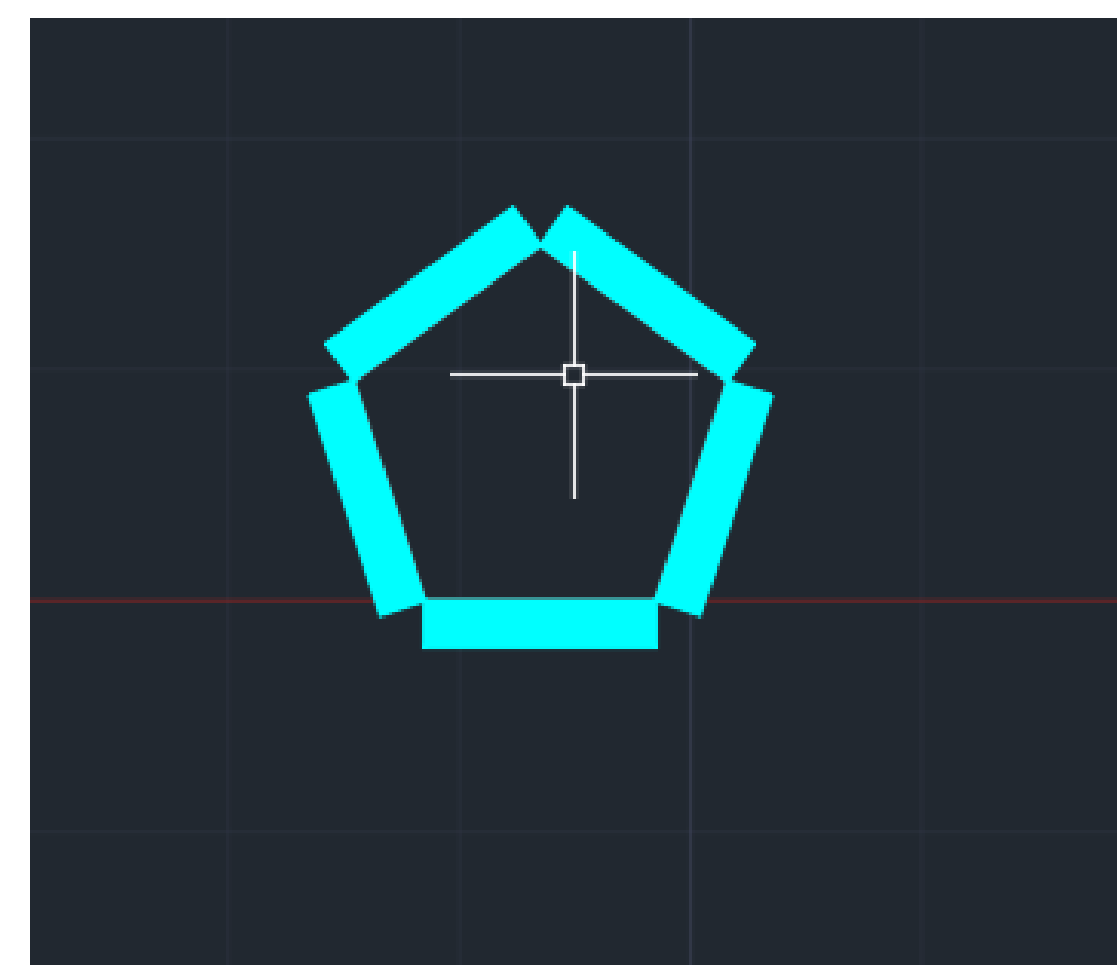
Construção de um retângulo



Preenchemos os retângulos com HATCH solid e movi para arestas do pentágono



Com o COPY faz-se várias cópias do retângulo original

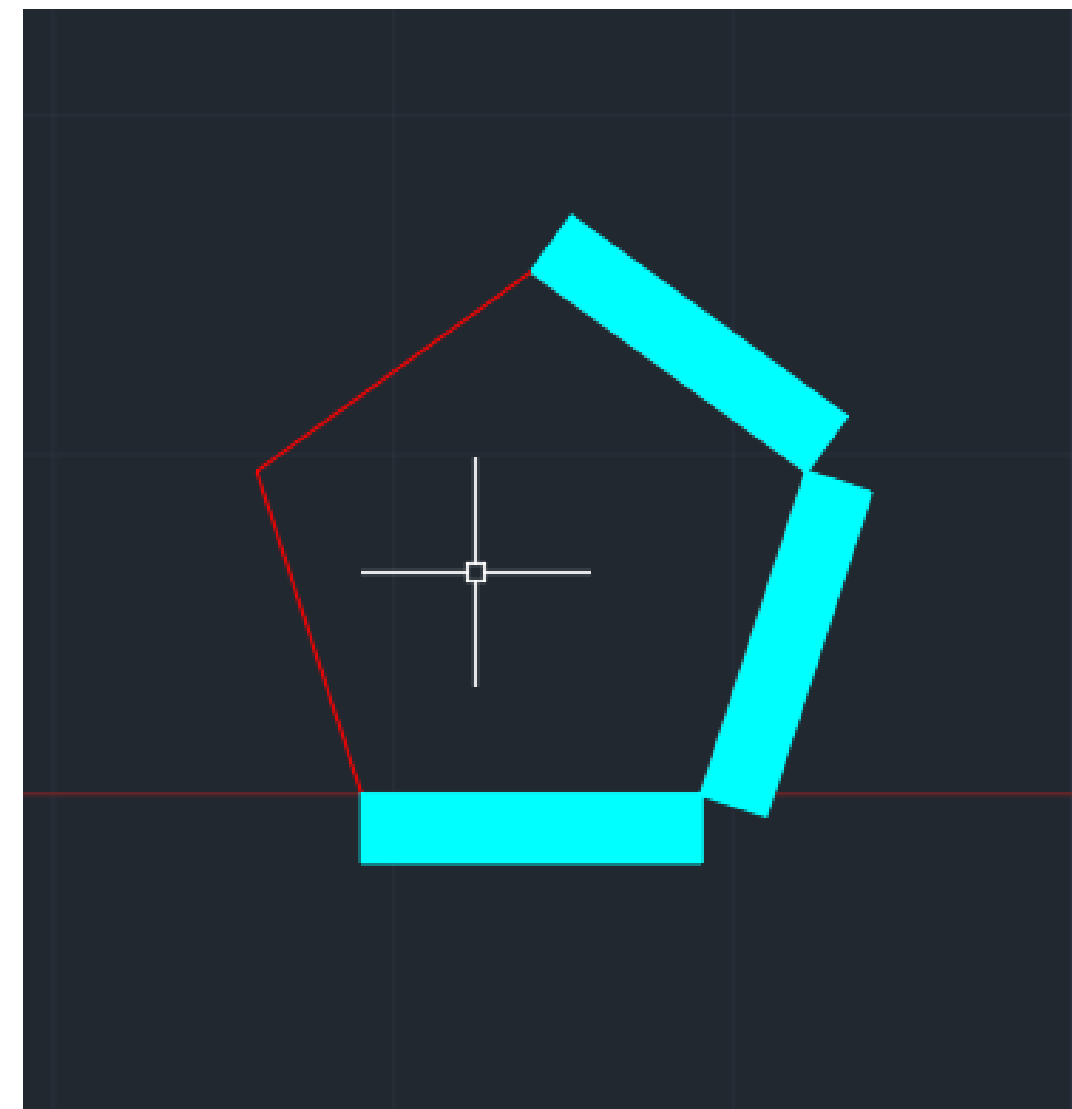
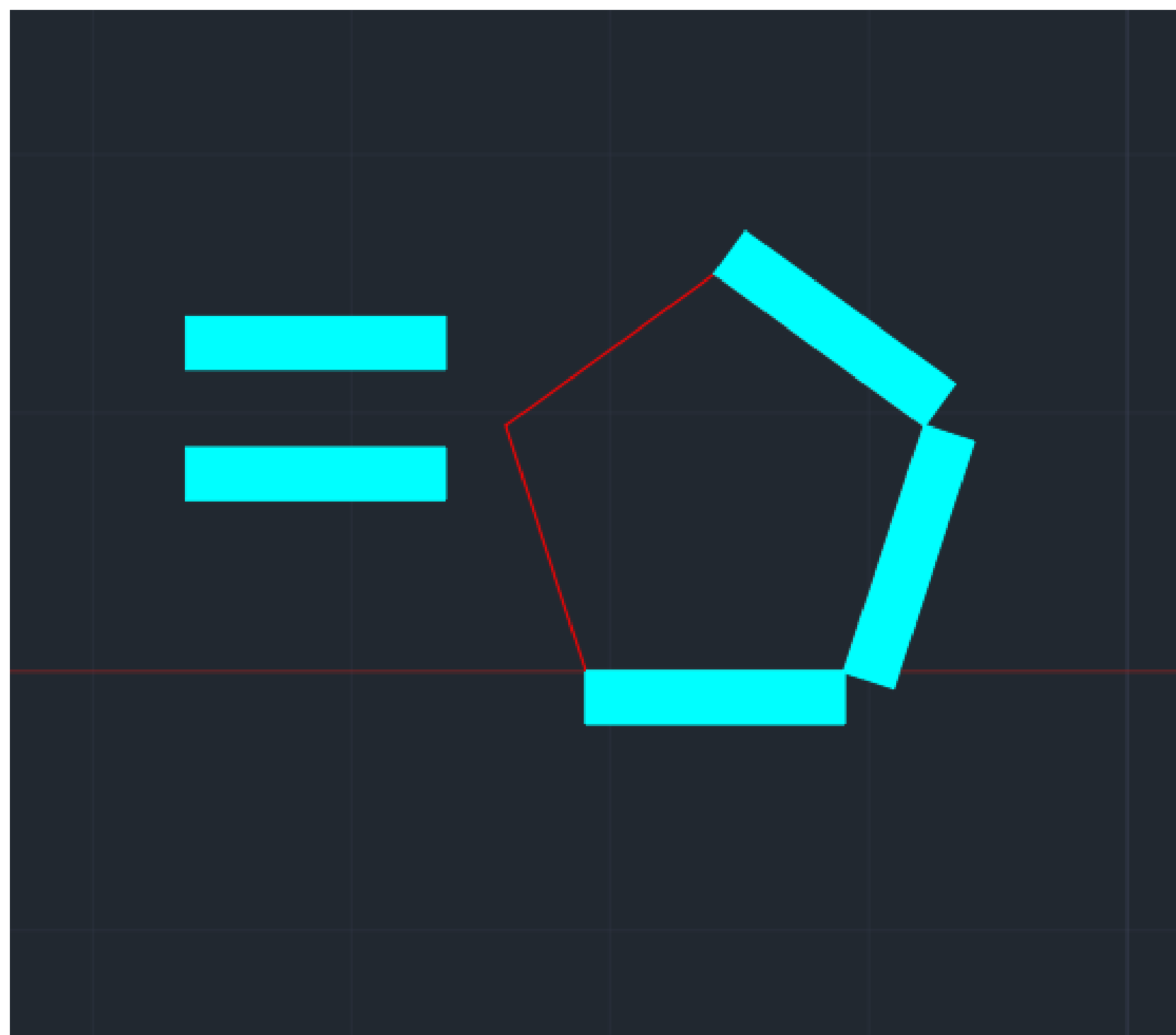


Completei a forma usando o ROTATE para alinhar as arestas do retângulo com as do pentágono

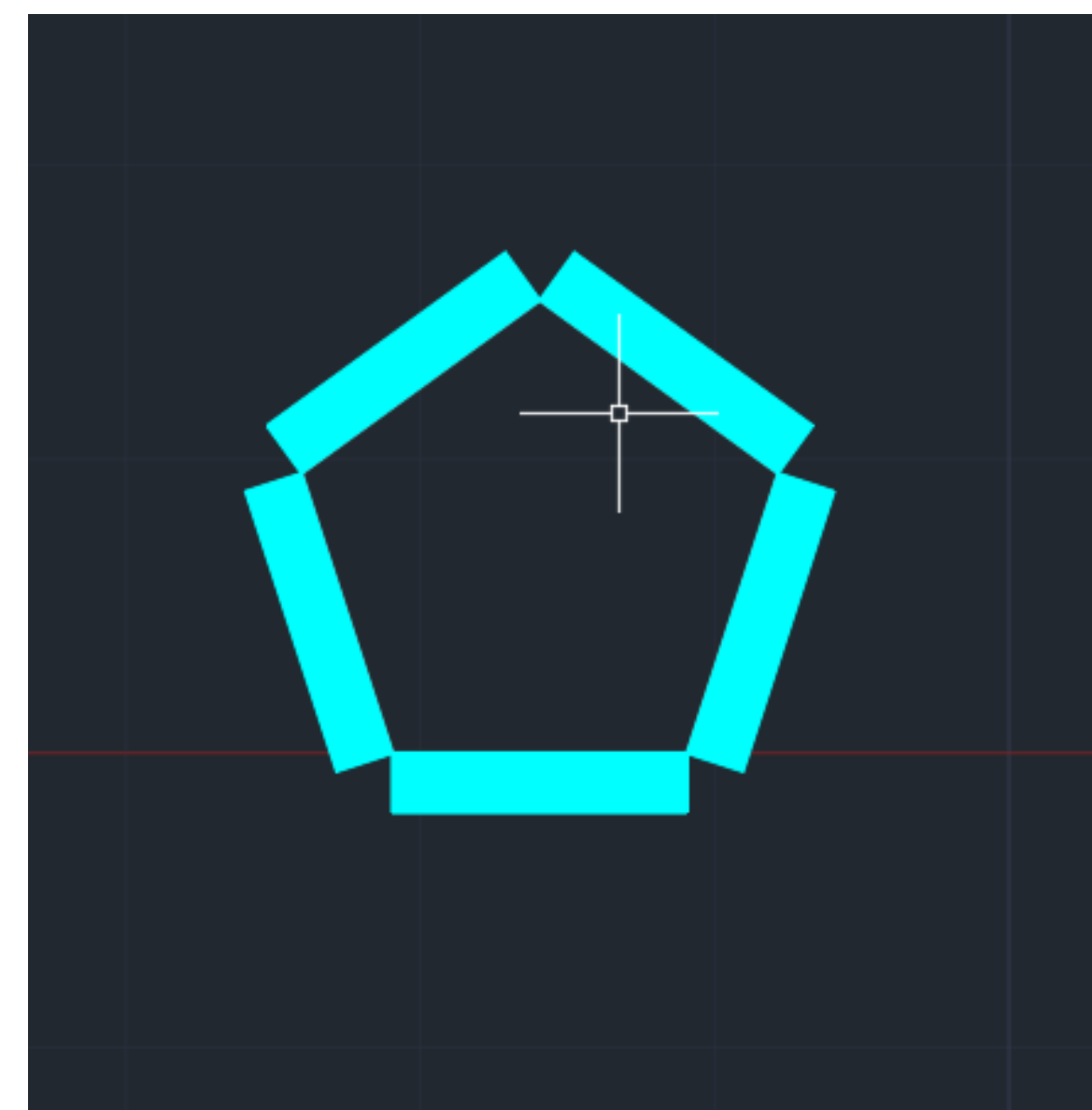


## Construção de um Pentágono

Nesta forma obtenho o objeto final através do ALIGN para alinhar as arestas maiores dos retângulos com as arestas do pentágono

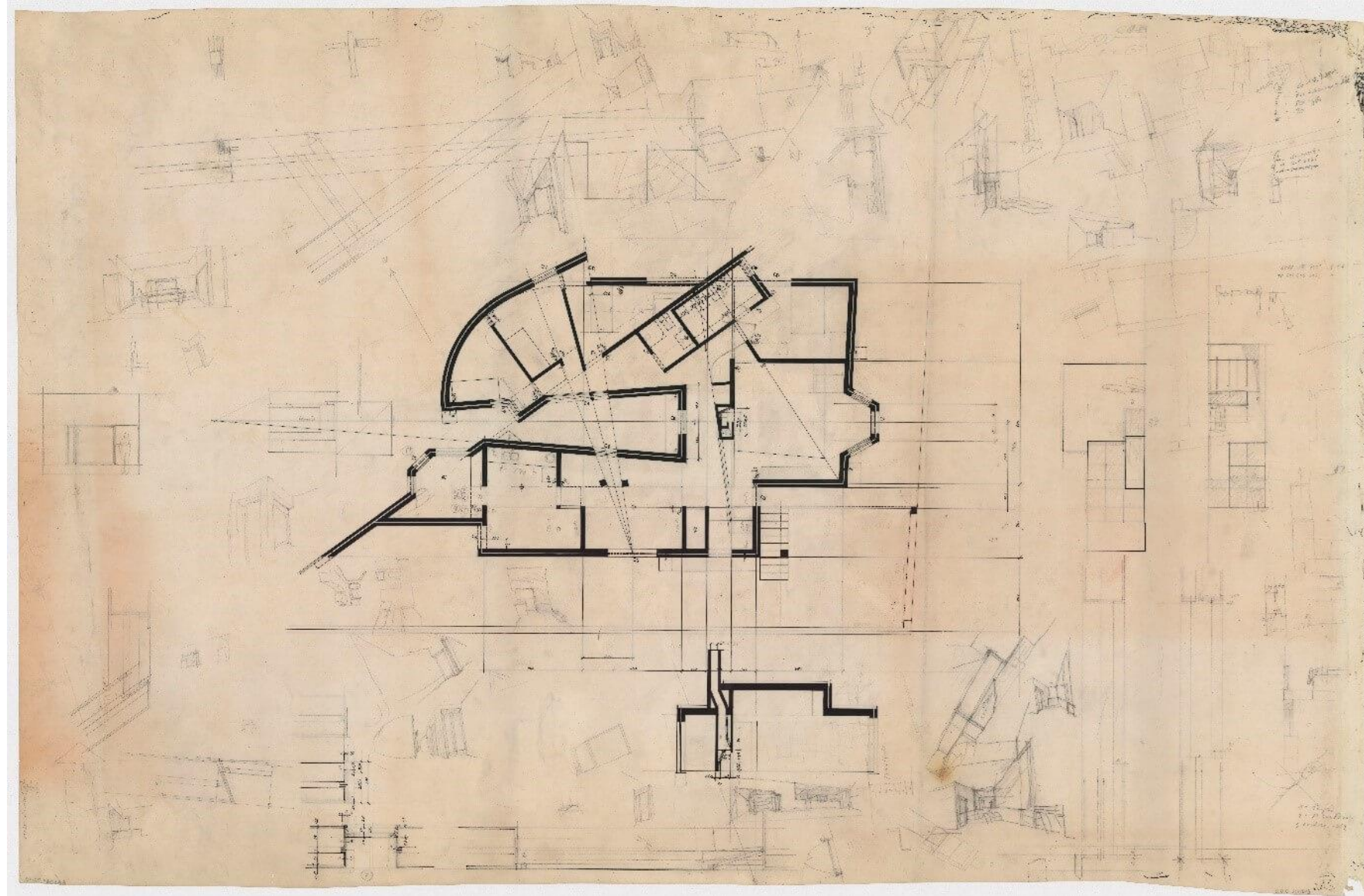


Desta forma obtemos a figura final alinhando parte do pentágonos com os retângulos e com o MIRROR obtenho o objeto final



# Novo Trabalho

Planta da Casa António Carlos Siza



## Objetivo:

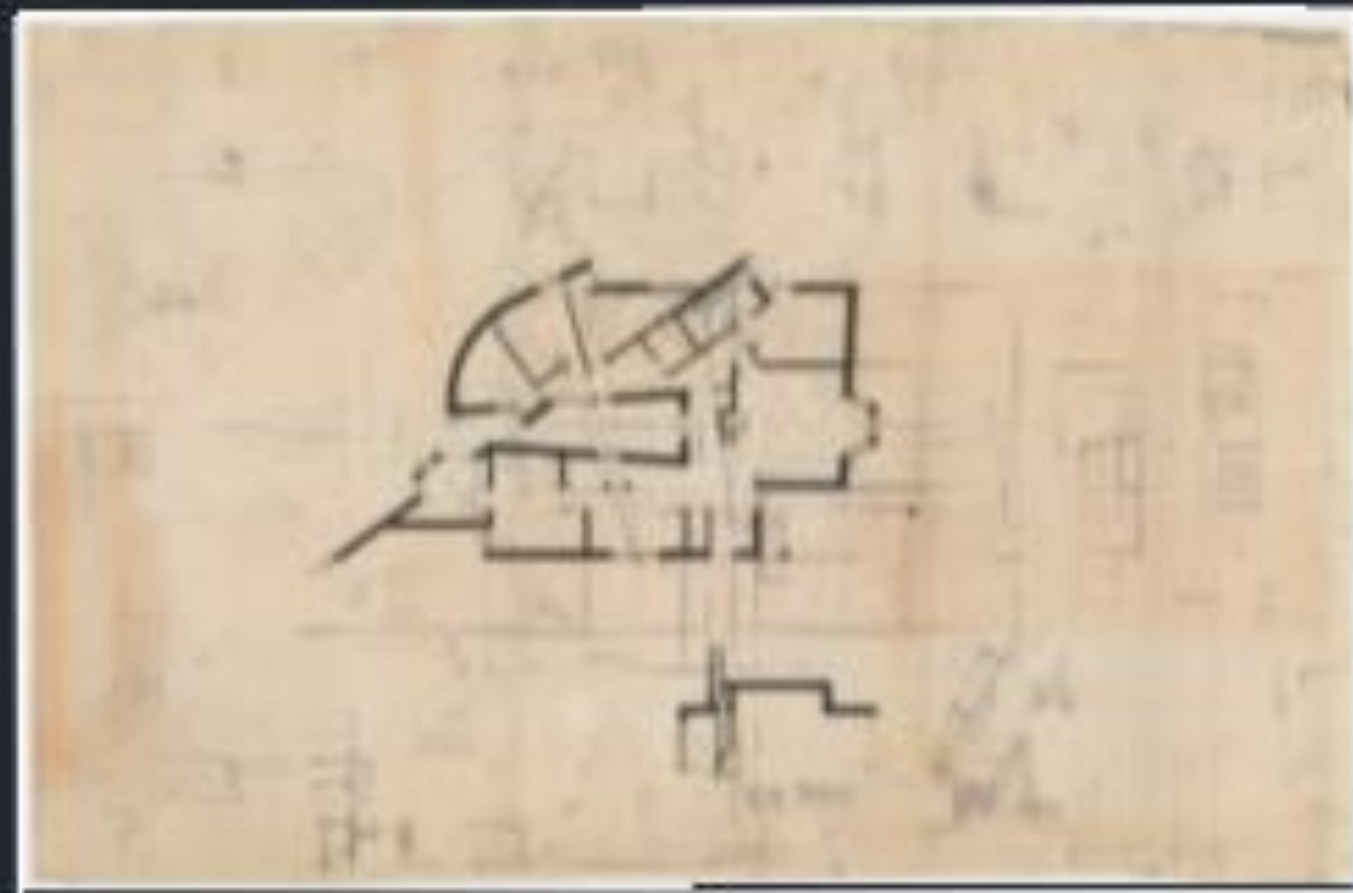
- Representar a planta às escalas 1/100 e 1/10



ReDig

Semana 2

## Planta da Casa António Carlos Siza

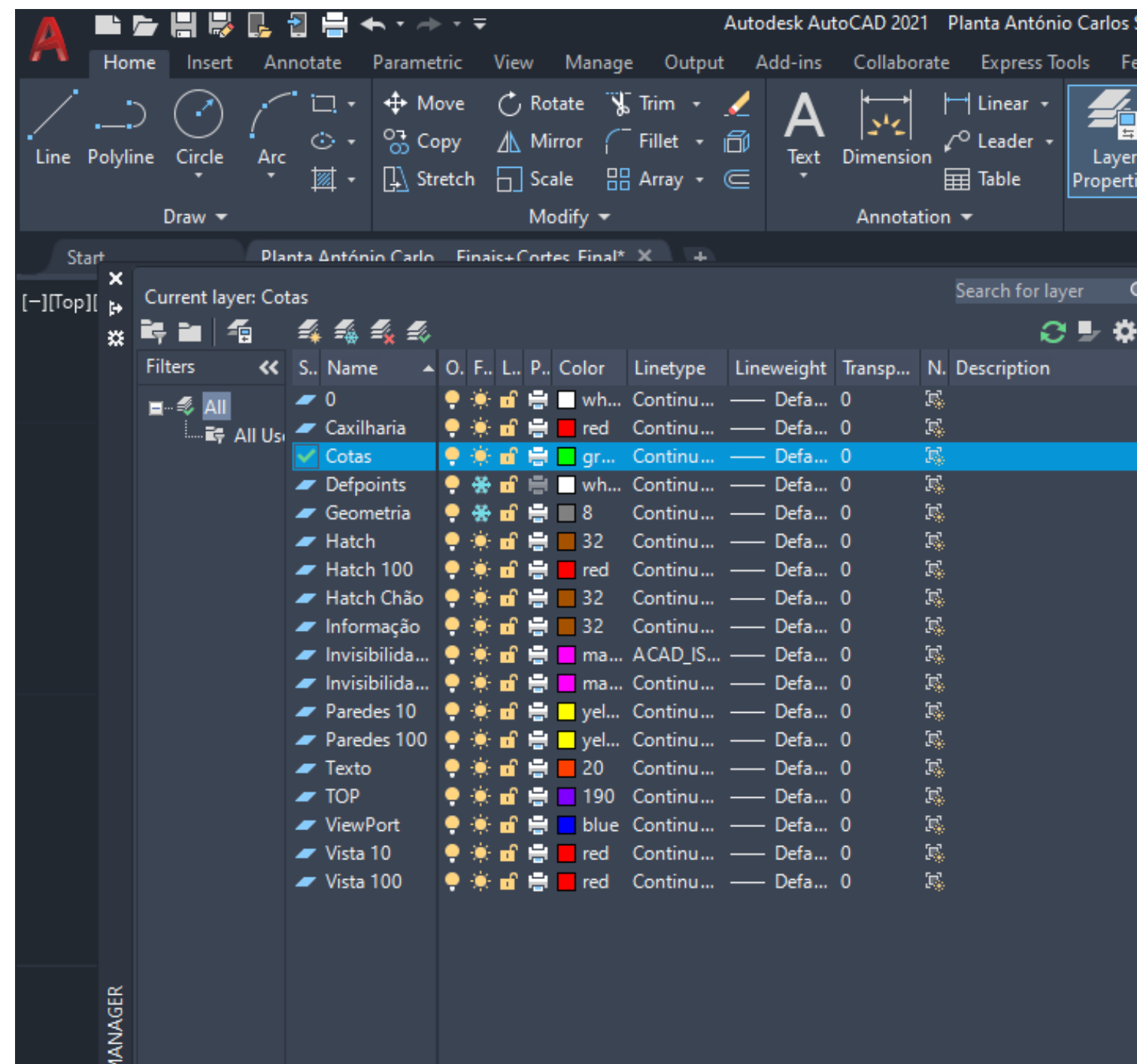


**ATTATCH** – Para inserir a imagem no autocad

**SCALE** – Para escalar a imagem através de uma medida geral que no caso foi a cama com comp. de 2m

**ALIGN** – Para alinhar a imagem de forma a que se consiga traçar linhas retas

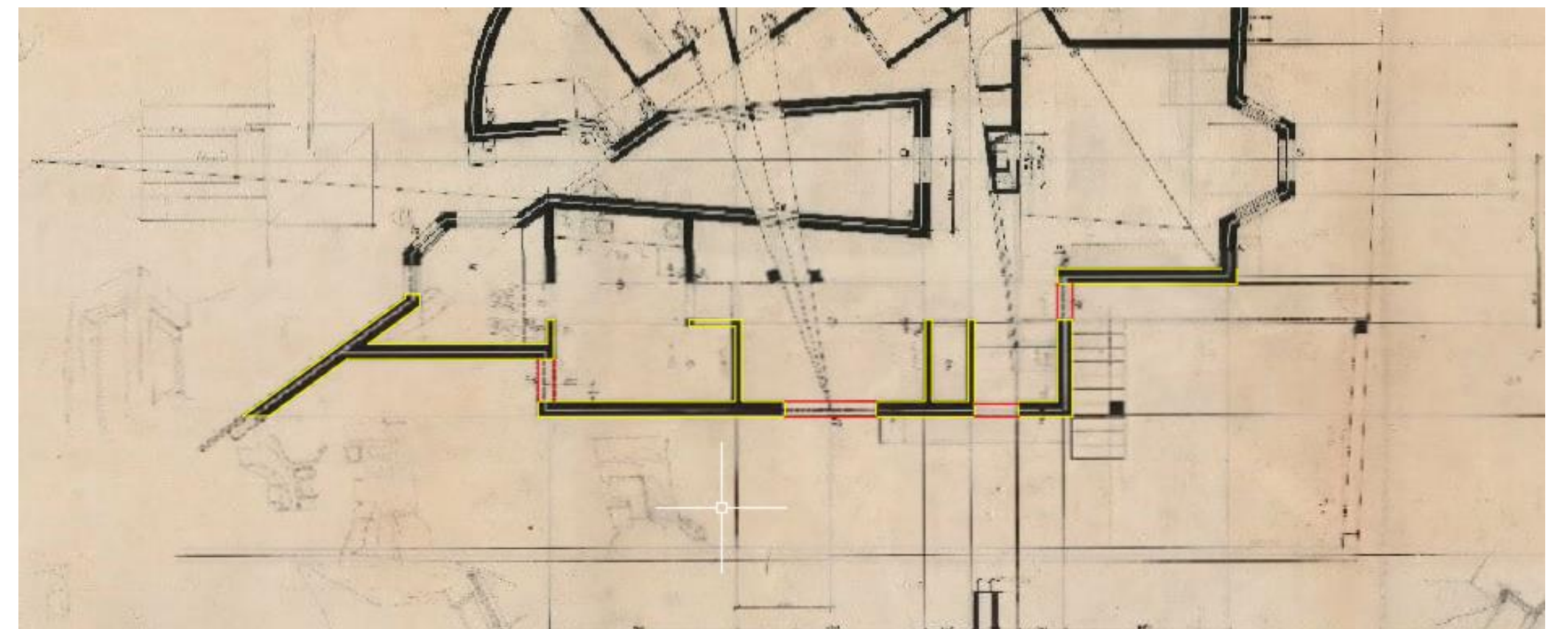
## Planta da Casa António Carlos Siza



### Criação de layers para o trabalho:

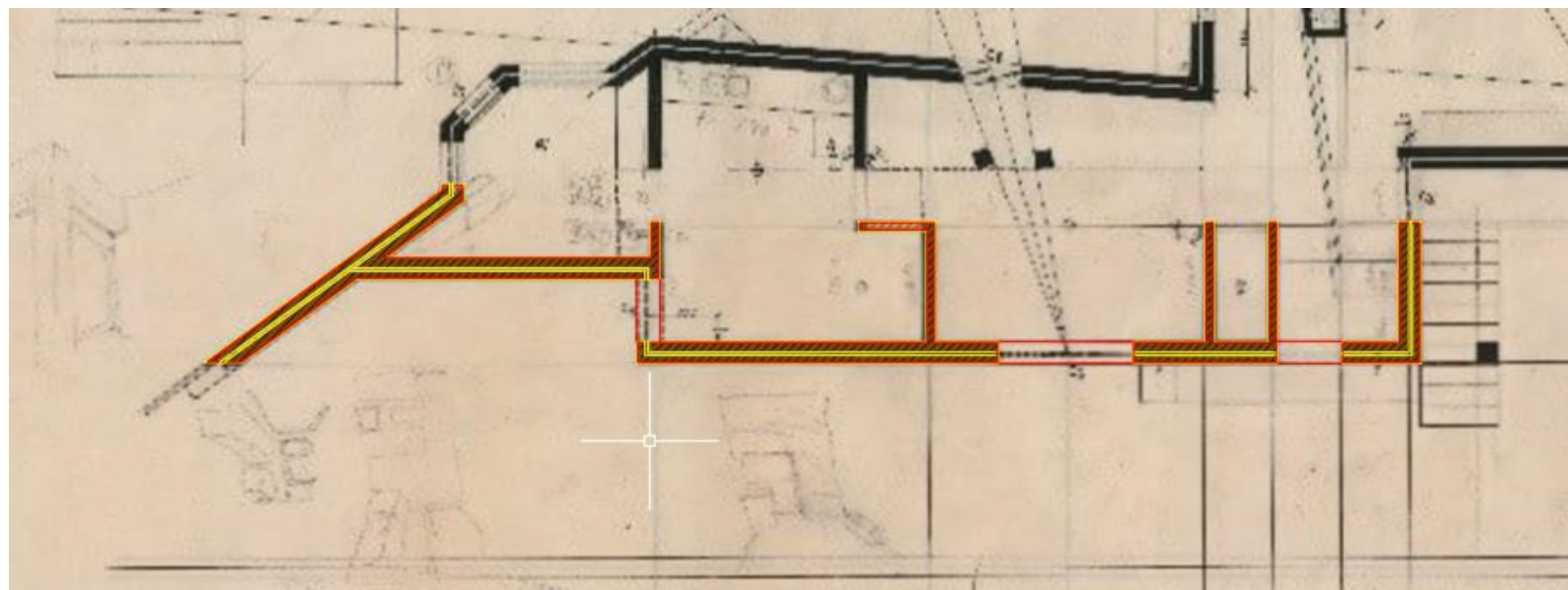
- Paredes 100
- Paredes 10
- Vistas 100
- Vistas 10
- Geomentria
- Hatch
- Texto

Começar a representar a planta na escala 1/100



## Planta da Casa António Carlos Siza

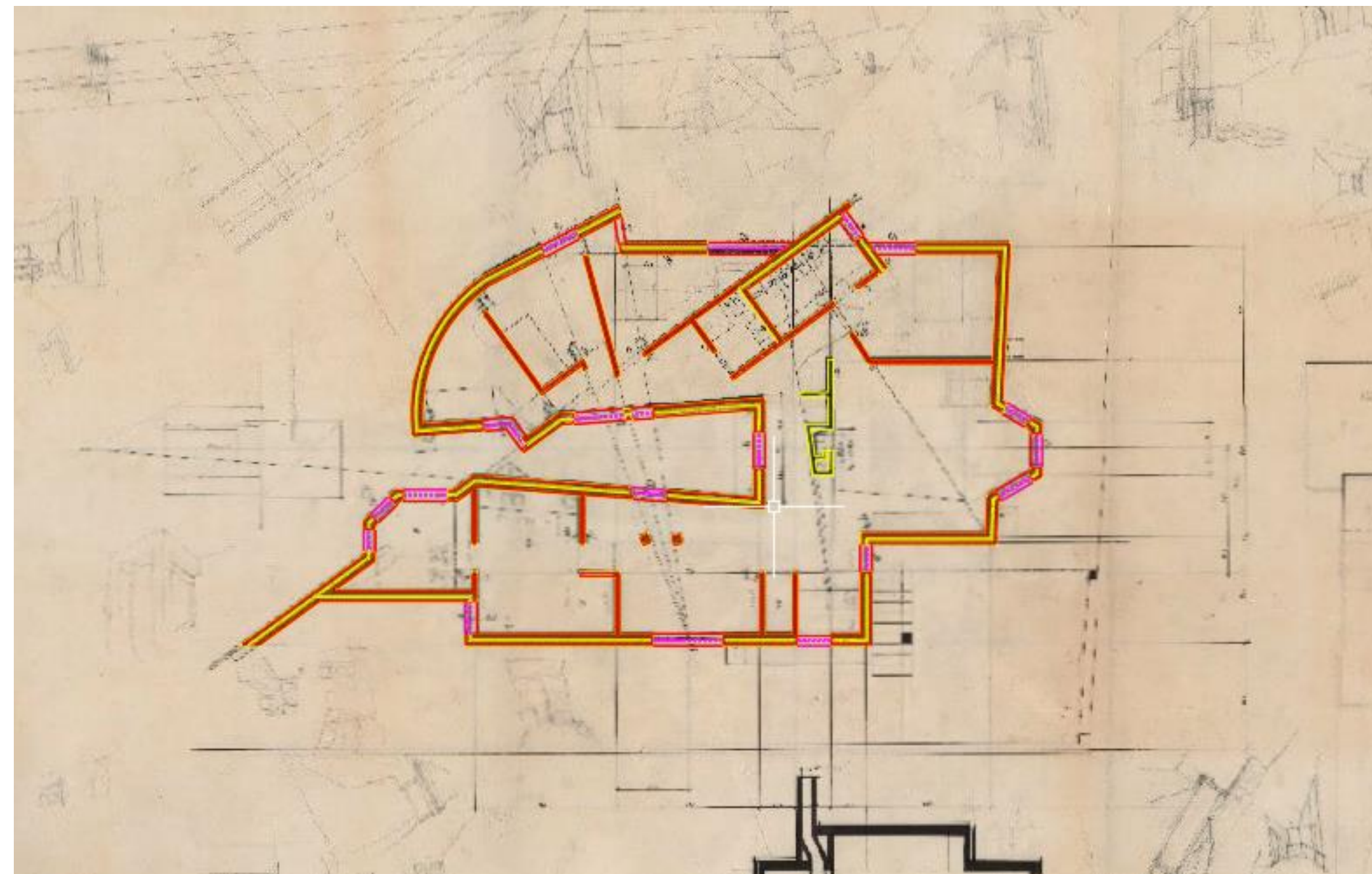
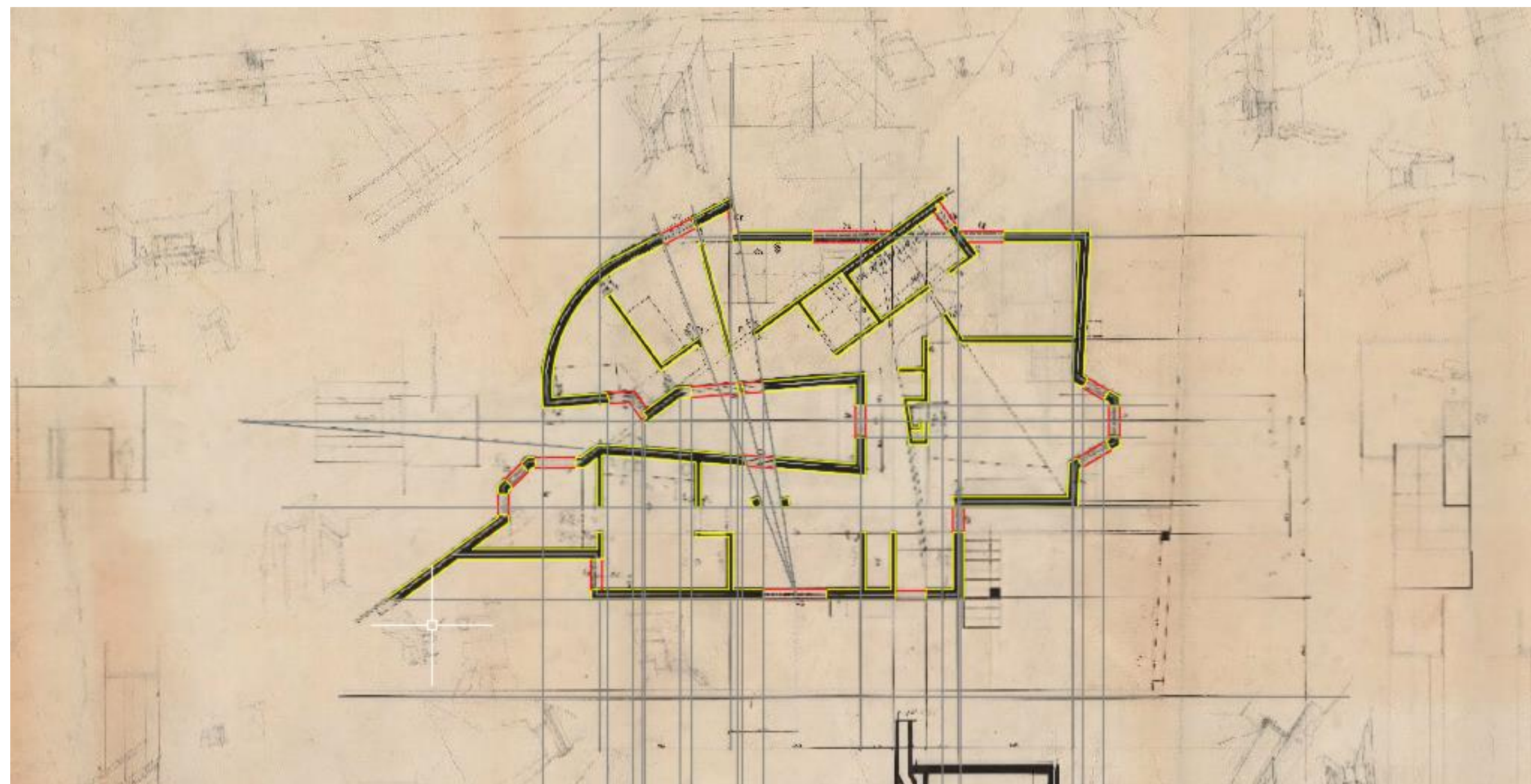
Trabalhar na escala 1/10 sobreposta à escala 1/100



Espessuras para as paredes à escala 1/10

## Planta da Casa António Carlos Siza

Progresso da Planta à escala 1/100

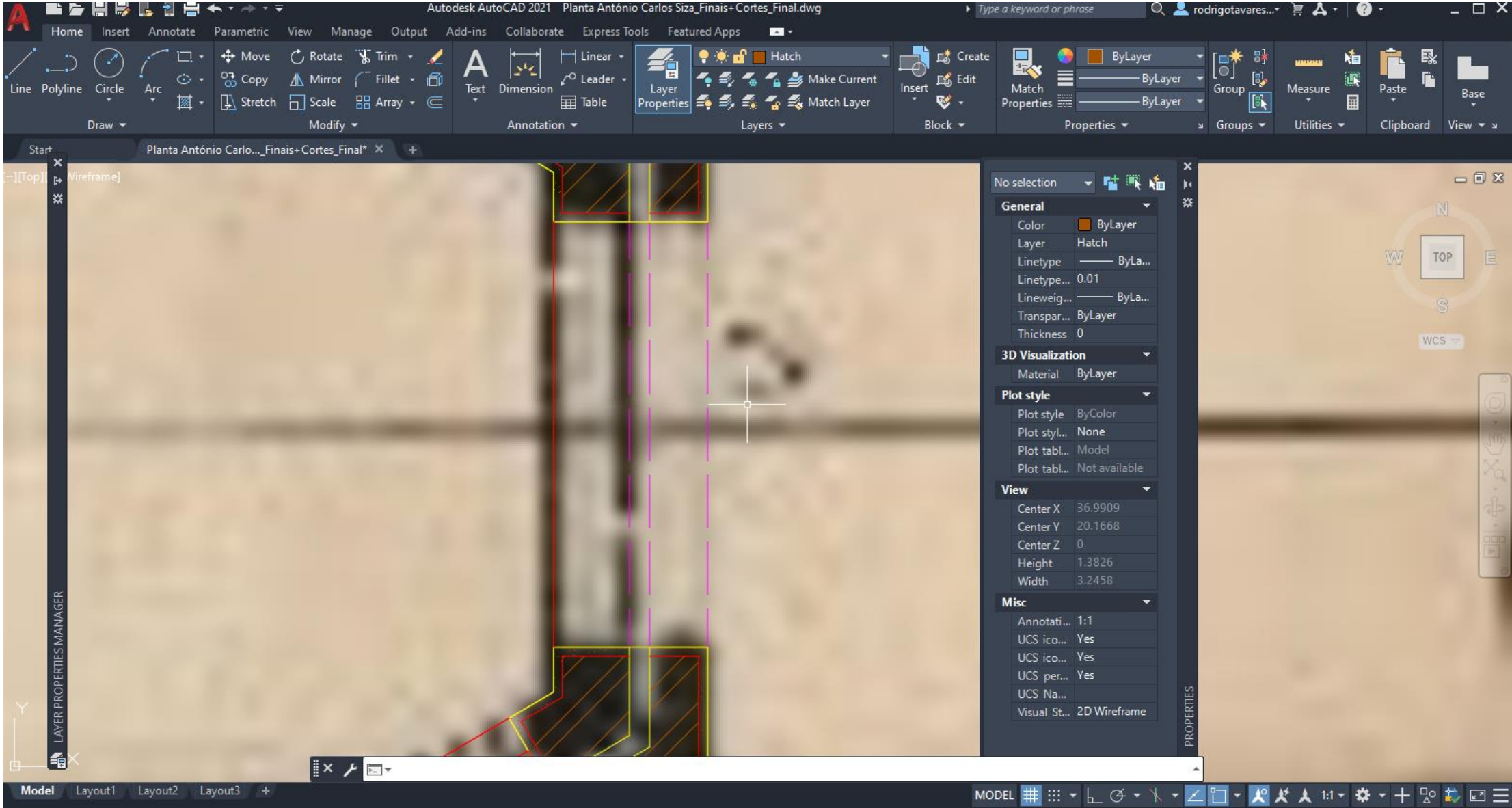


Progresso da Planta à escala 1/10

ReDig

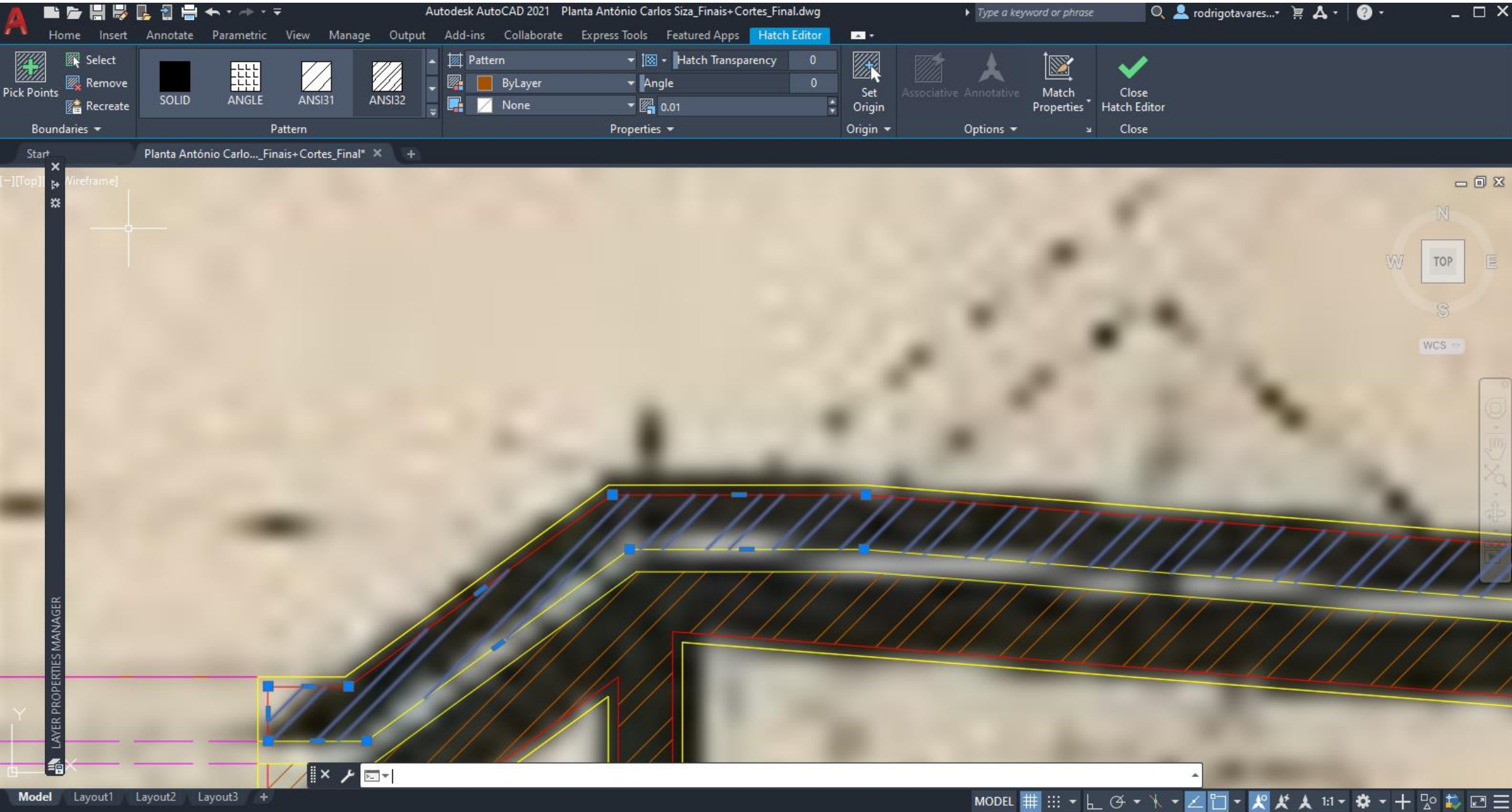
Semana 3

# Planta da Casa António Carlos Siza

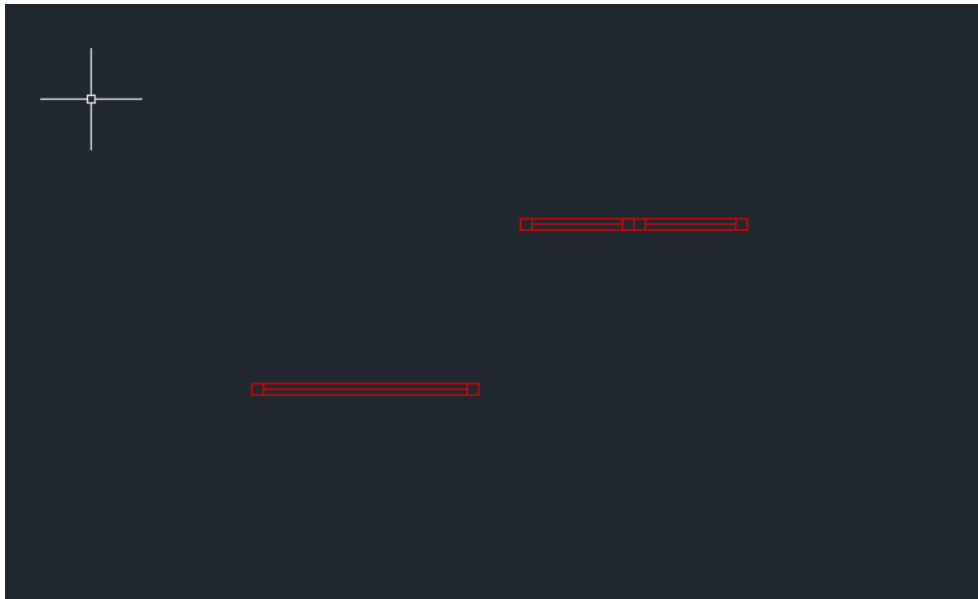


Hatch das paredes:

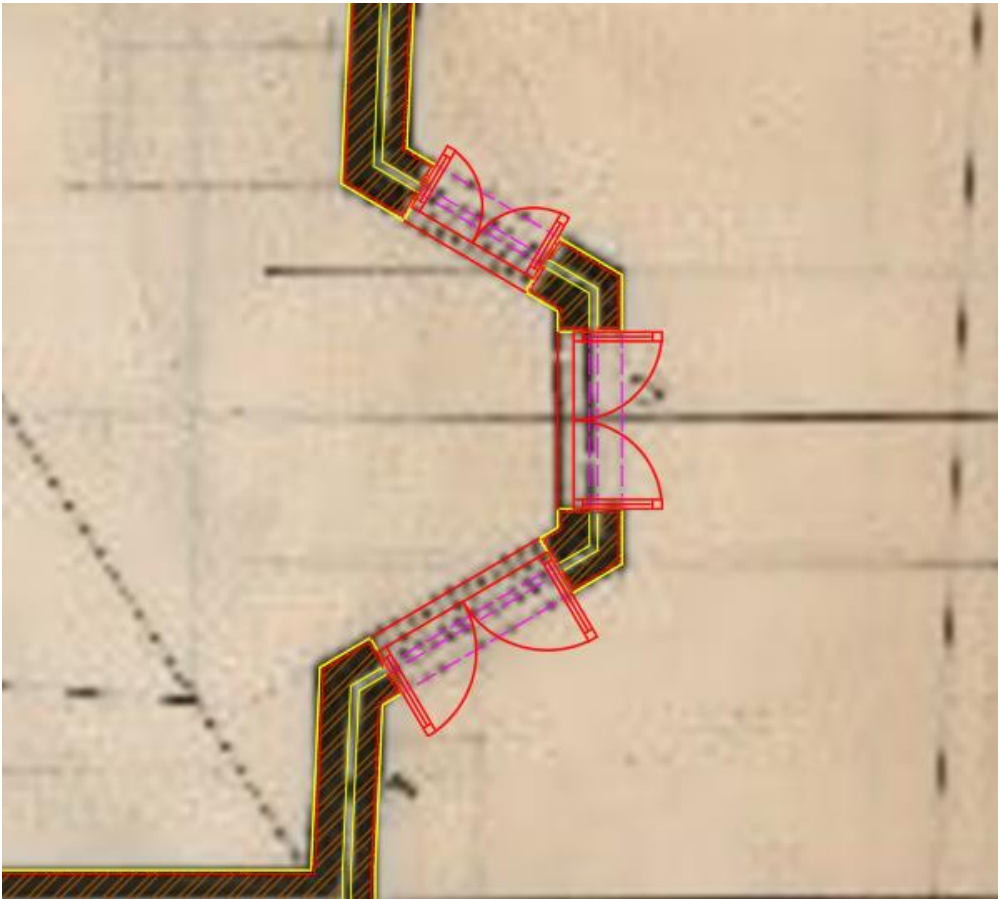
- ANSI32 (Tijolo)
- Ar-Sand (Reboco)



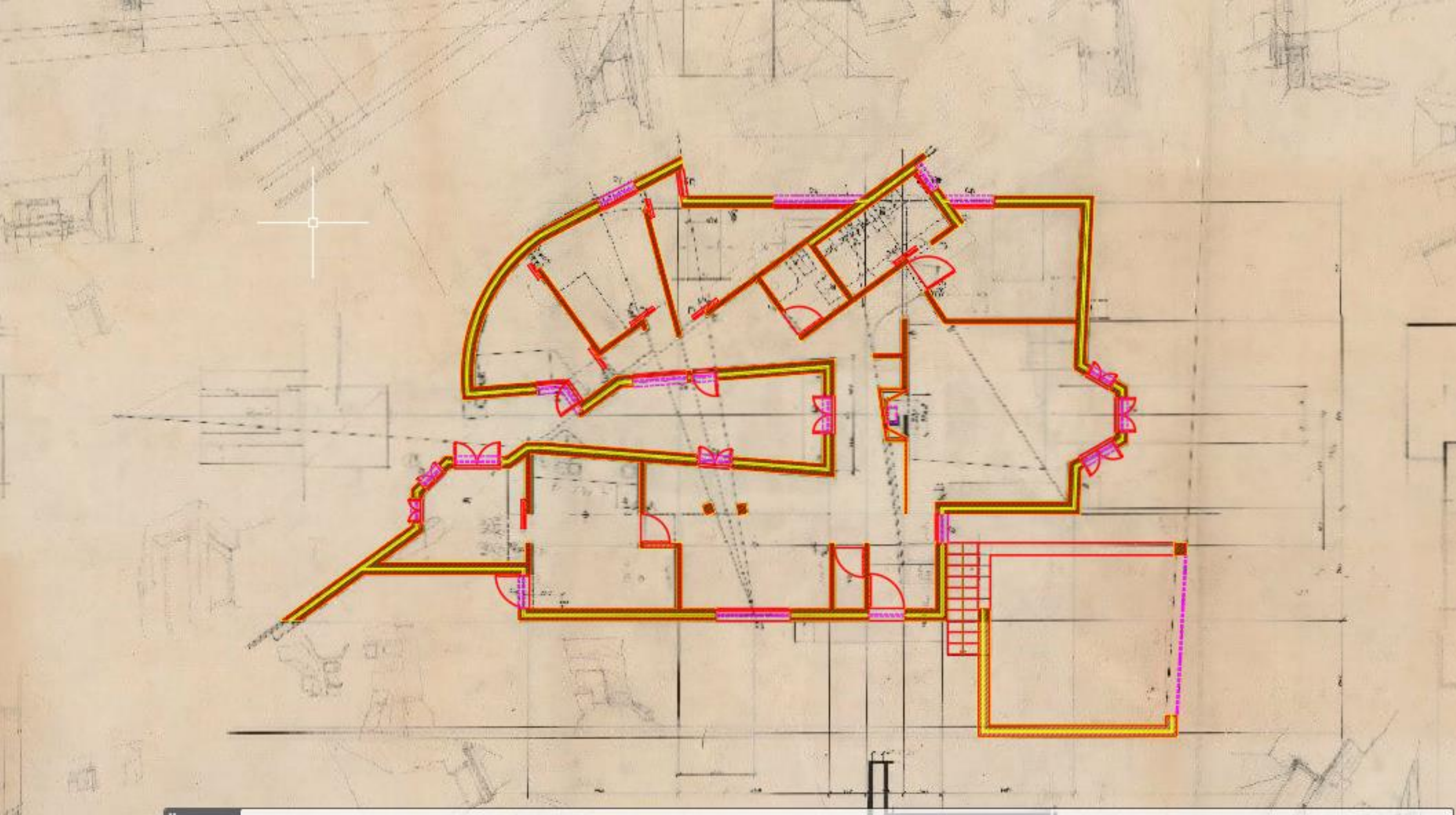
## Properties – Linhas Invisíveis



Representação das janelas



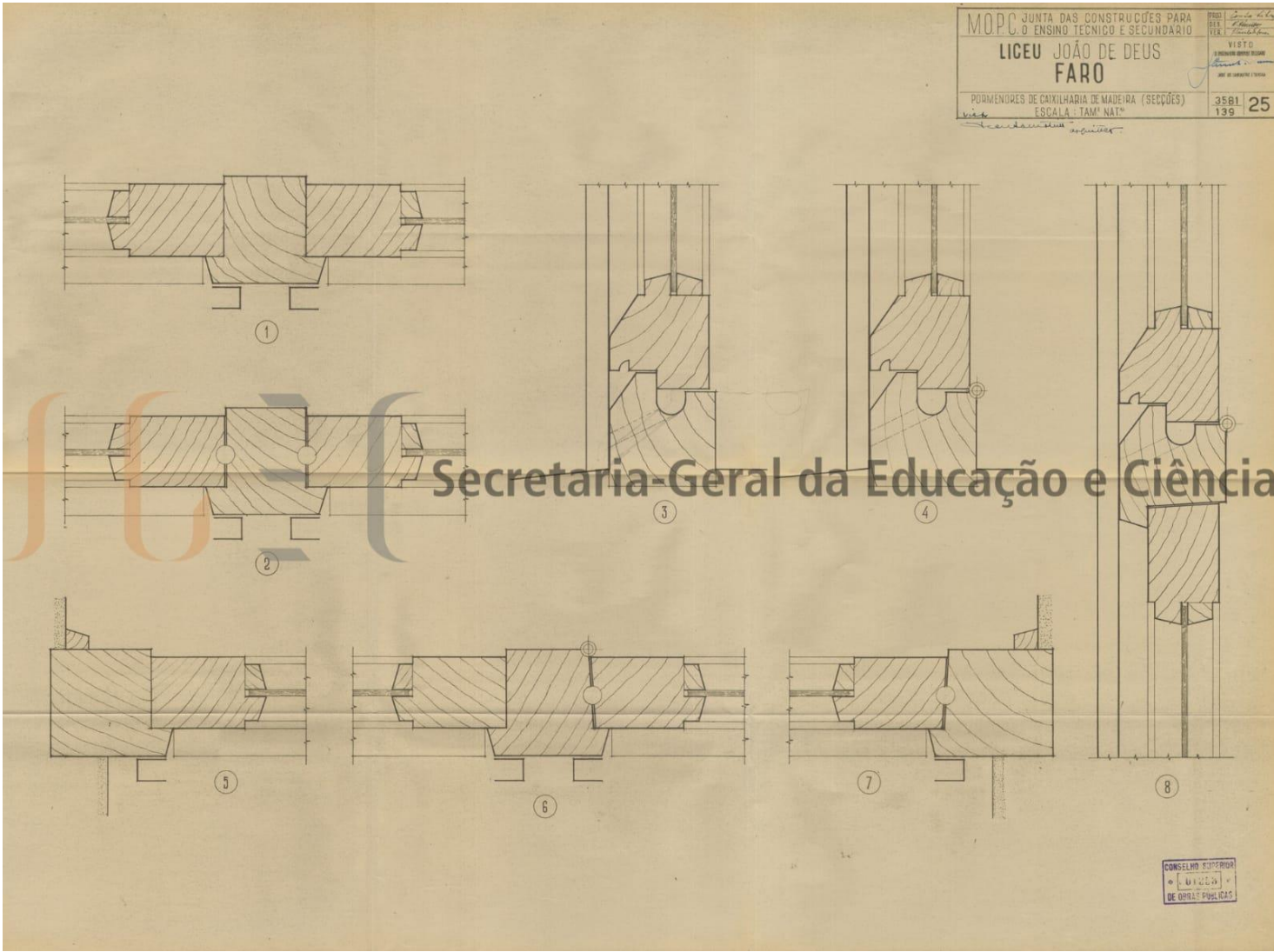
Planta da Casa António Carlos Siza



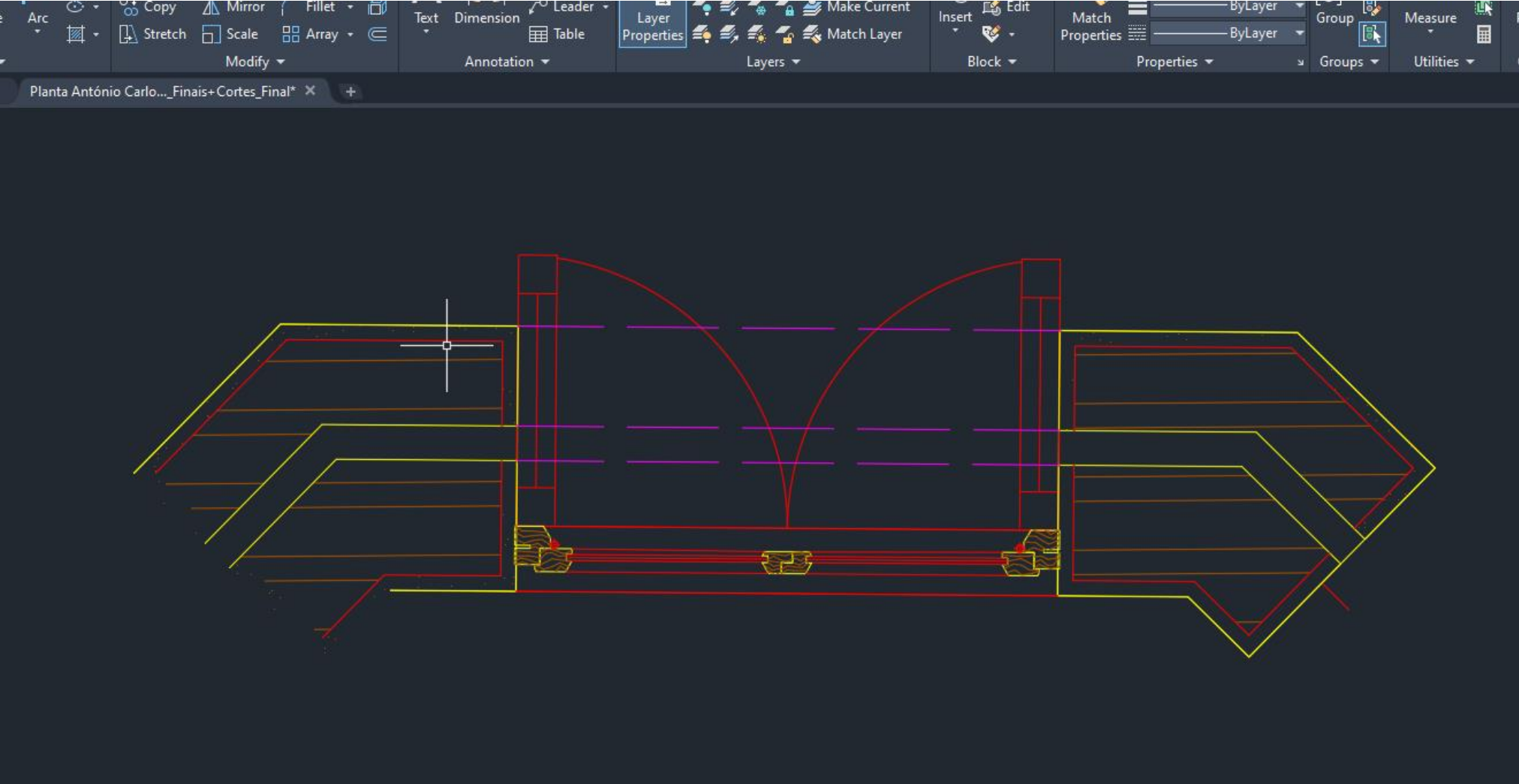
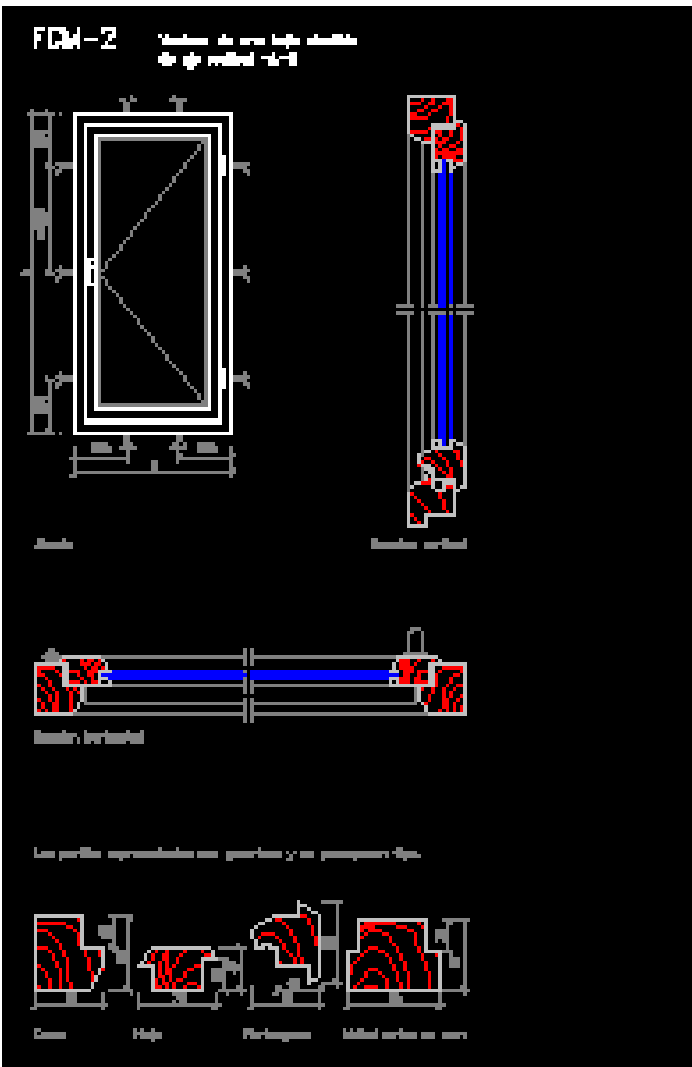
Representação das Plantas final



# Planta da Casa António Carlos Siza

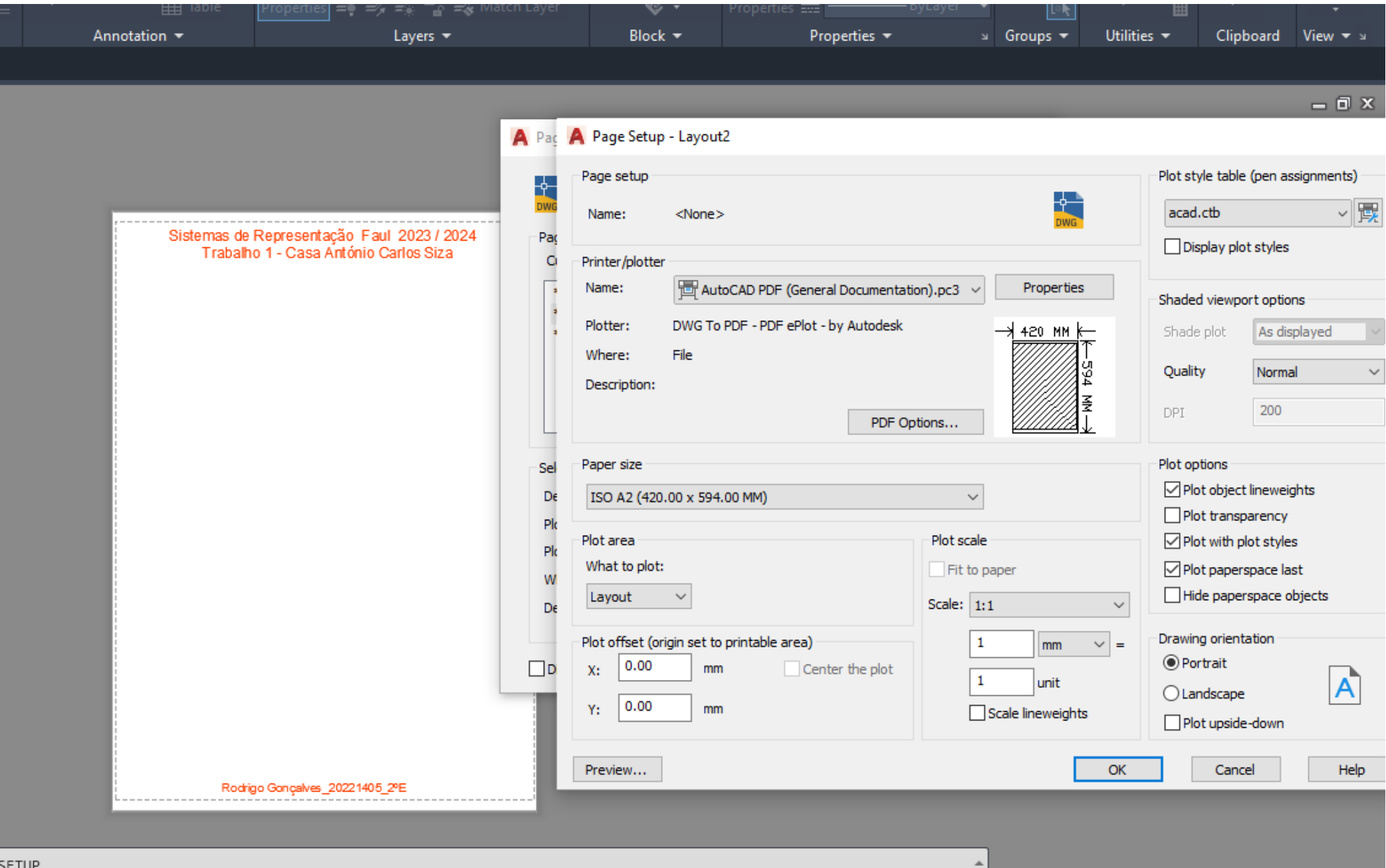


Representação da caxilhe

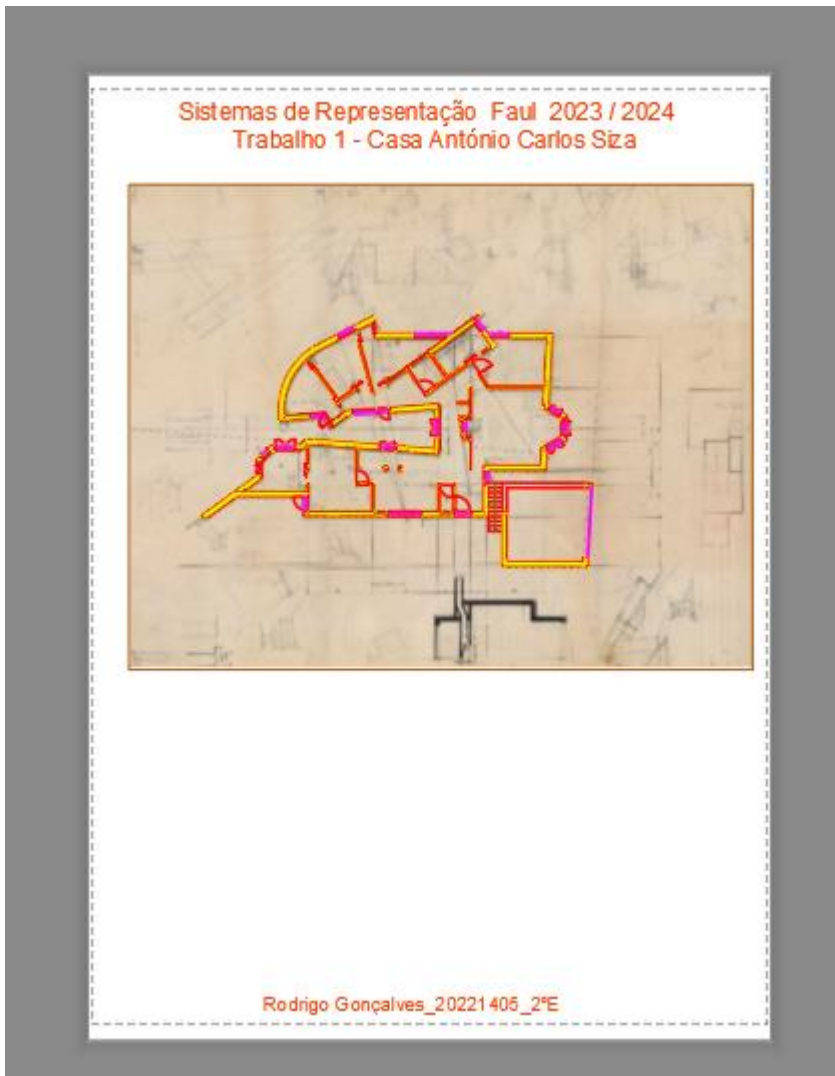


Caxilhe que trabalhei

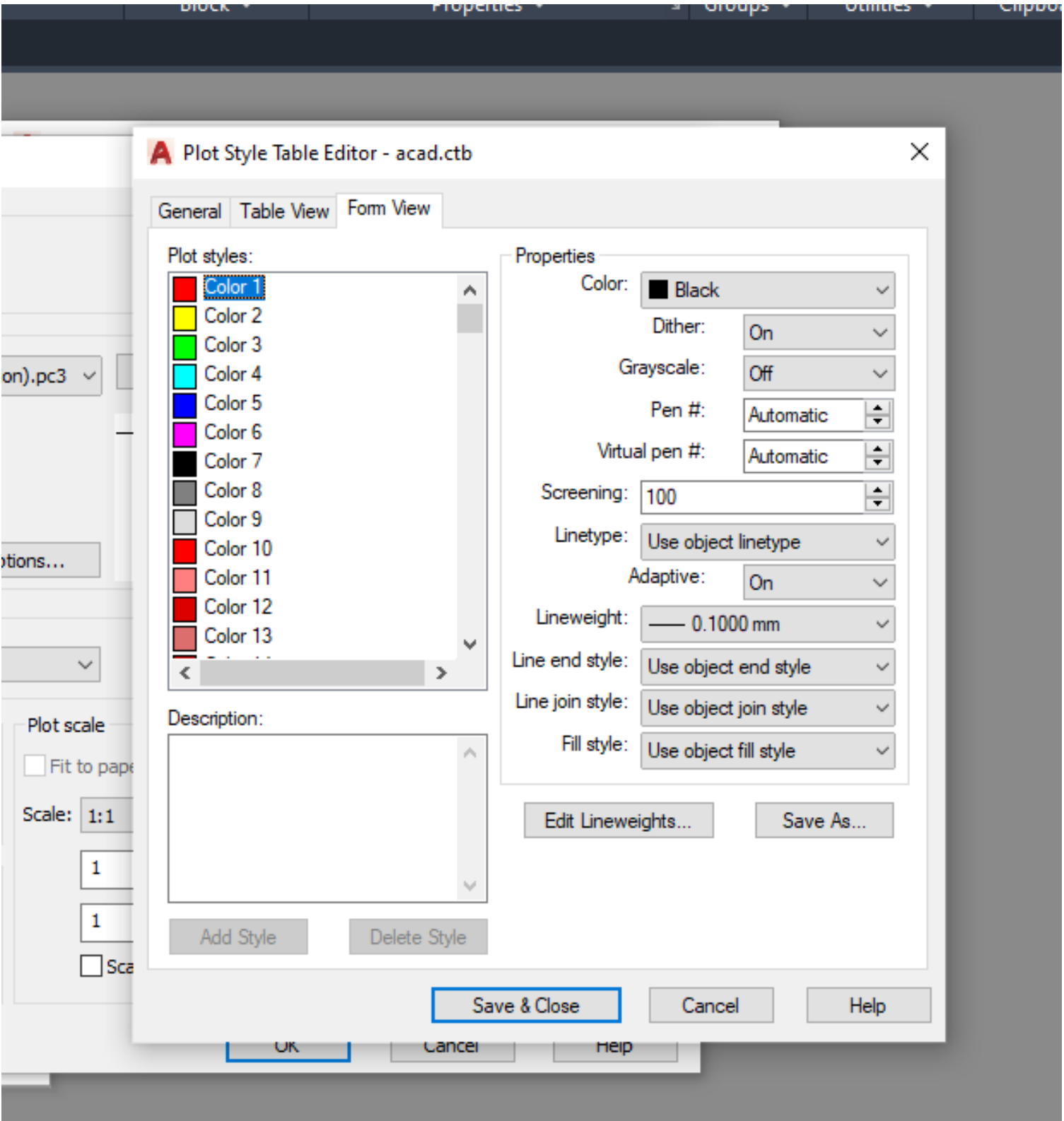
# Planta da Casa António Carlos Siza



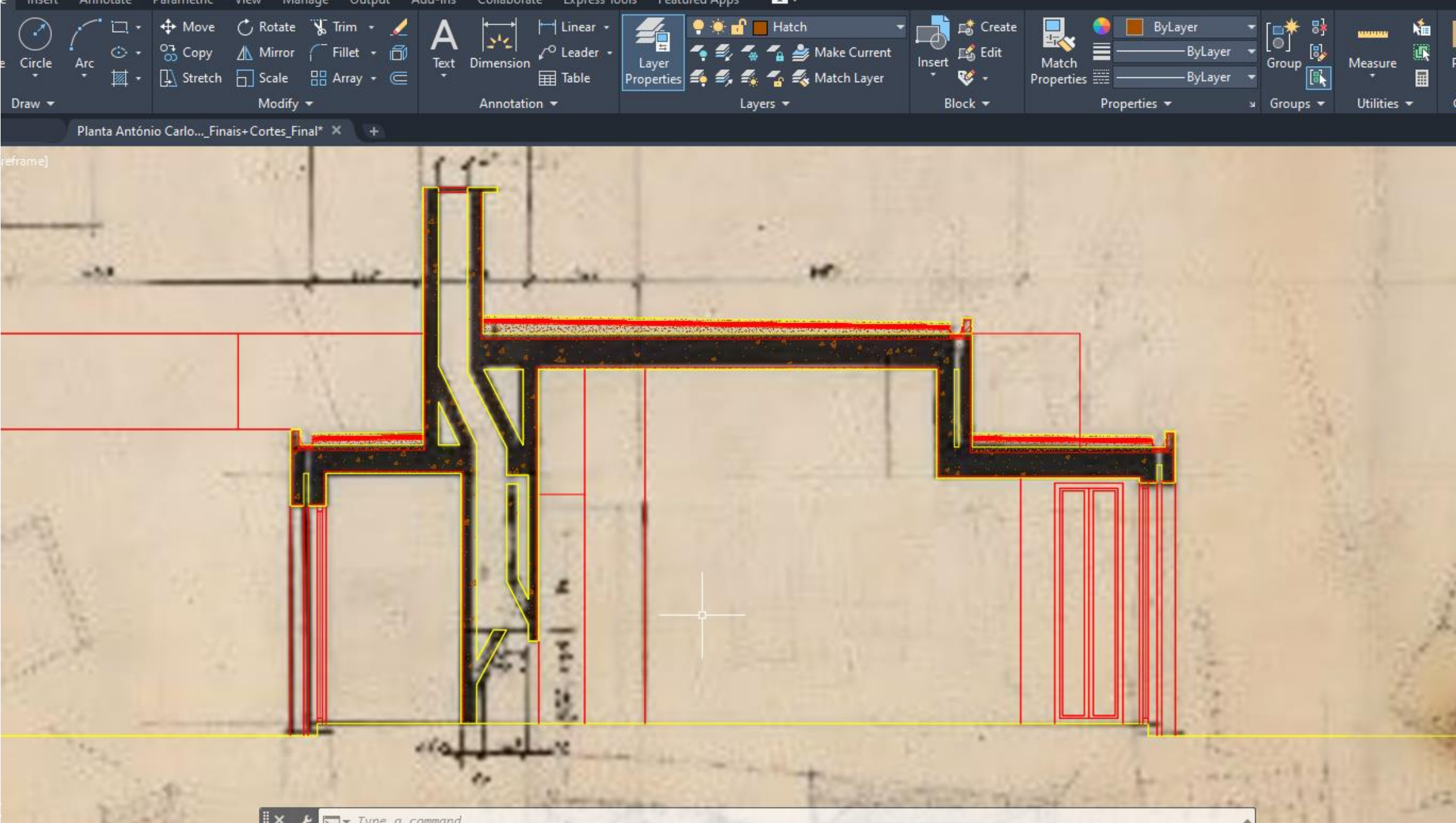
Edição do layout de impressão



Configuração das canetas de impressão

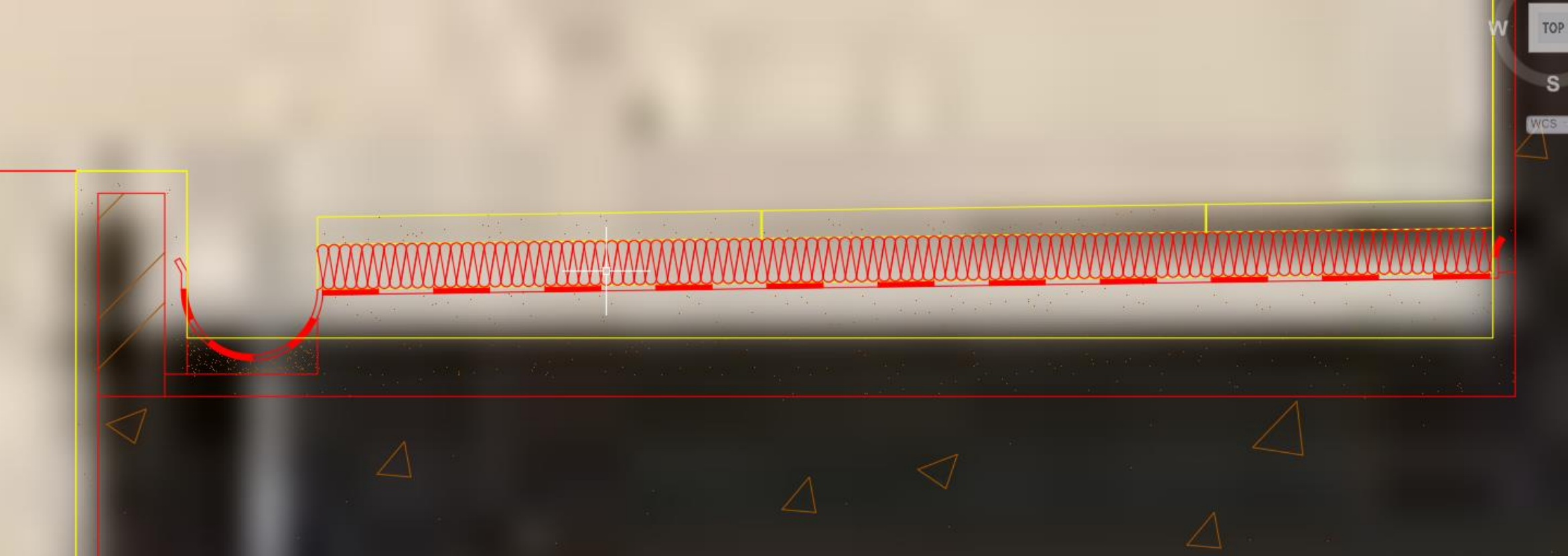


# Planta da Casa António Carlos Siza

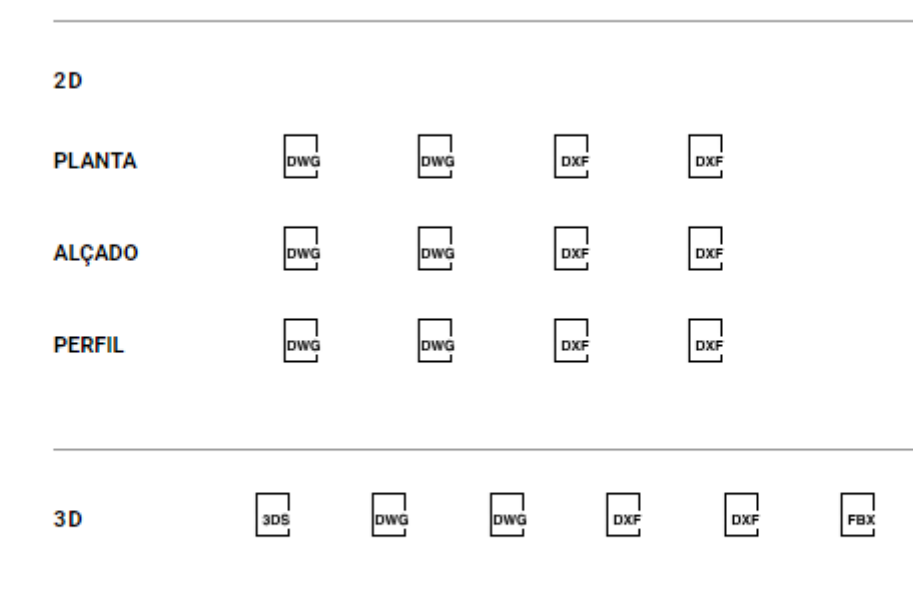
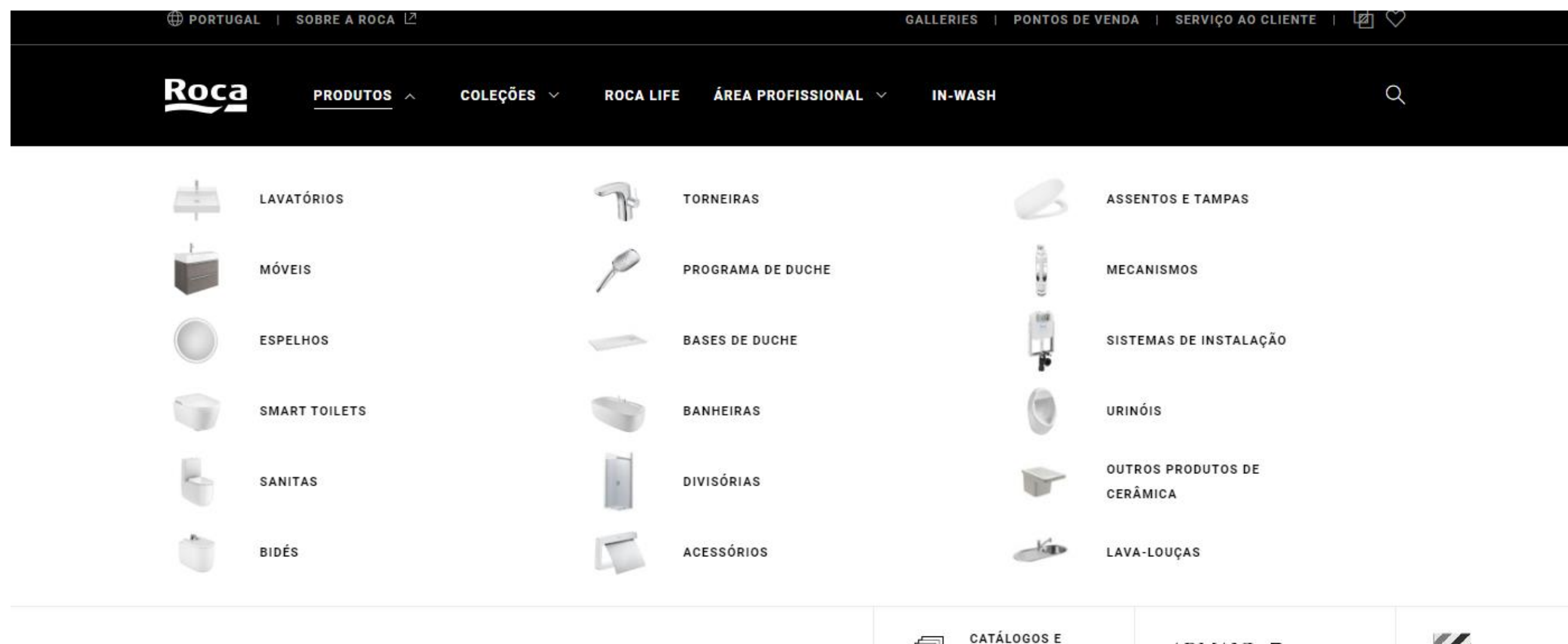


Representação do corte

# Pormenor de cobertura no Corte



# Onde e como ir buscar as representações dos móveis para a casa



DESCRIÇÃO CARACTERÍSTICAS INFORMAÇÃO TÉCNICA

← VOLTAR

← RESULTADO 1 DE 24 →

INÍCIO / PRODUTOS / LAVATÓRIOS / LAVATÓRIOS MURAIS

INSPIRA  
REF: A32752A000

**SQUARE - Lavatório mural com jogo de fixação**

MEDIDAS:  
1000 x 490 x 120 mm  
(COMPRIMENTO, LARGURA, ALTURA)

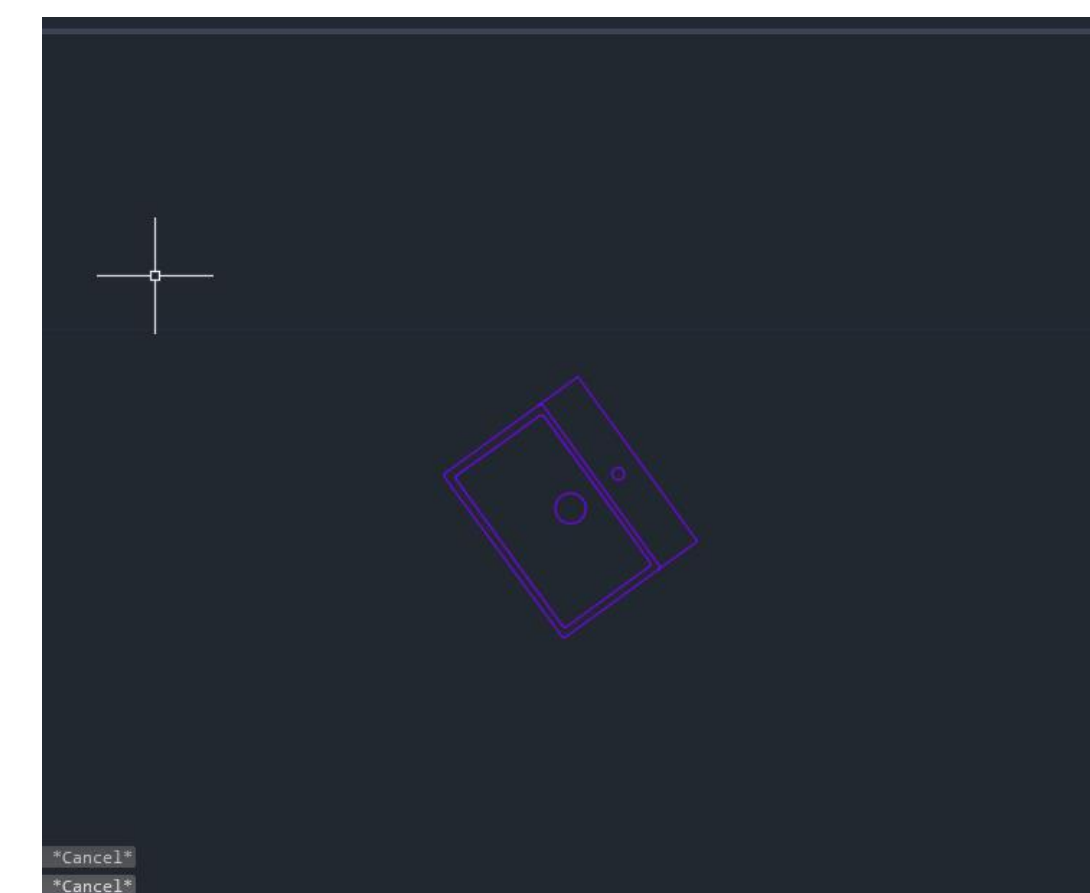
[FICHA DE PRODUTO \(PDF\)](#)

[VER MEDIDAS COMPLETAS](#)

00 - BRANCO

ONDE COMPRAR

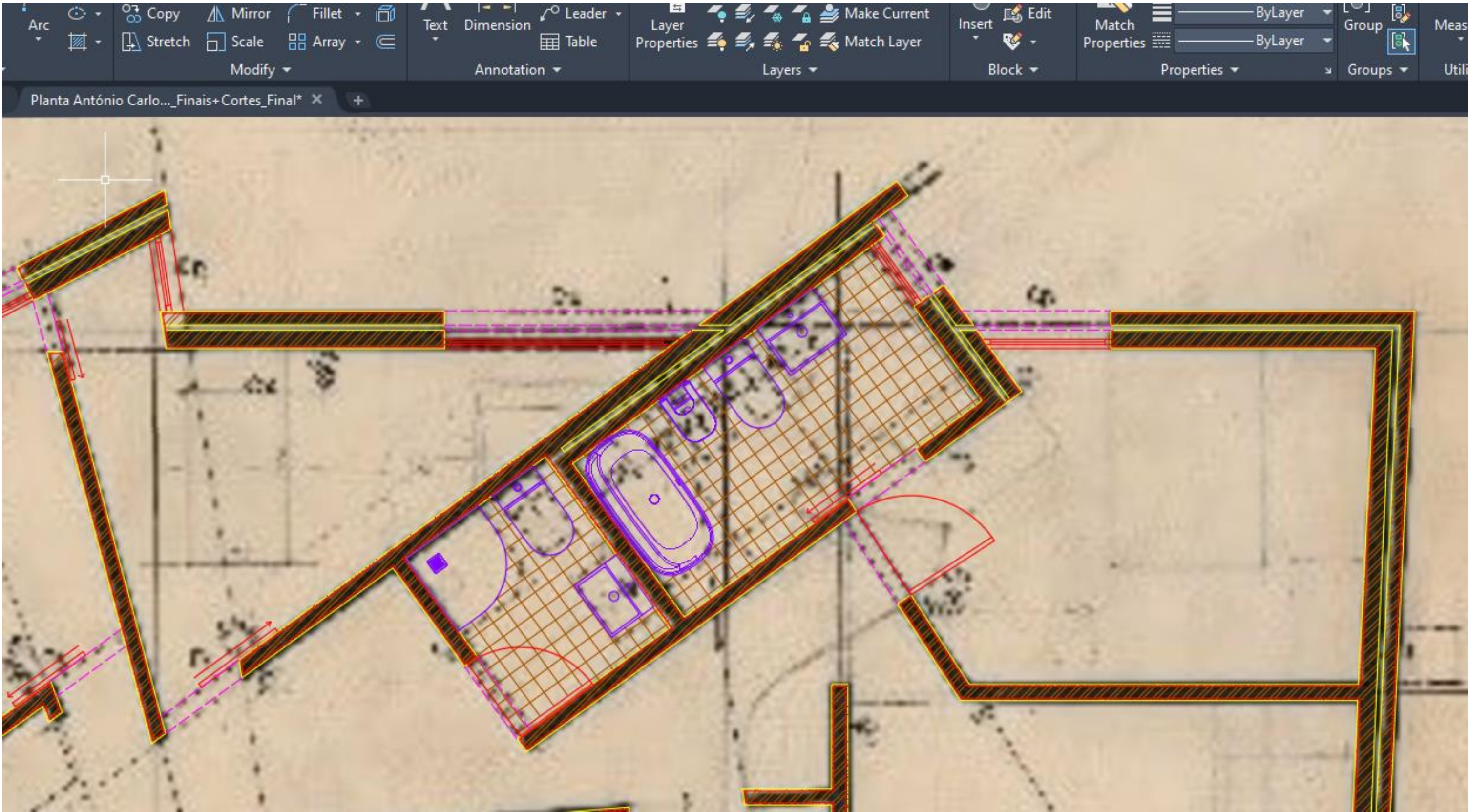
PRVP (sem IVA) 416,00 €



# ReDig

# Semana 6

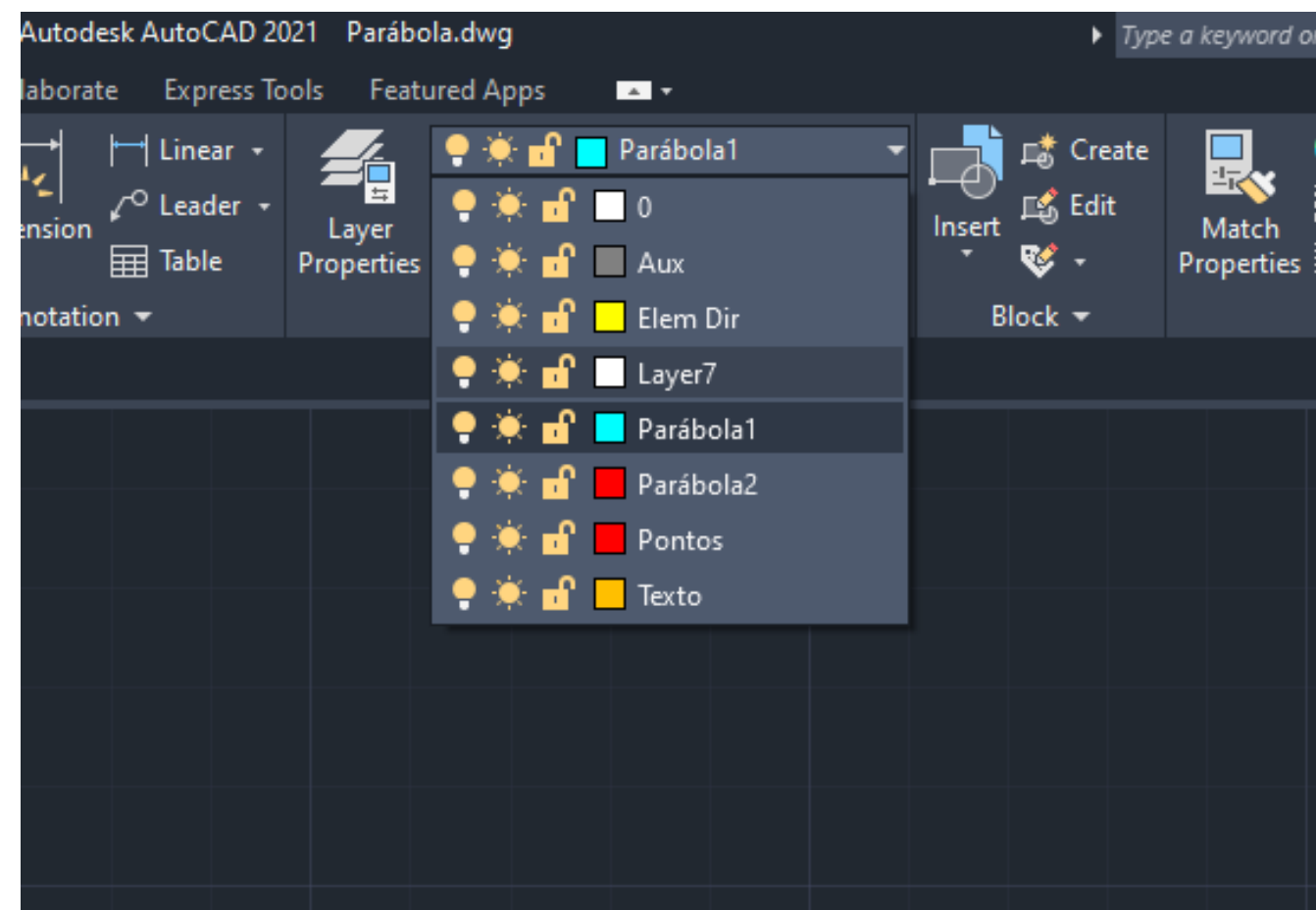
# Planta da Casa António Carlos Siza



ReDig

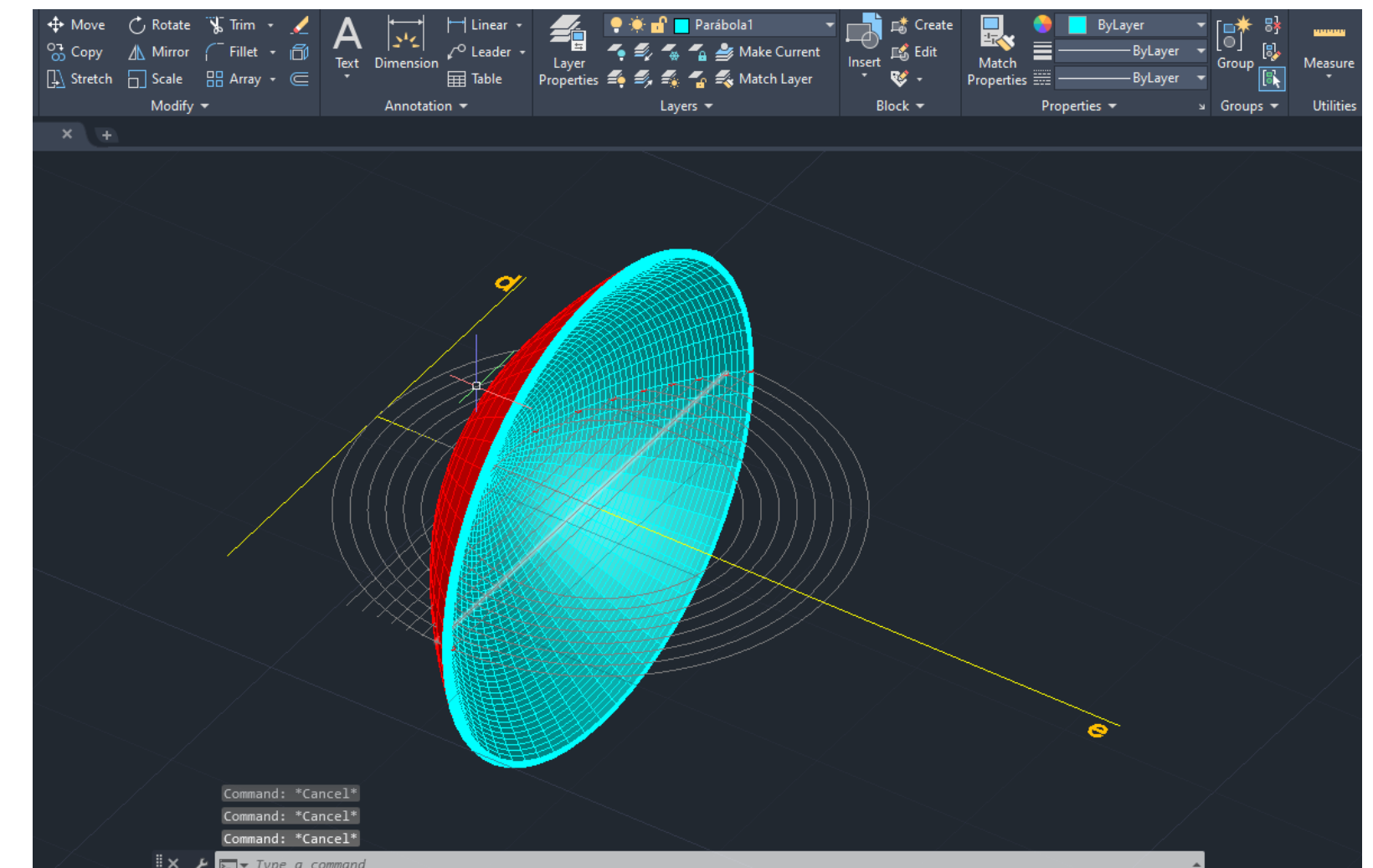
Semana 6

# Parábola

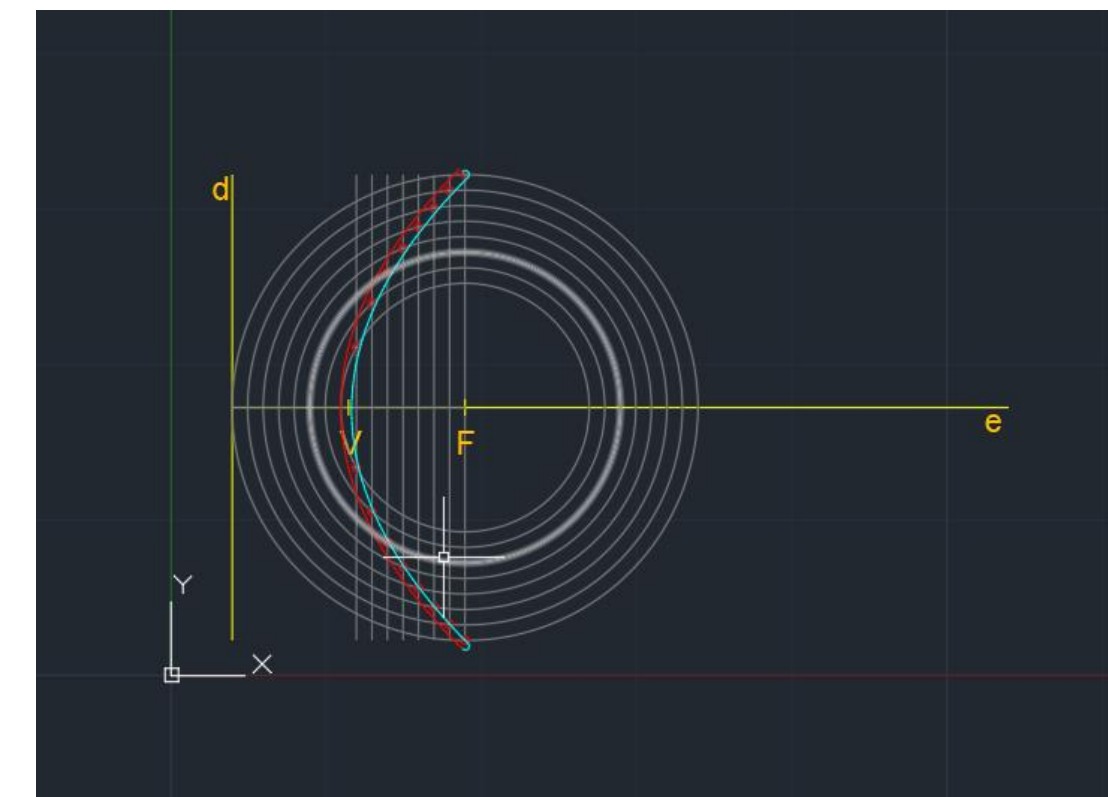
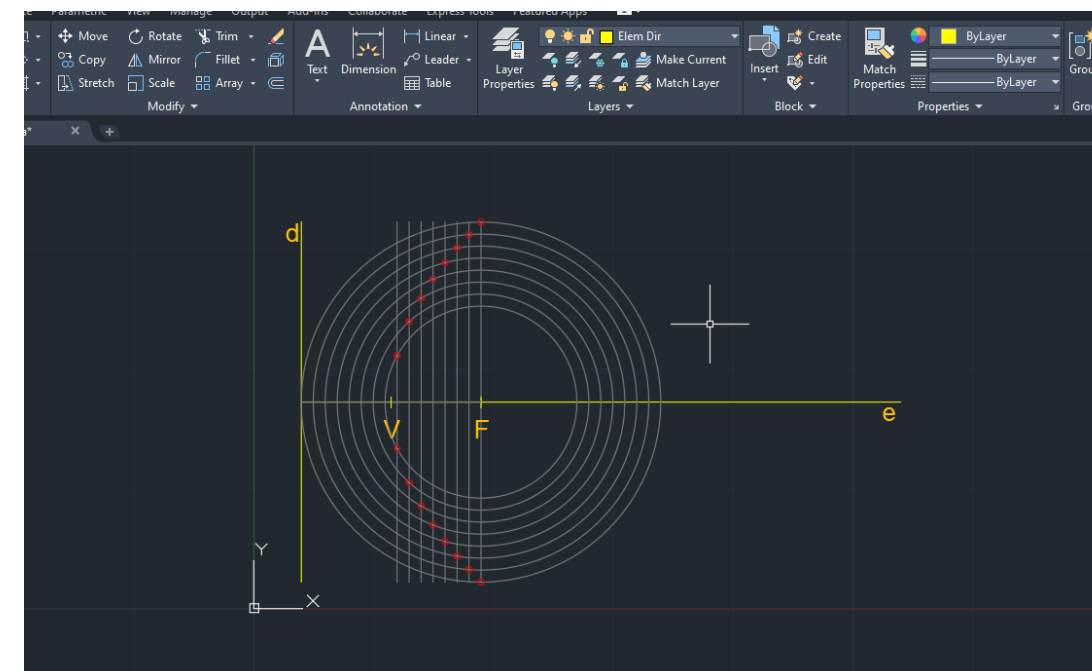
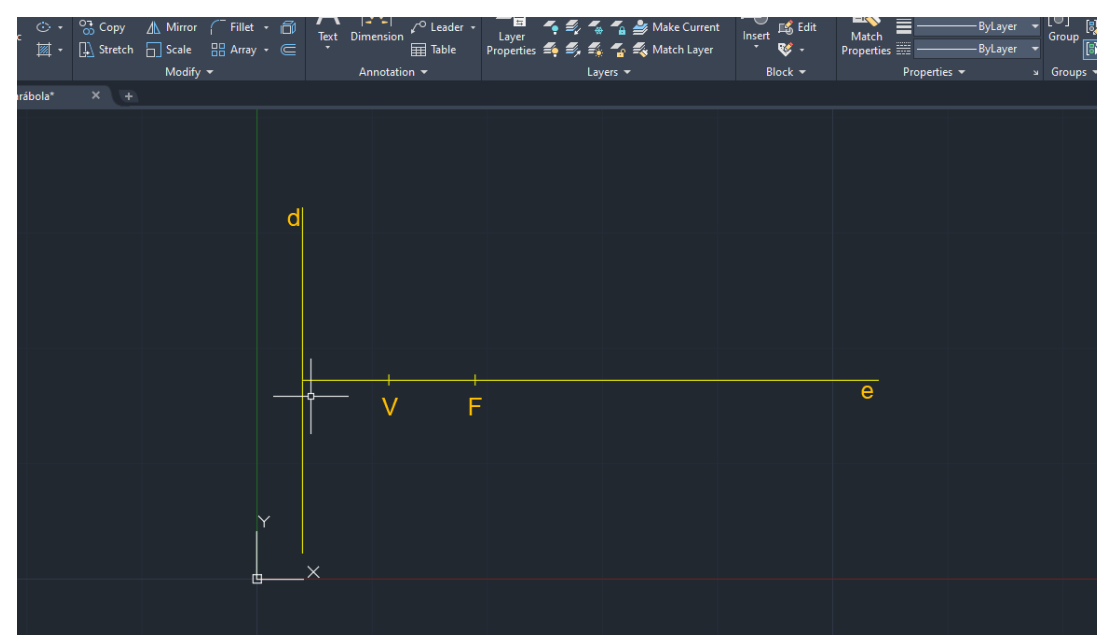


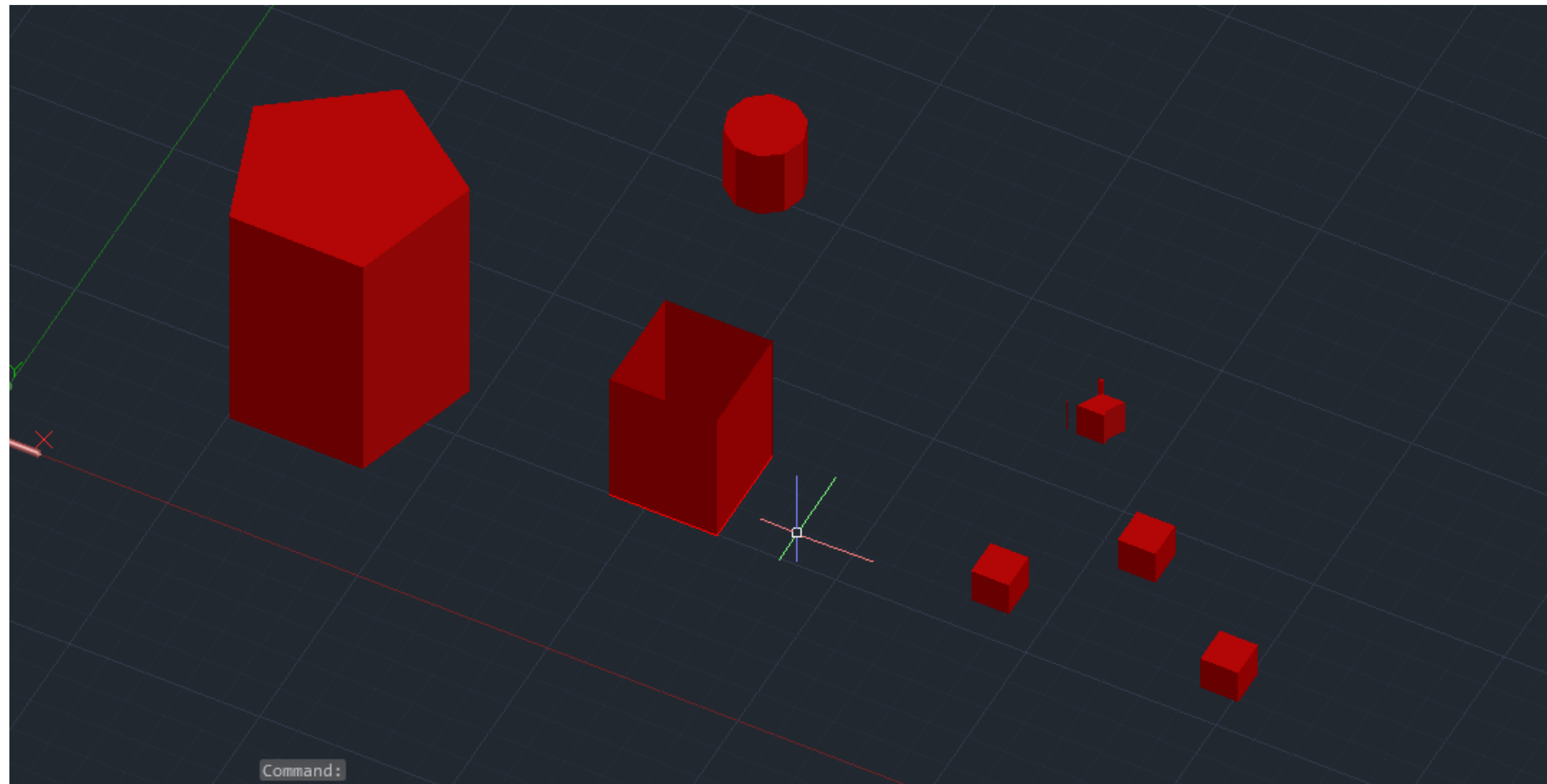
## Novos Comandos:

- Pedit
- Orbit
- RevSurf
- SurfTab 1
- SurfTab2
- Shade



## Criação de layers necessários

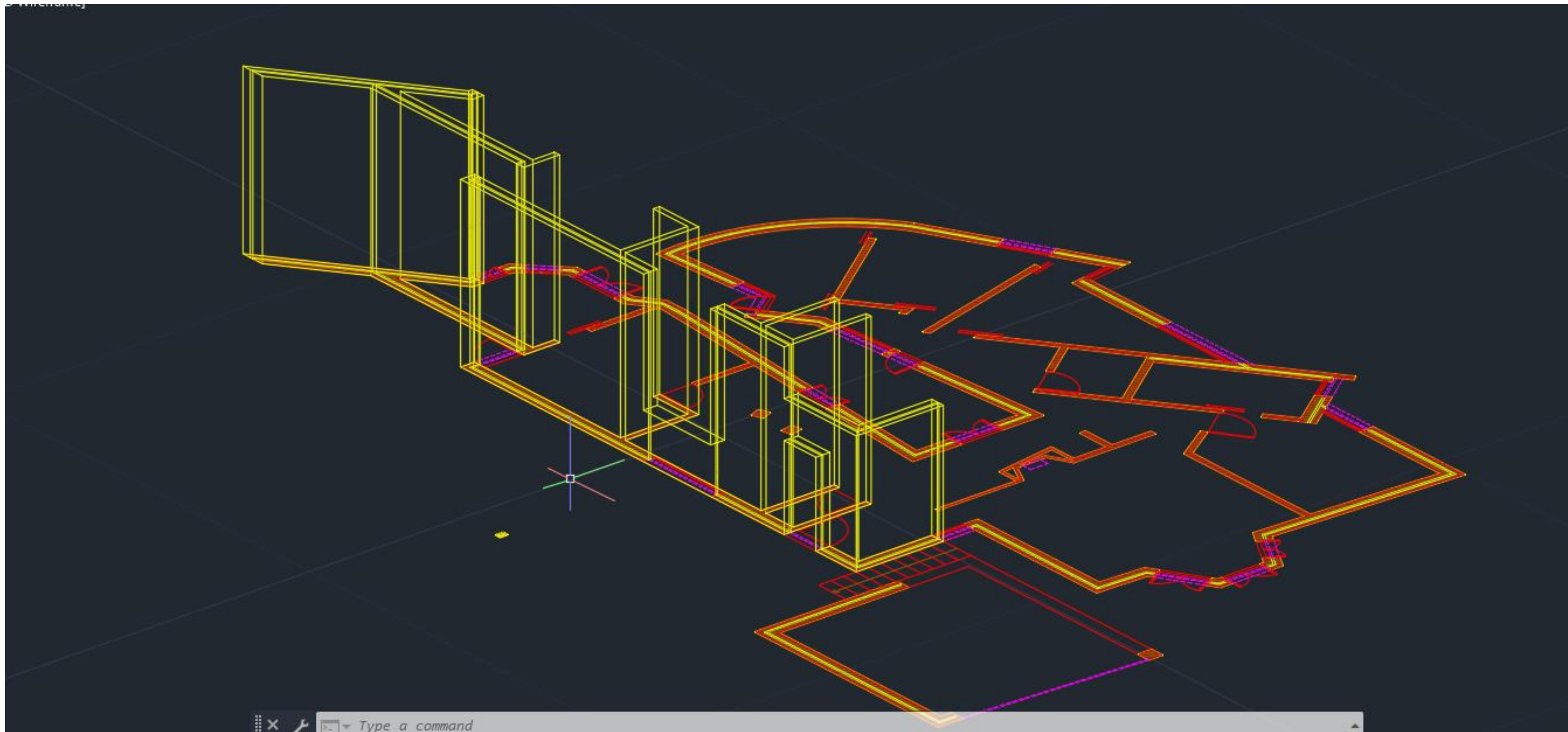




### Novos Comandos:

- Polygon
- Extrude
- Hidden
- Subtract
- Union
- Intersect

## Extrusão da planta do trabalho anterior



Realizar um modelo da casa em 3d

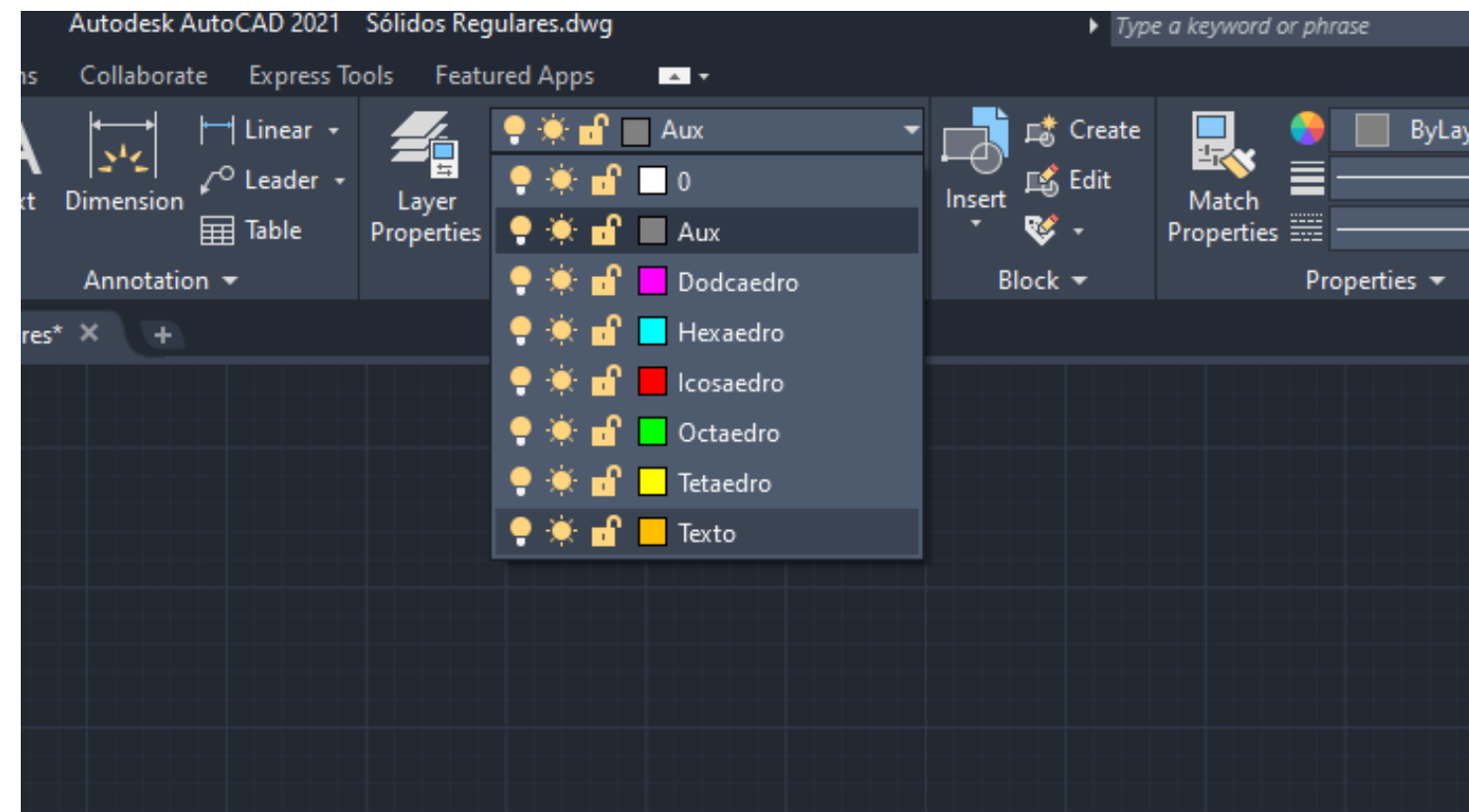
Extrusão das paredes

ReDig

Semana 7

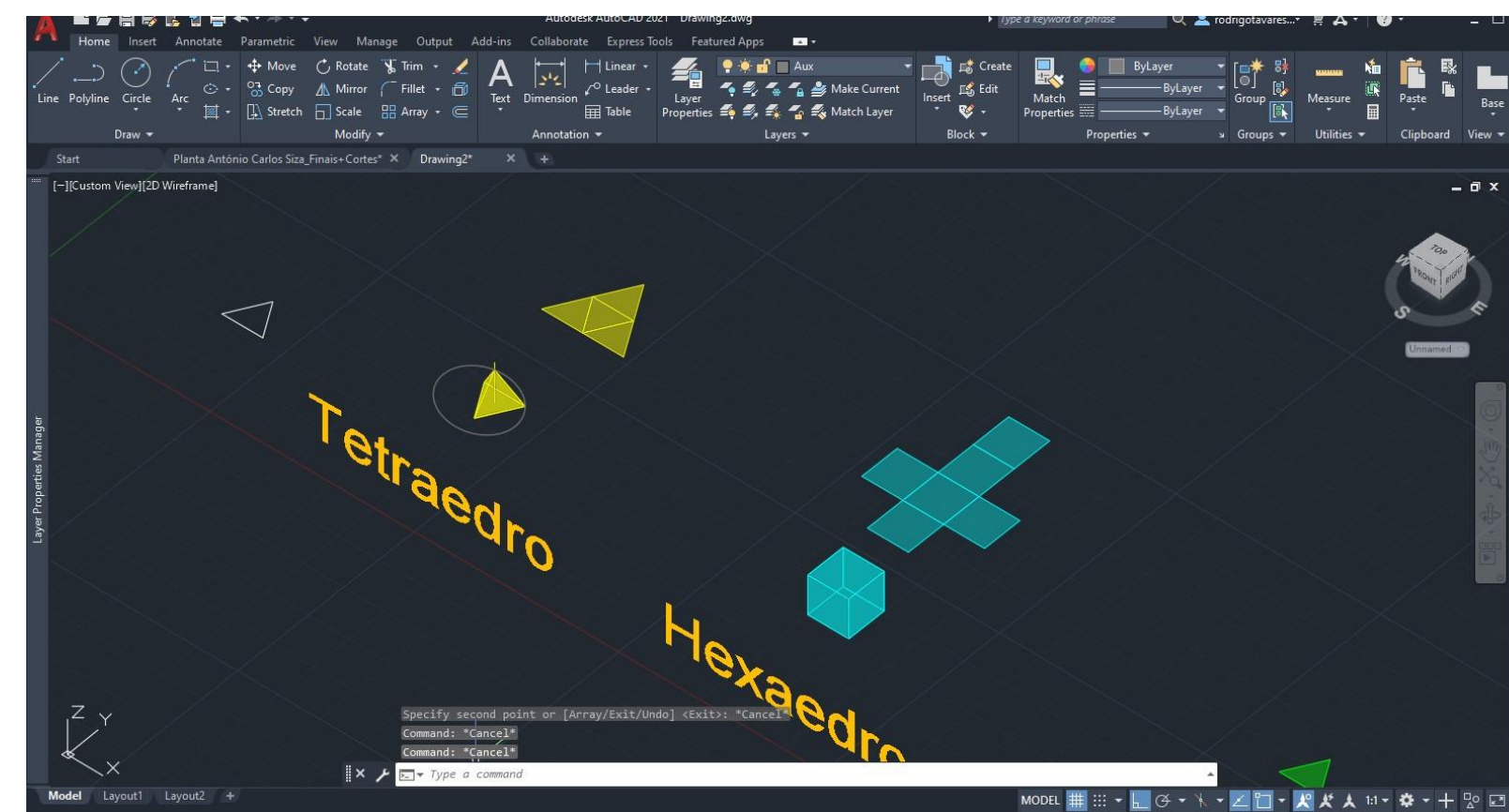


# Construção de Sólidos

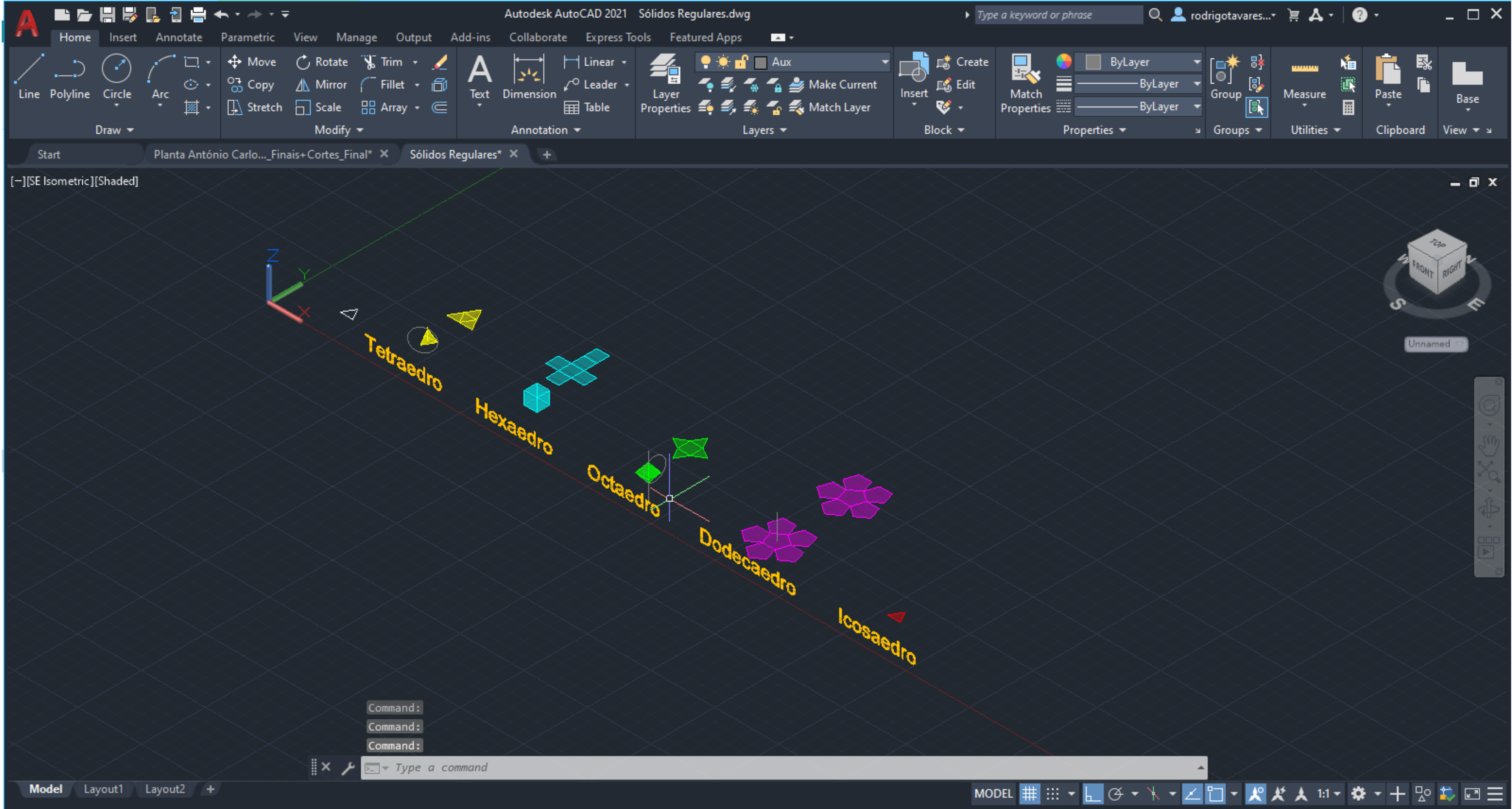


## Novos Comandos:

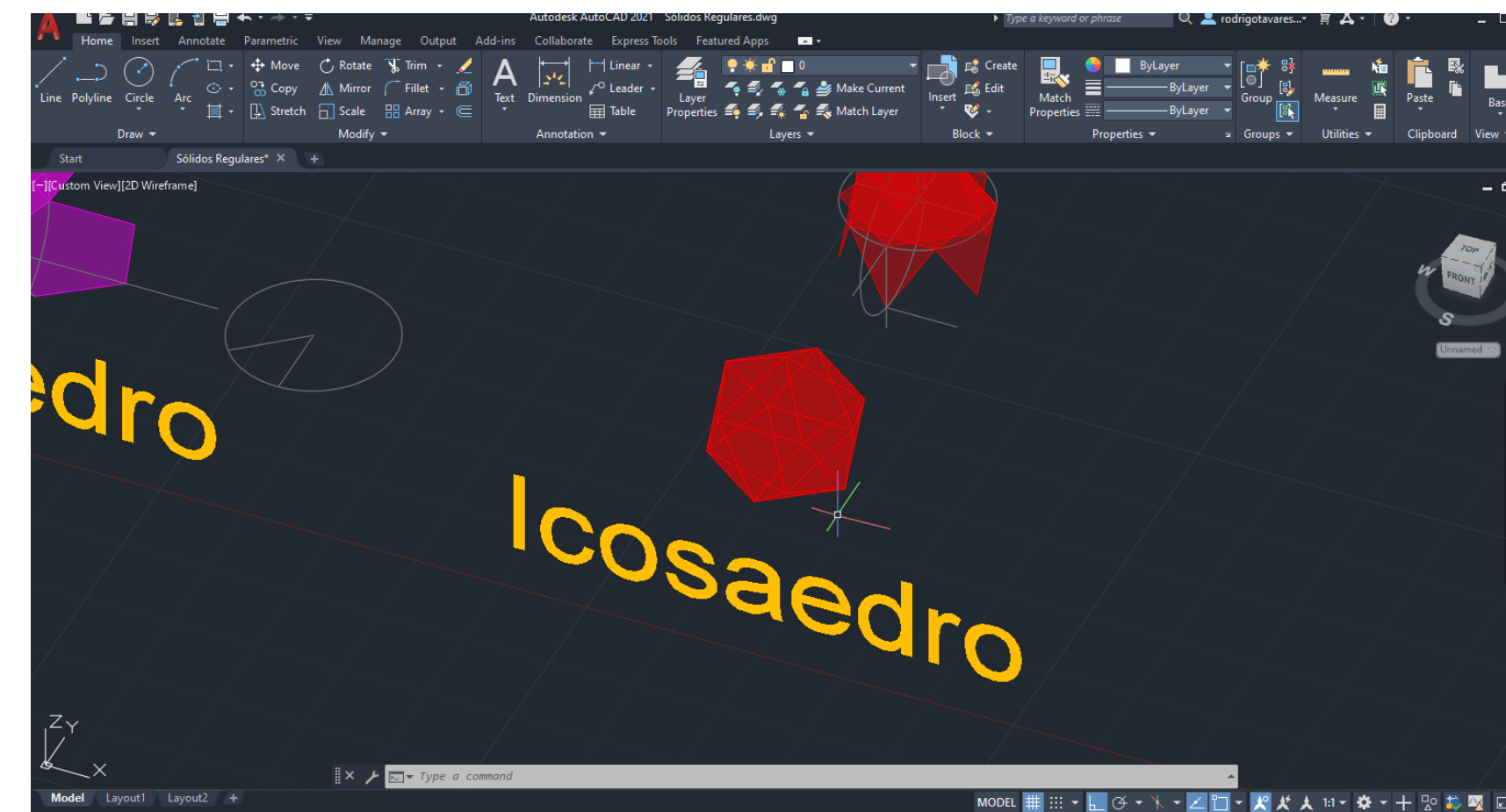
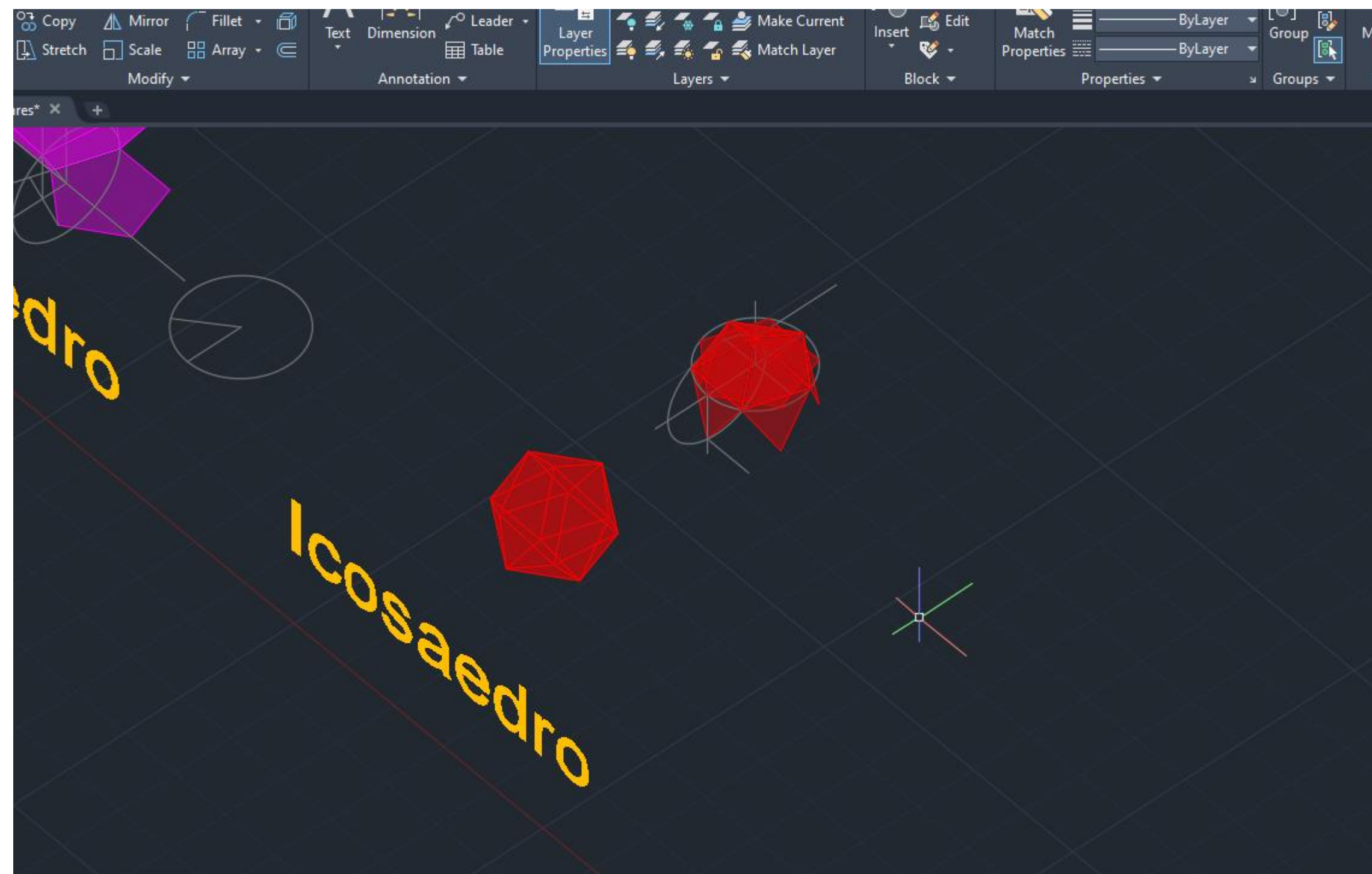
- 3DRotate
- Rotate3D
- Array



# Construção de Sólidos



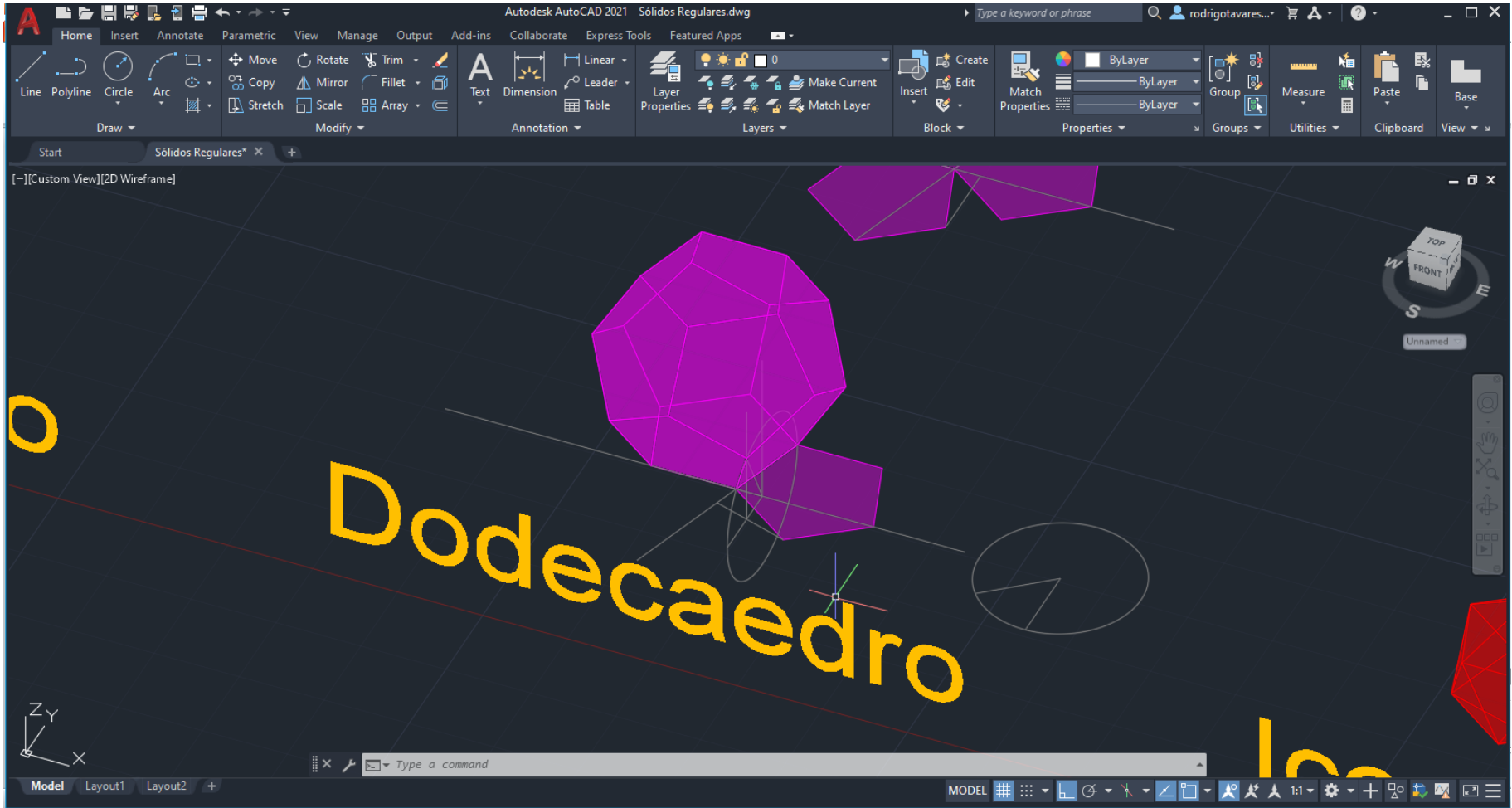
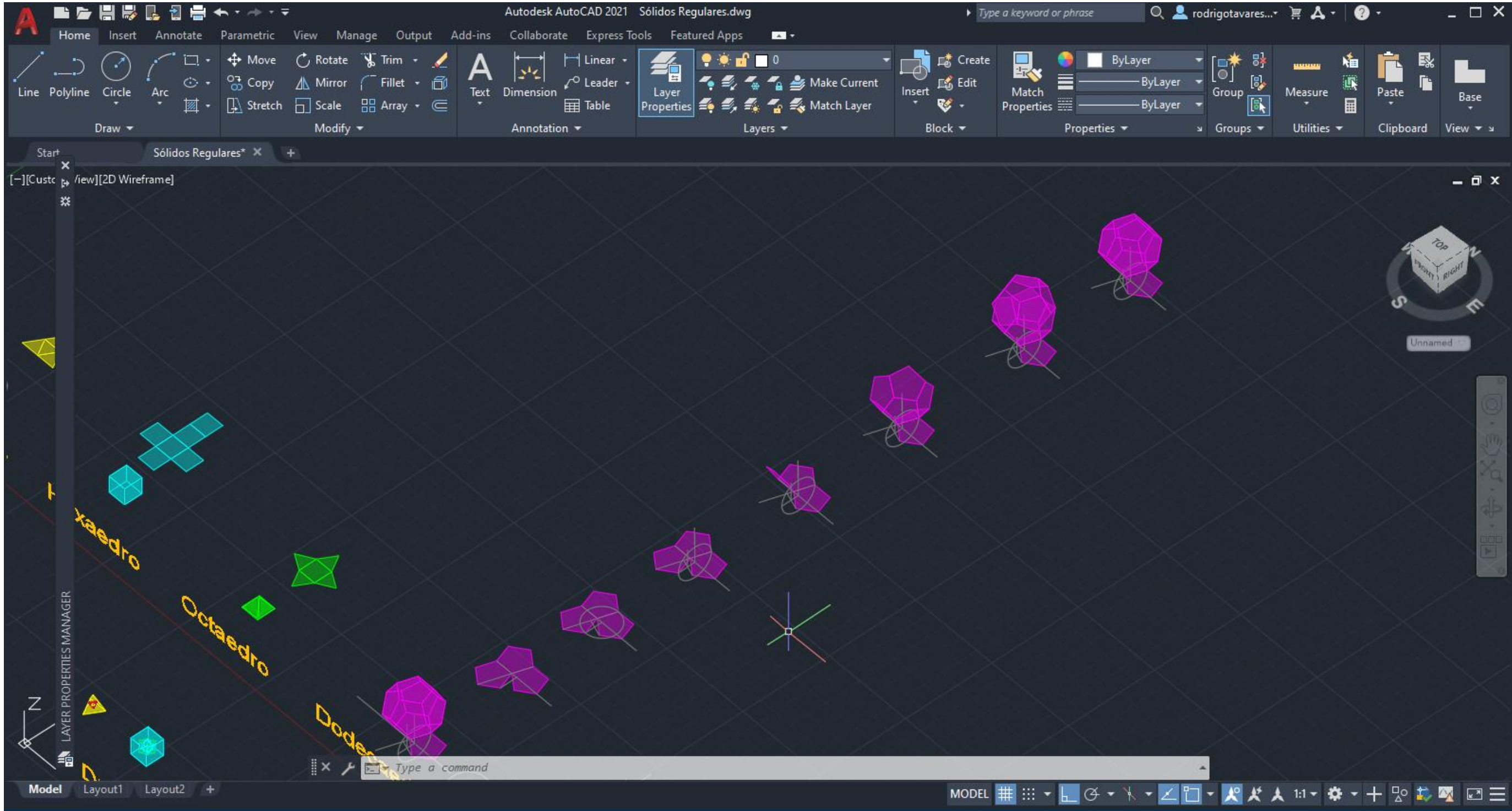
# Construção de Sólidos



## Comandos Novos:

- 3DMirror
- 3DArray

# Construção de Sólidos

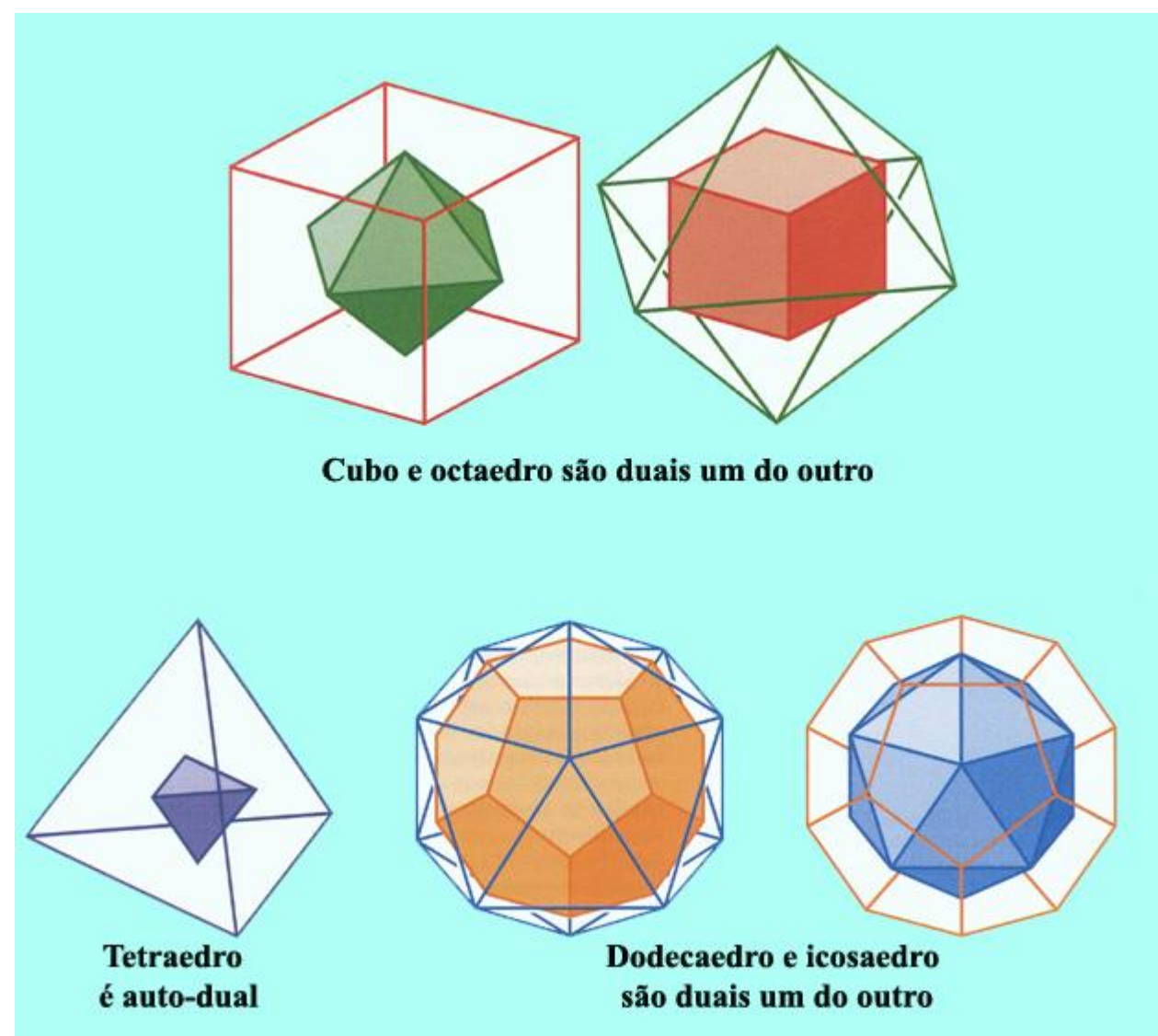


ReDig

Semana 9

## Construção de Sólidos

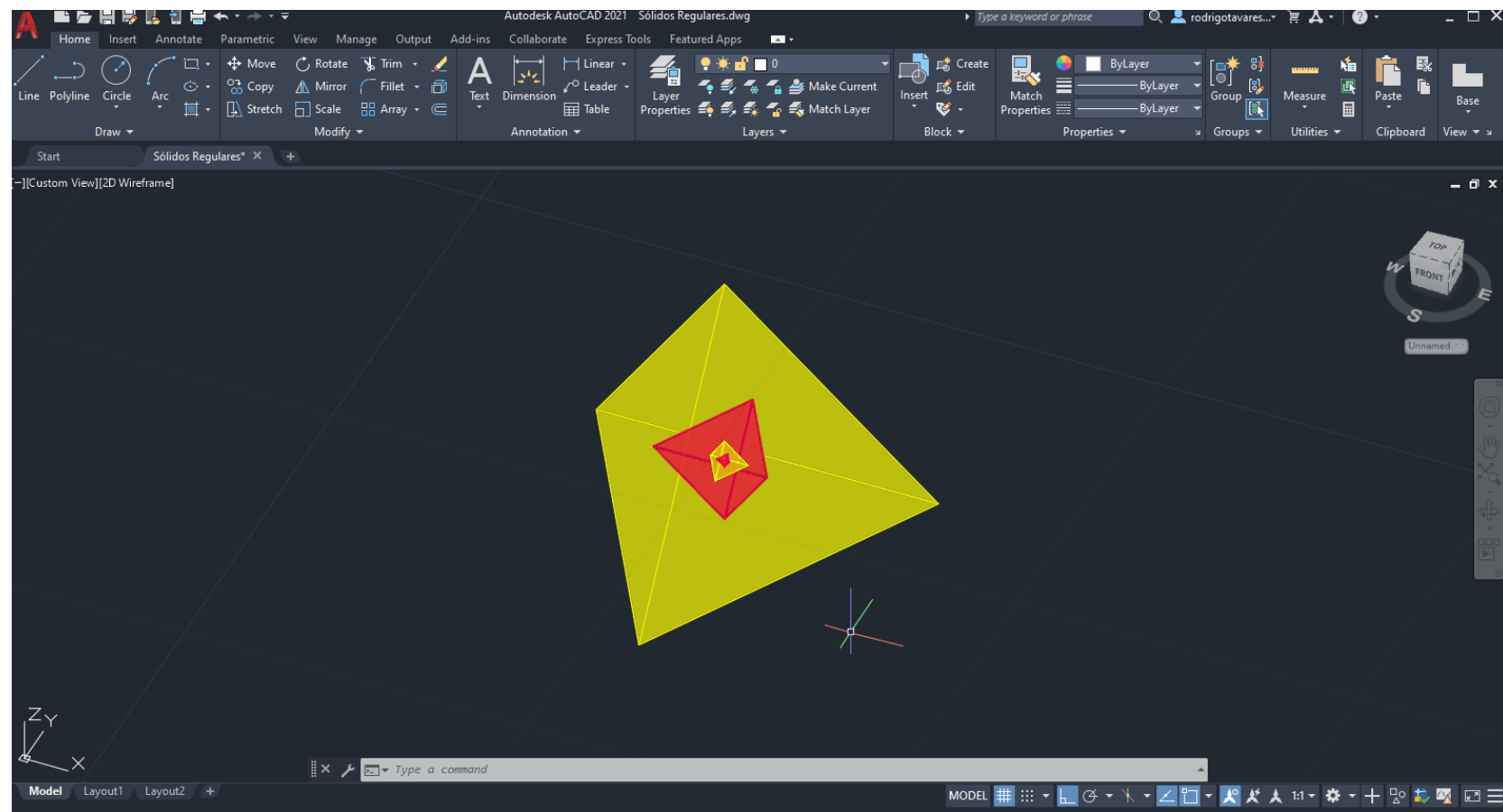
Com a construção dos sólidos foi colocada o exercício de coloca-los uns dentro dos outros, de forma a gerar os duais.



Nome	Imagem	Faces	Arestas	Vértices	Vértices por face	Encontros de faces em cada vértice	Configuração vértices	Grupo de Simetria
tetraedro		4	6	4	3	3	3.3.3	$T_d$
cubo (hexaedro)		6	12	8	4	3	4.4.4	$O_h$
octaedro		8	12	6	3	4	3.3.3.3	$O_h$
dodecaedro		12	30	20	5	3	5.5.5	$I_h$
icosaedro		20	30	12	3	5	3.3.3.3.3	$I_h$

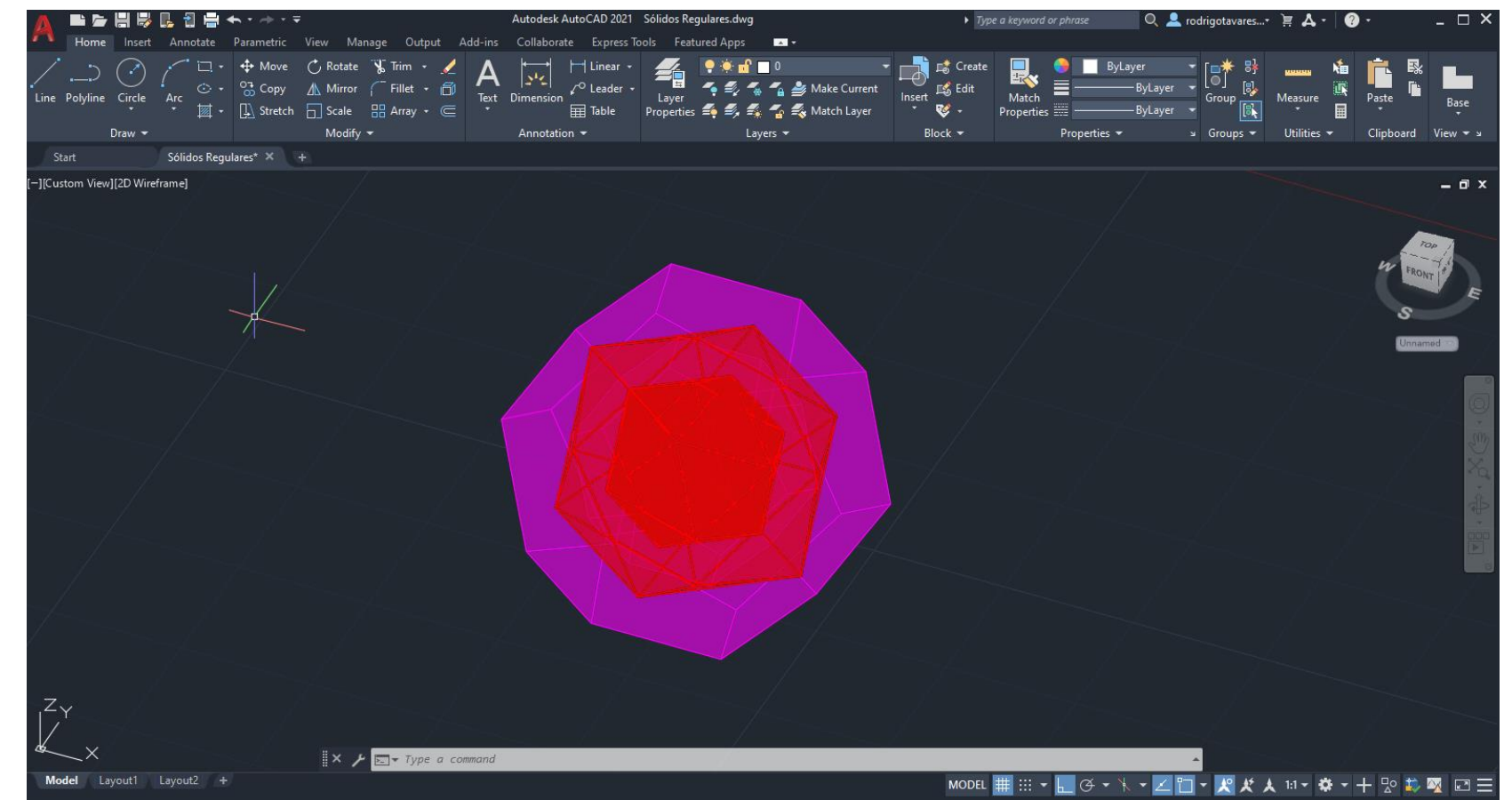
Fiz então uma pesquisa para descobrir quais seriam as relações entre os poliedros e percebi que existe uma relação entre os vértices e as faces de alguns poliedros

# Construção de Sólidos

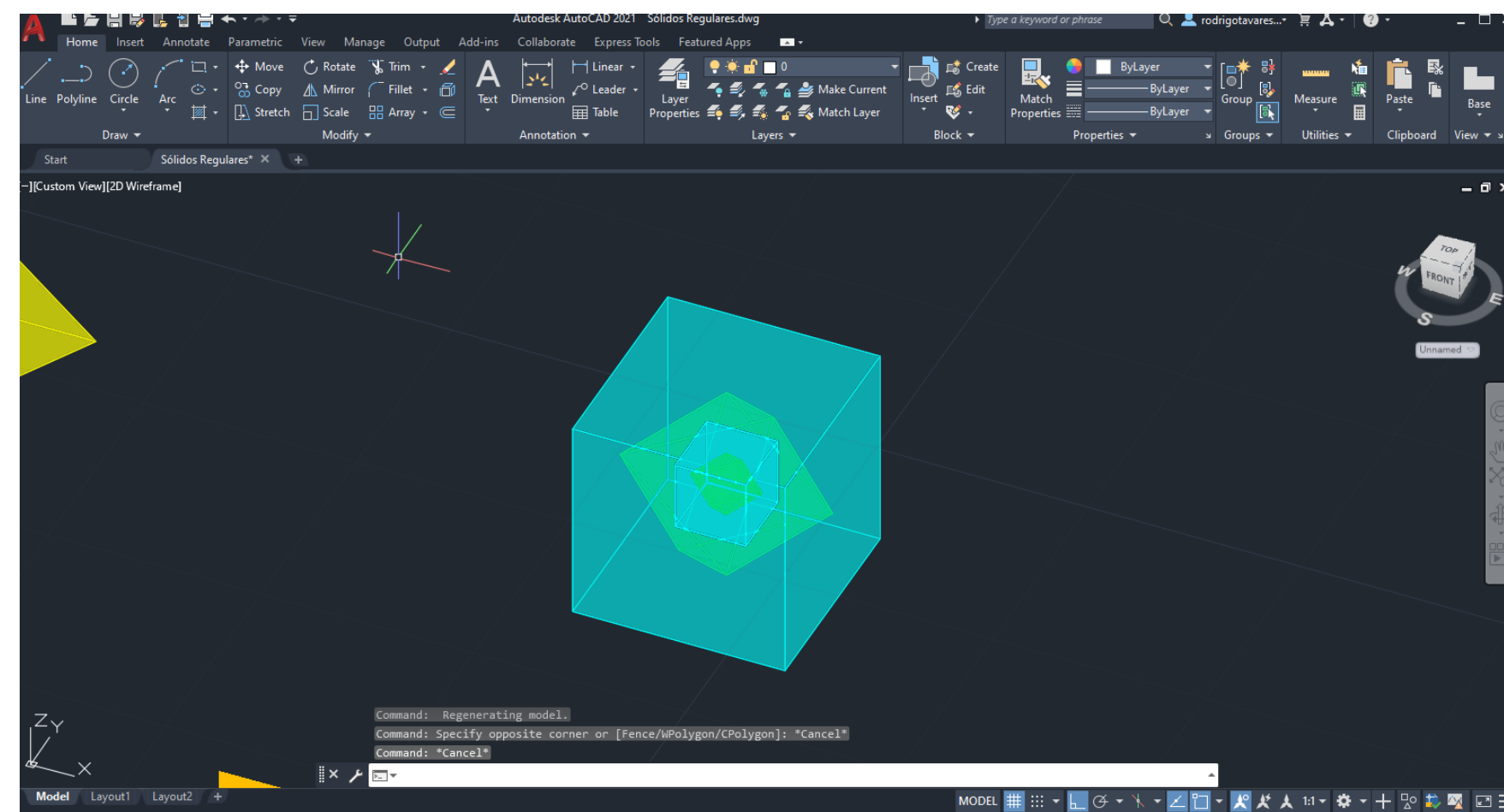


Dual Tetraedro

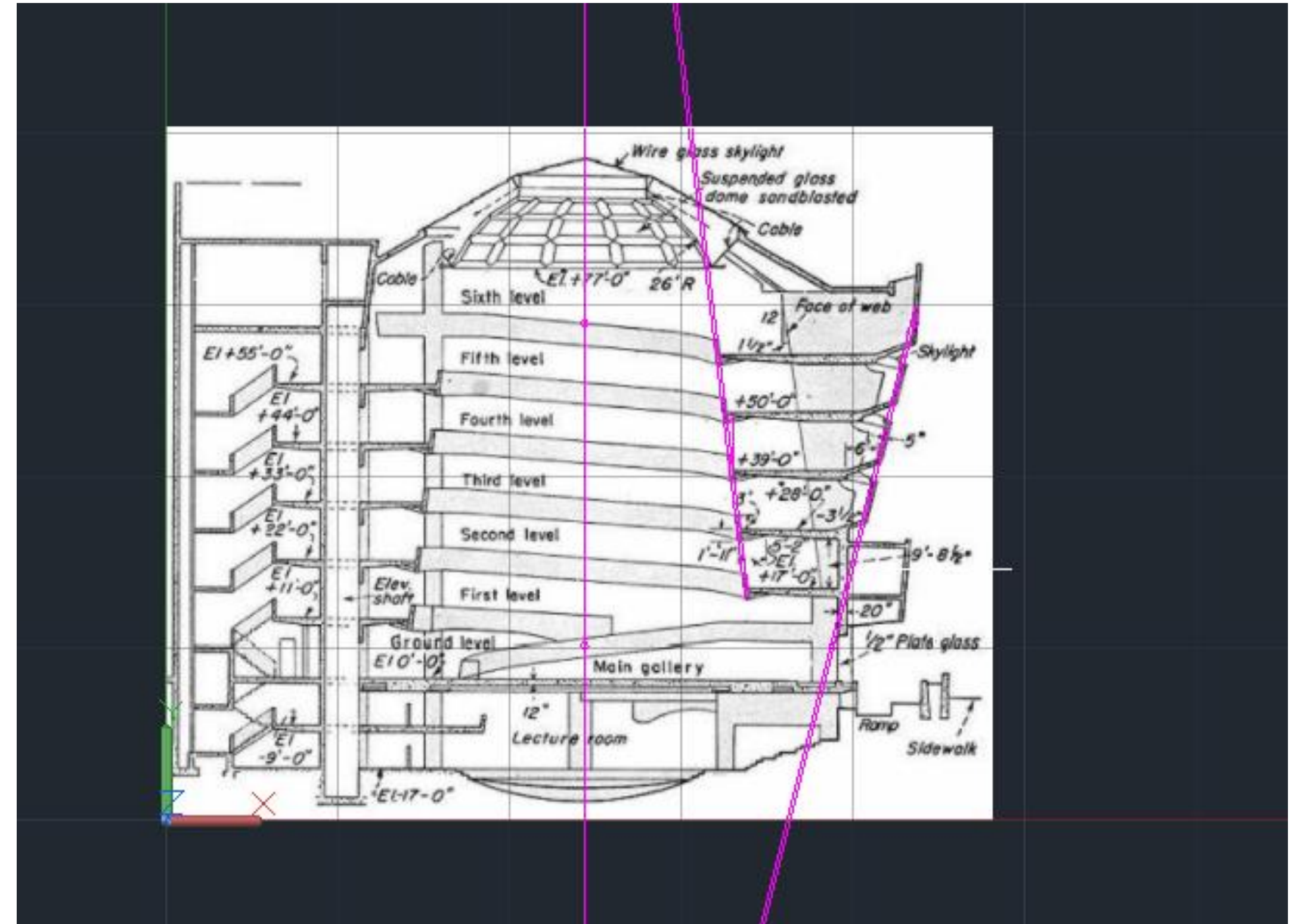
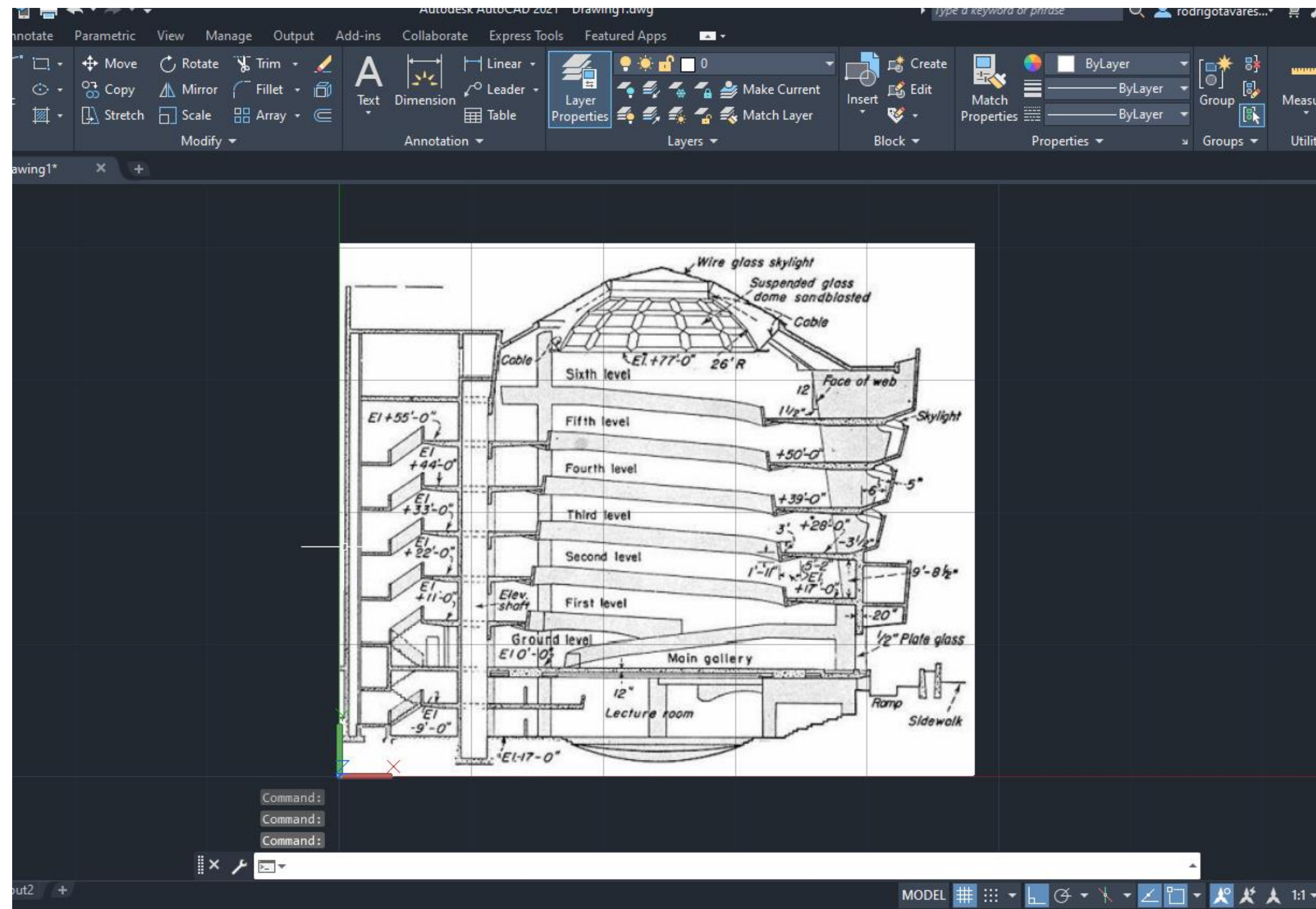
Dual Hexaedro/Octaedro



Dual Dodecaedro/Icosaedro



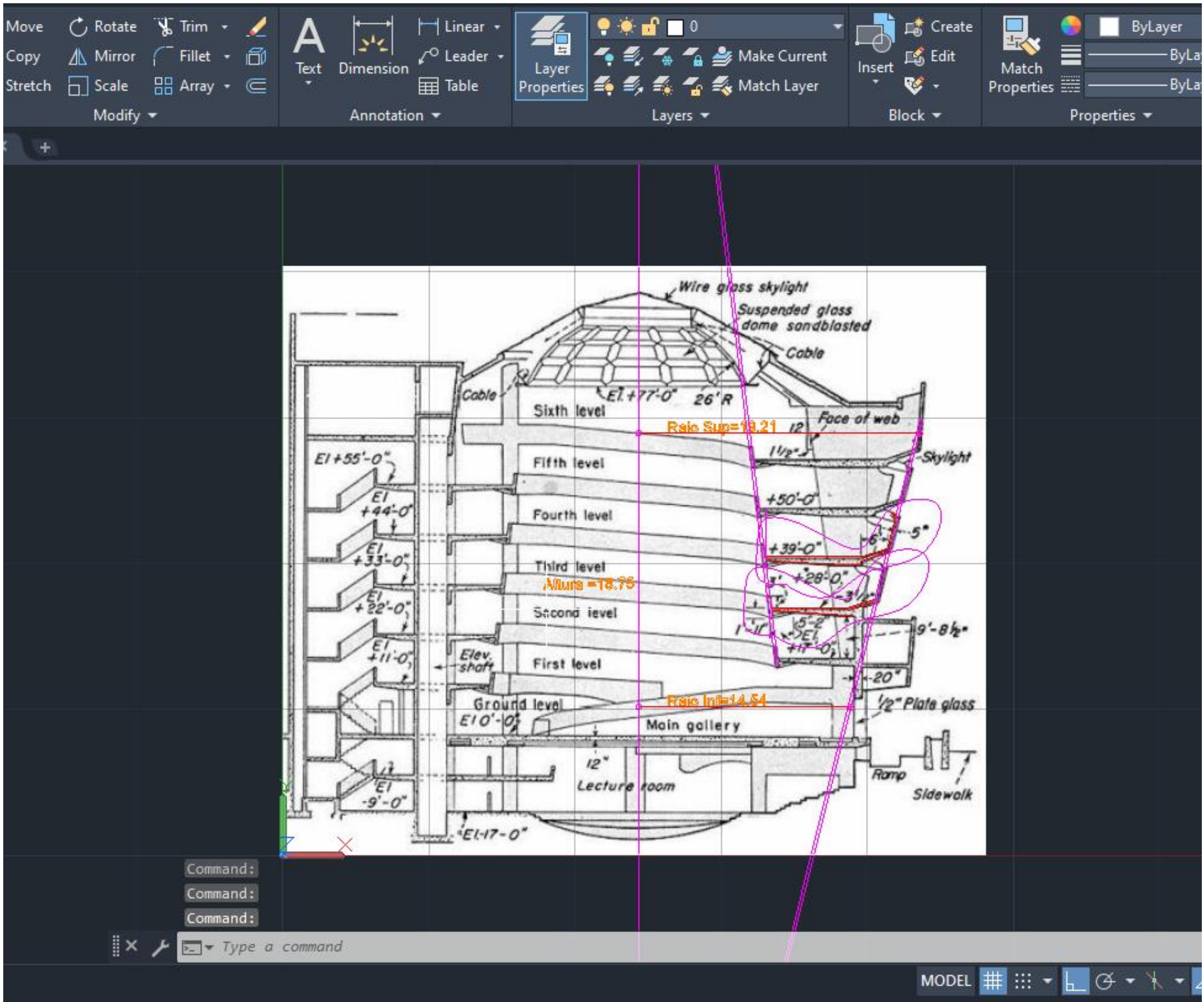
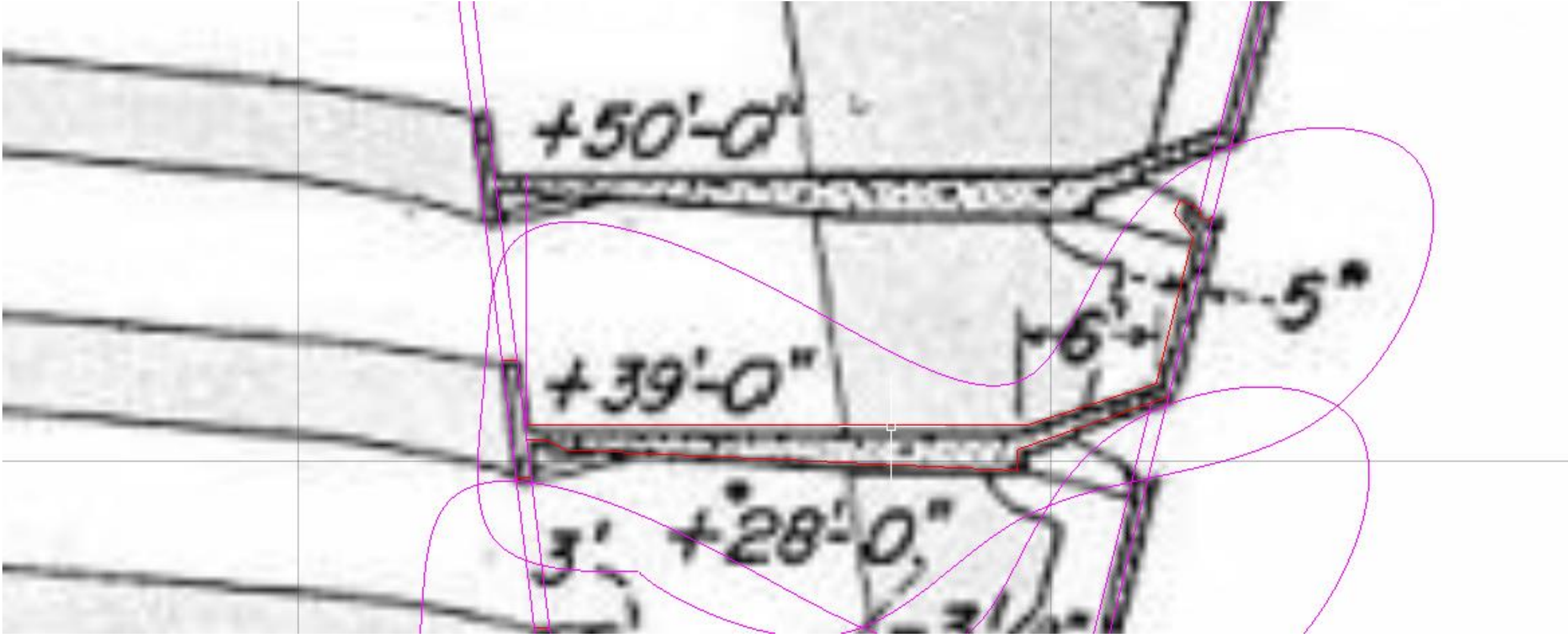
# Corte Guggenheim



ReDig

Semana 10

# Corte Guggenheim

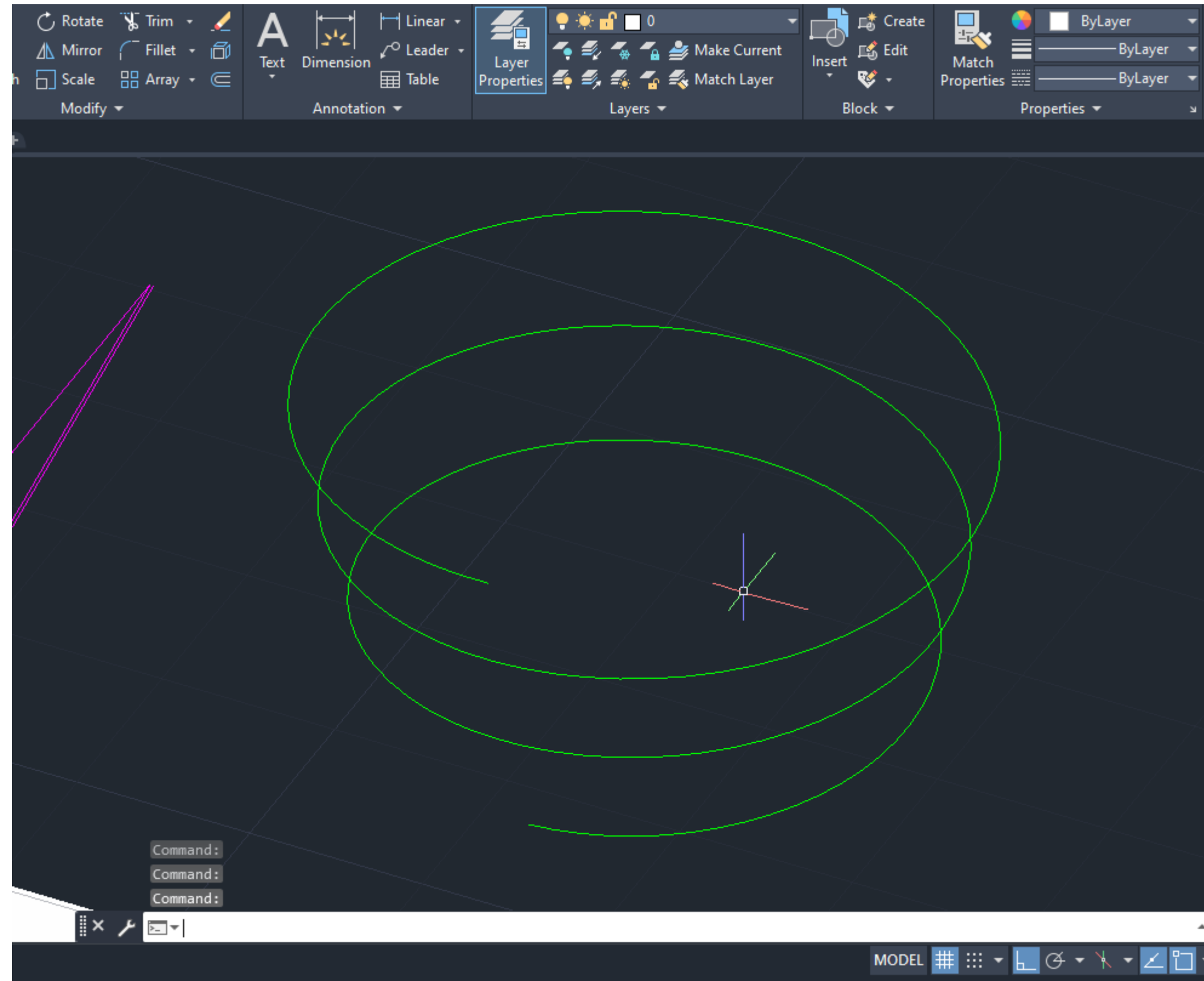


ReDig

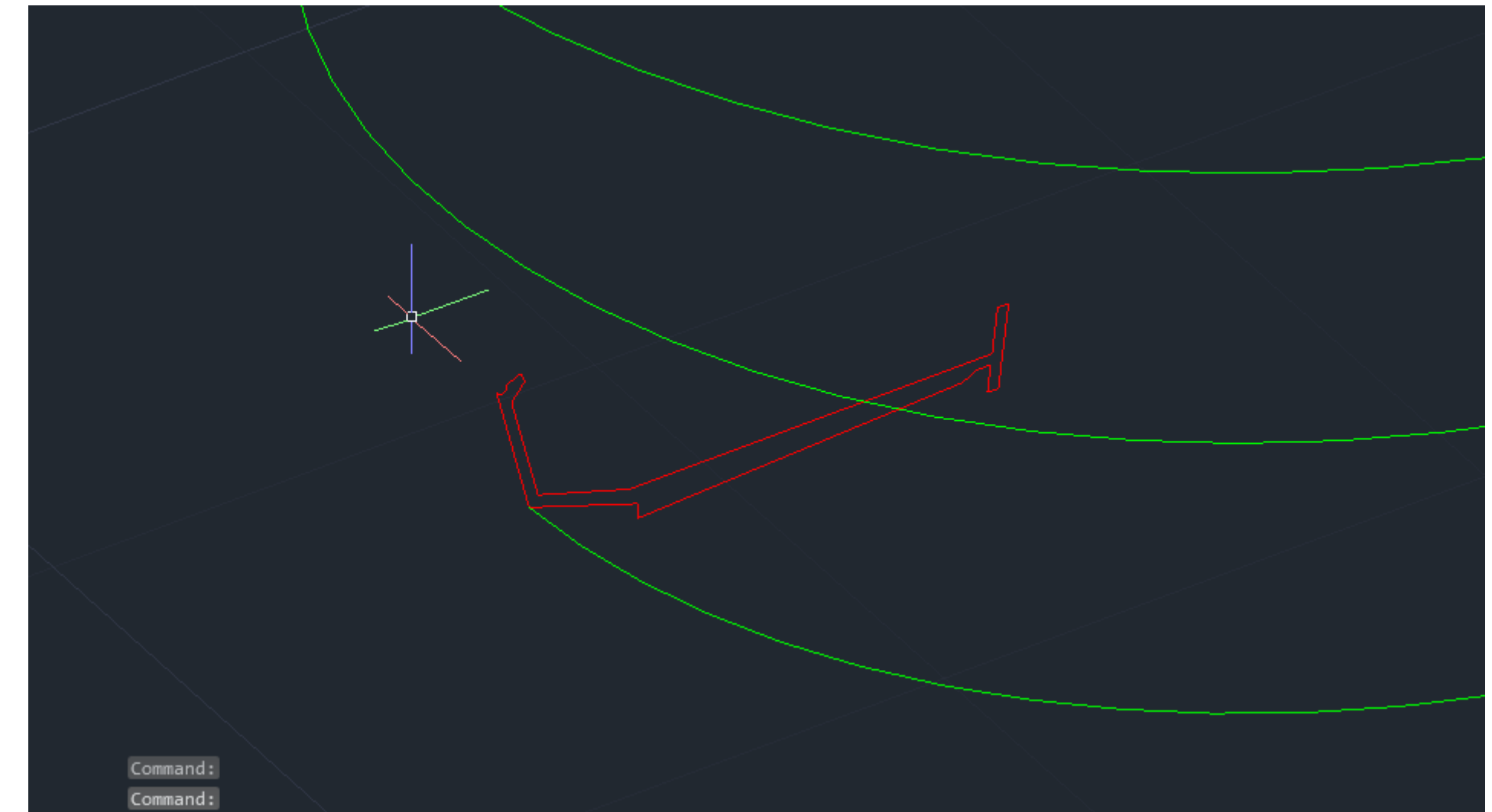
Semana 10



# Corte Guggenheim



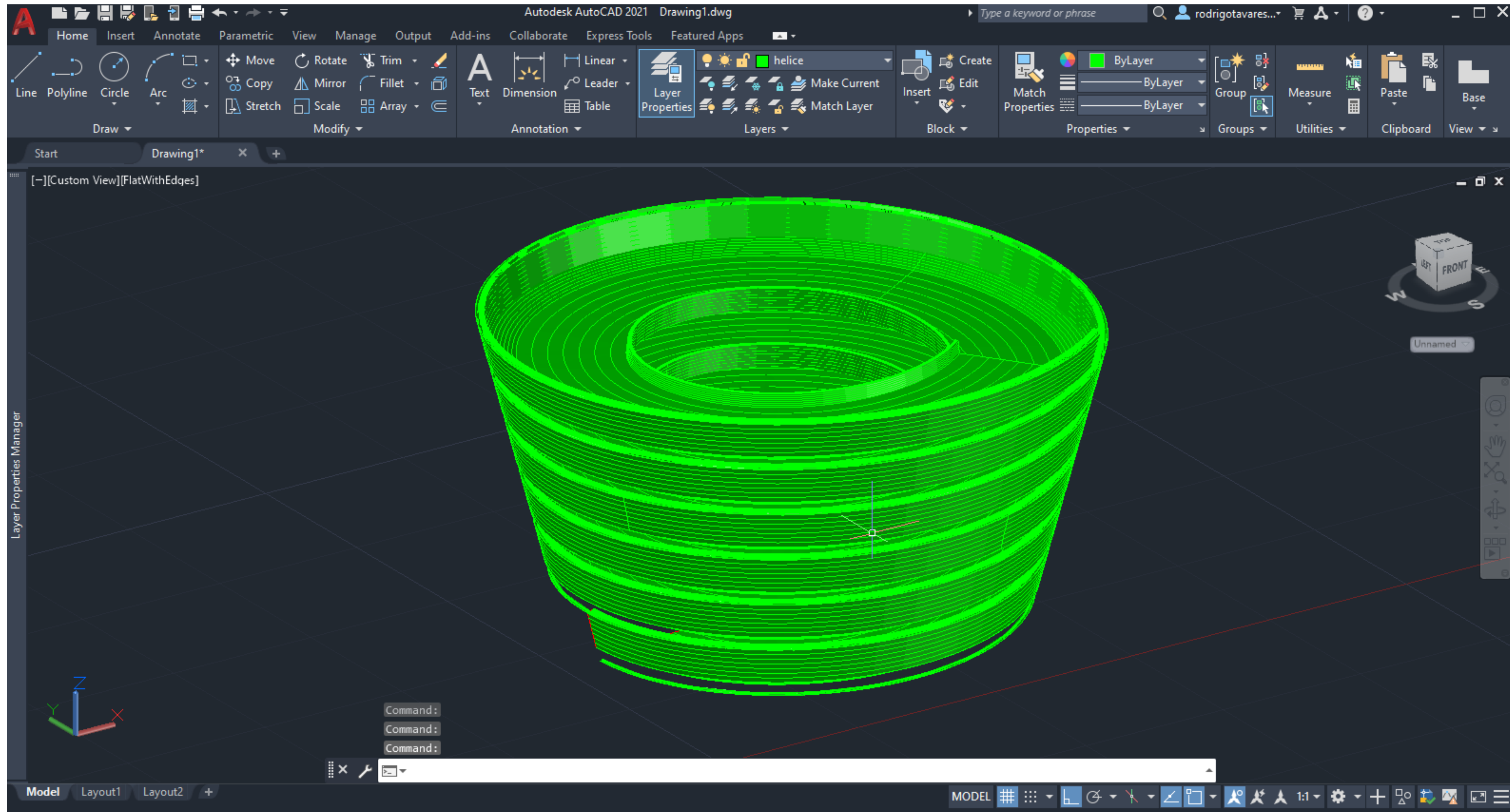
Comando: HELIX



ReDig

Semana 10

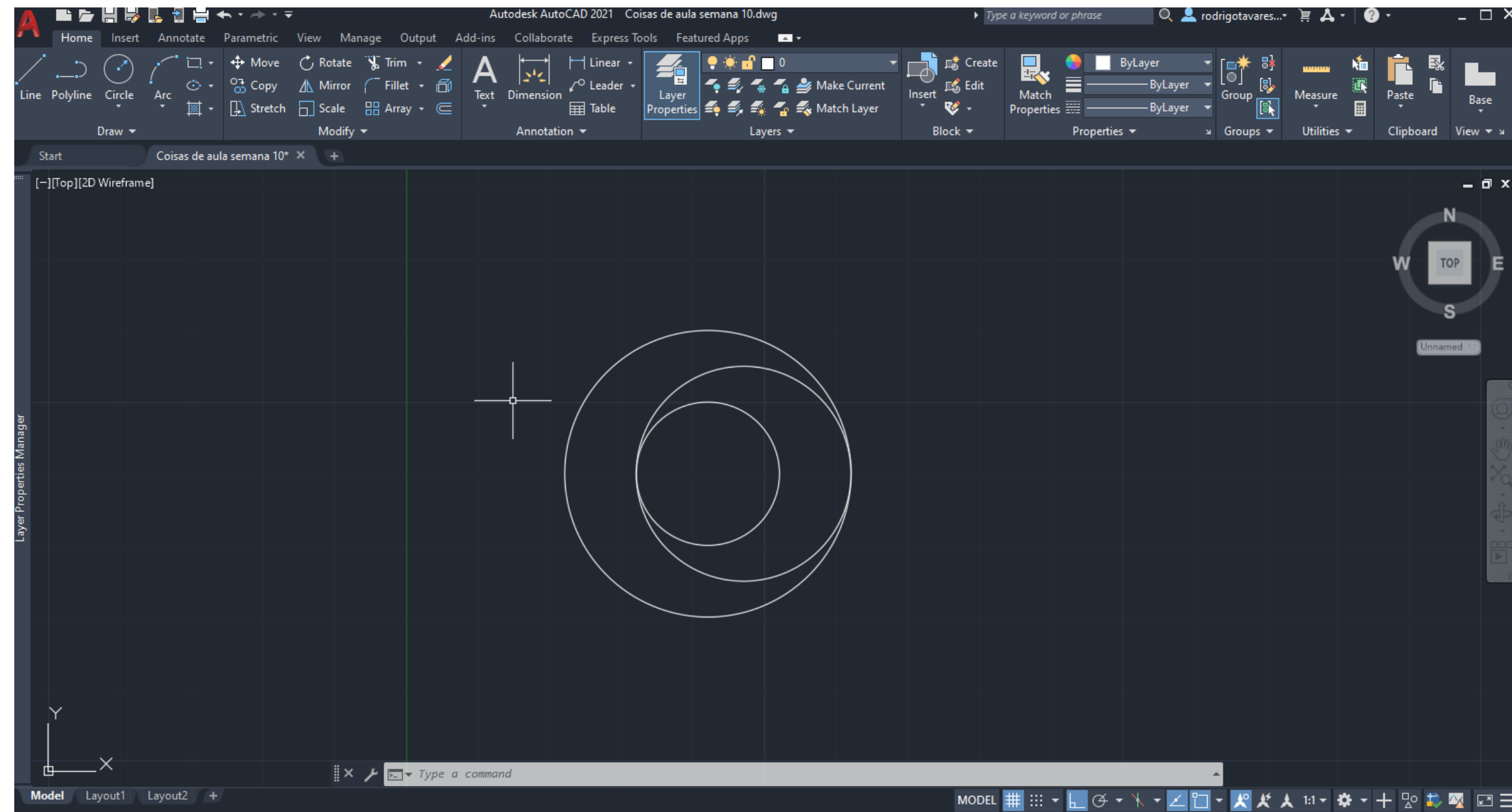
# Corte Guggenheim



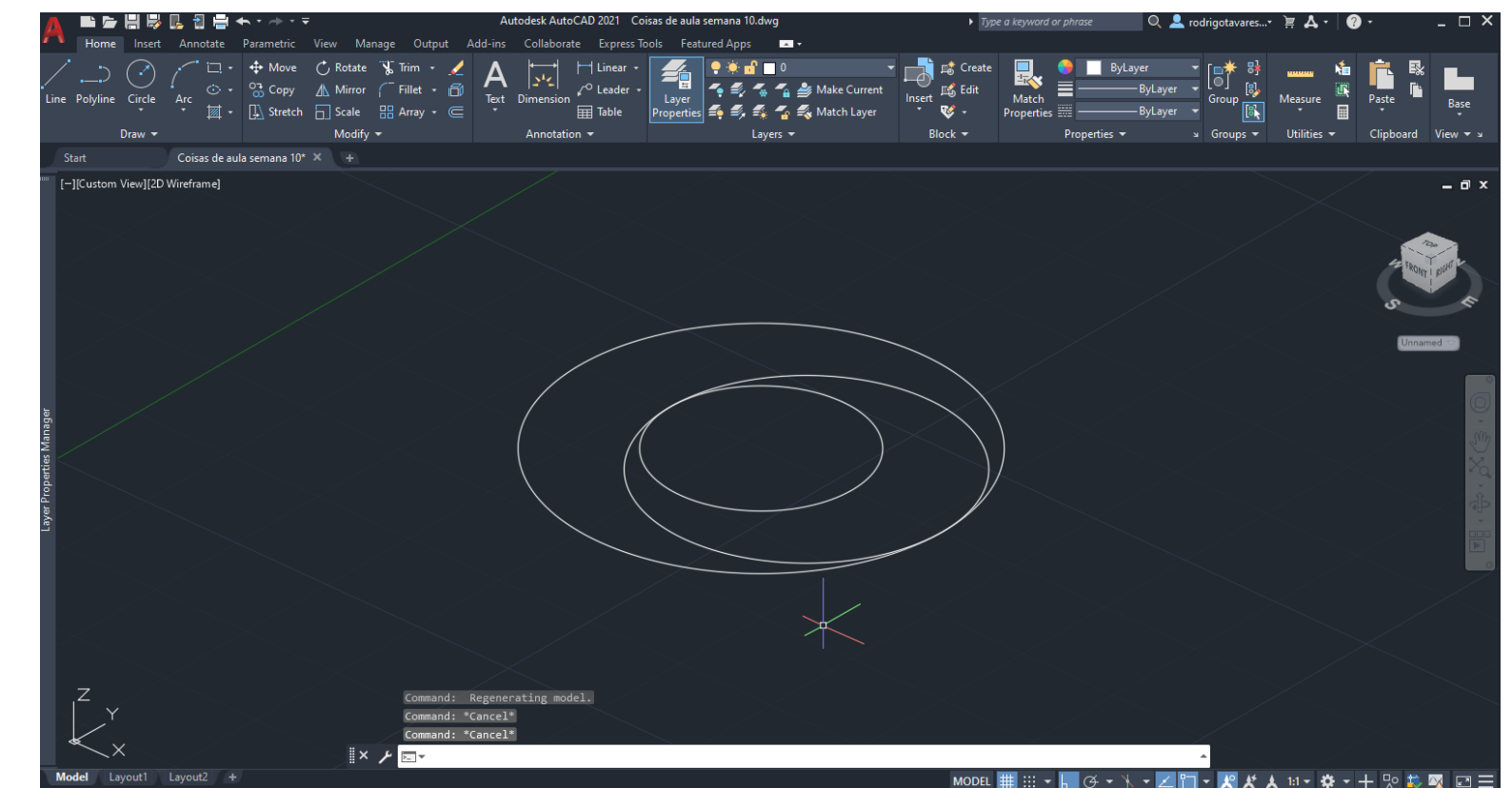
ReDig

Semana 10

# Exercício de Aula



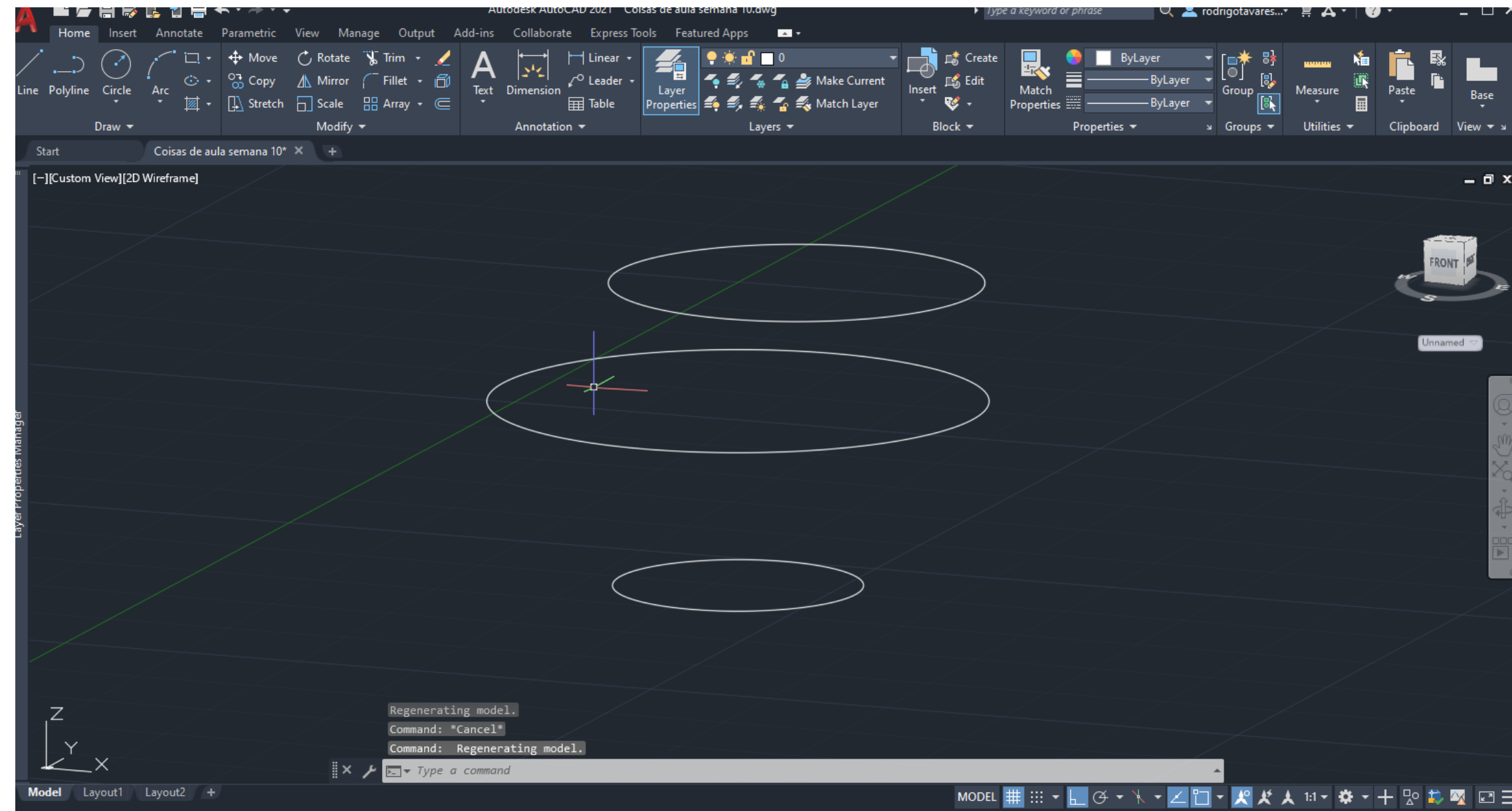
Construção de um modelo 3d através de 3 círculos



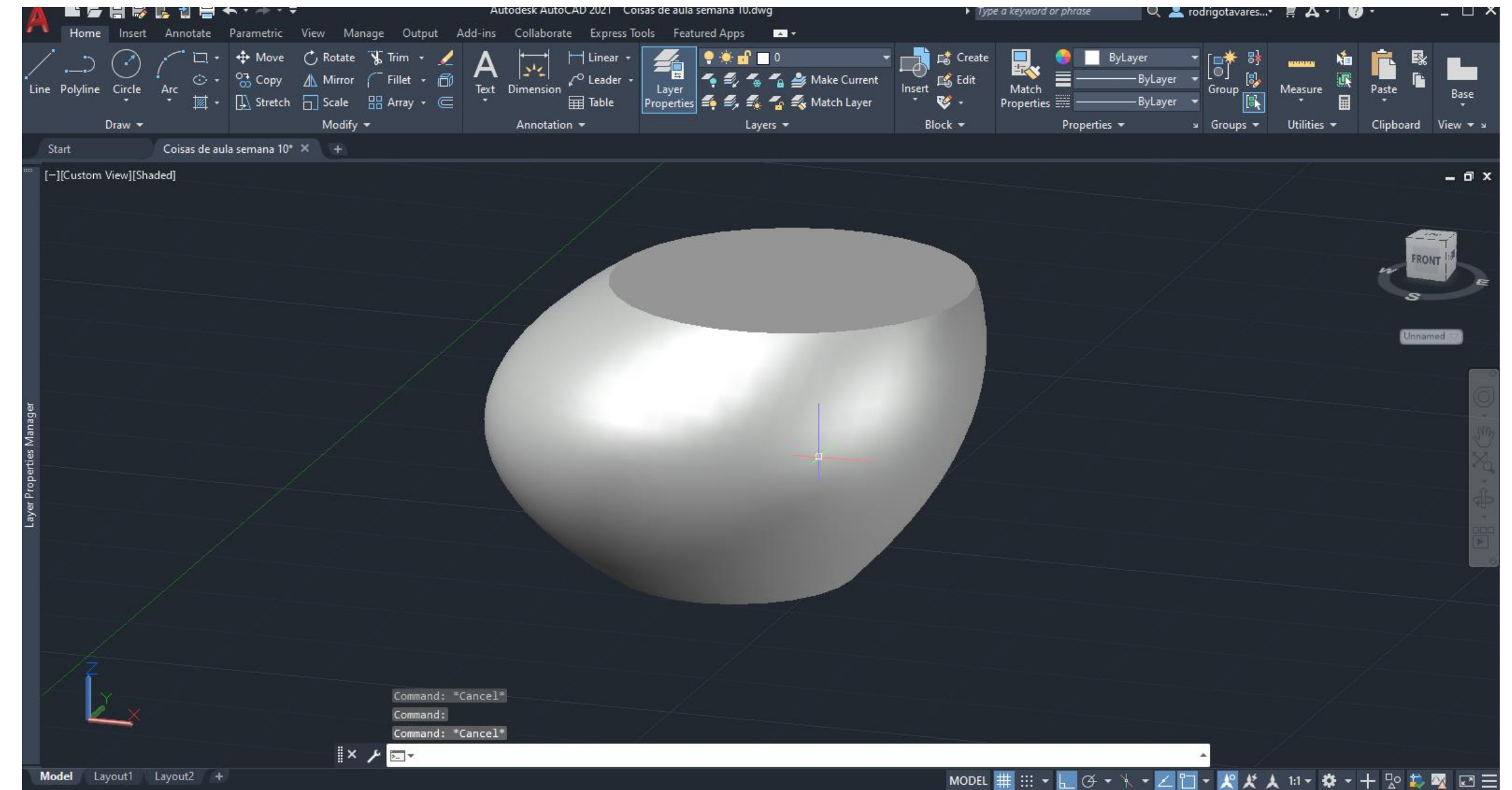
ReDig

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## Exercício de Aula



3DMOVE

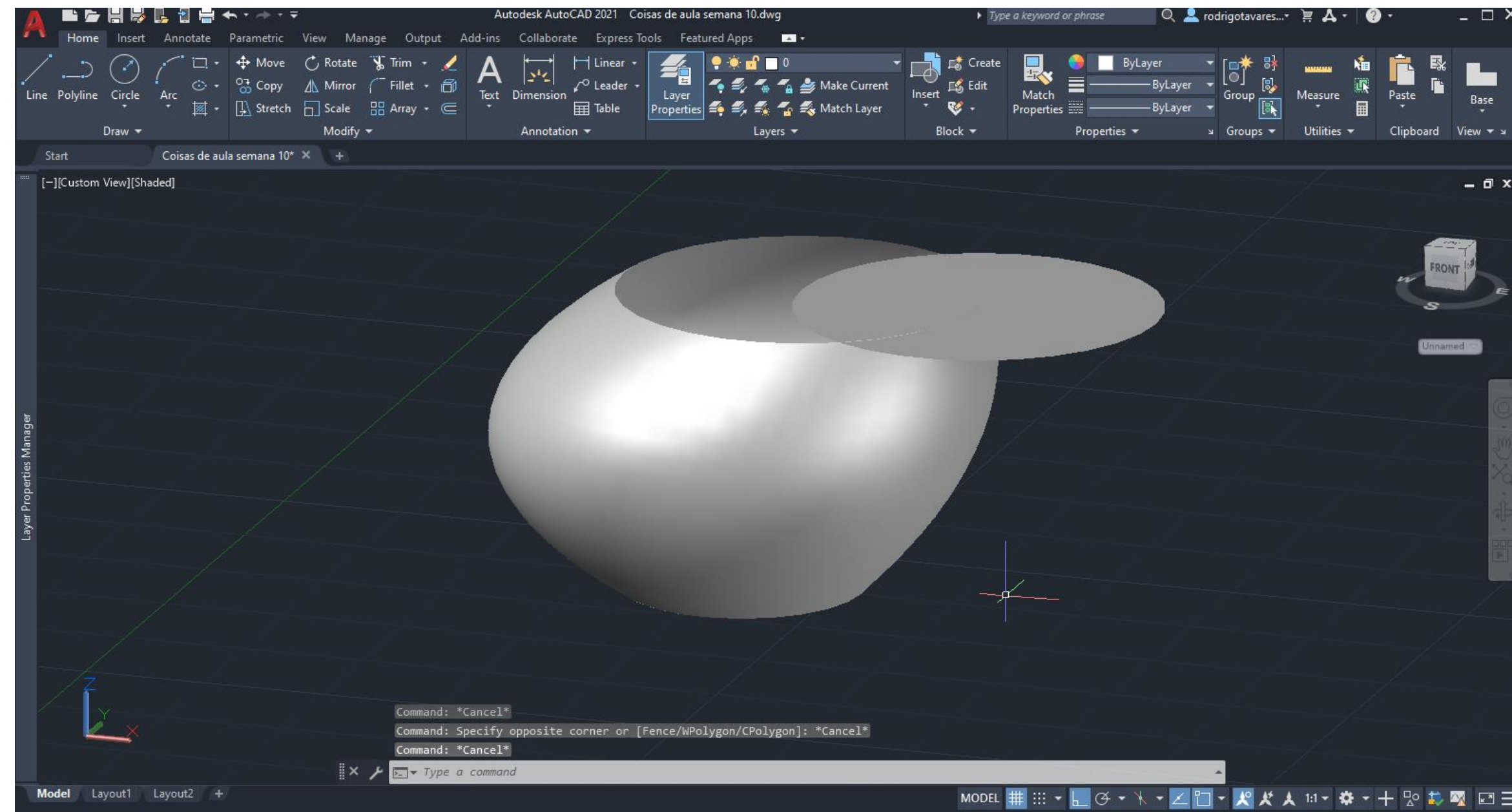


LOFT

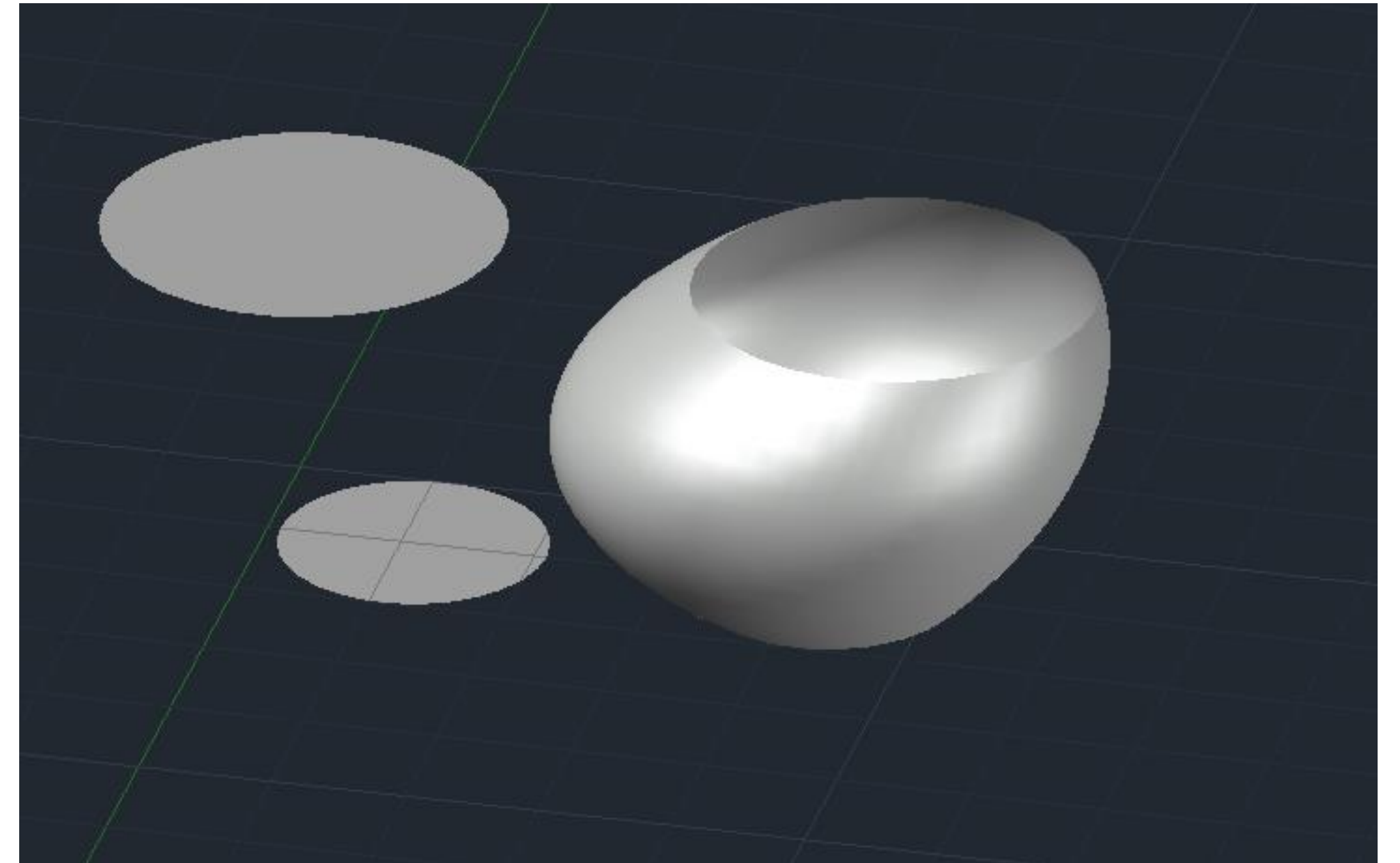
ReDig

Semana 10

## Exercício de Aula



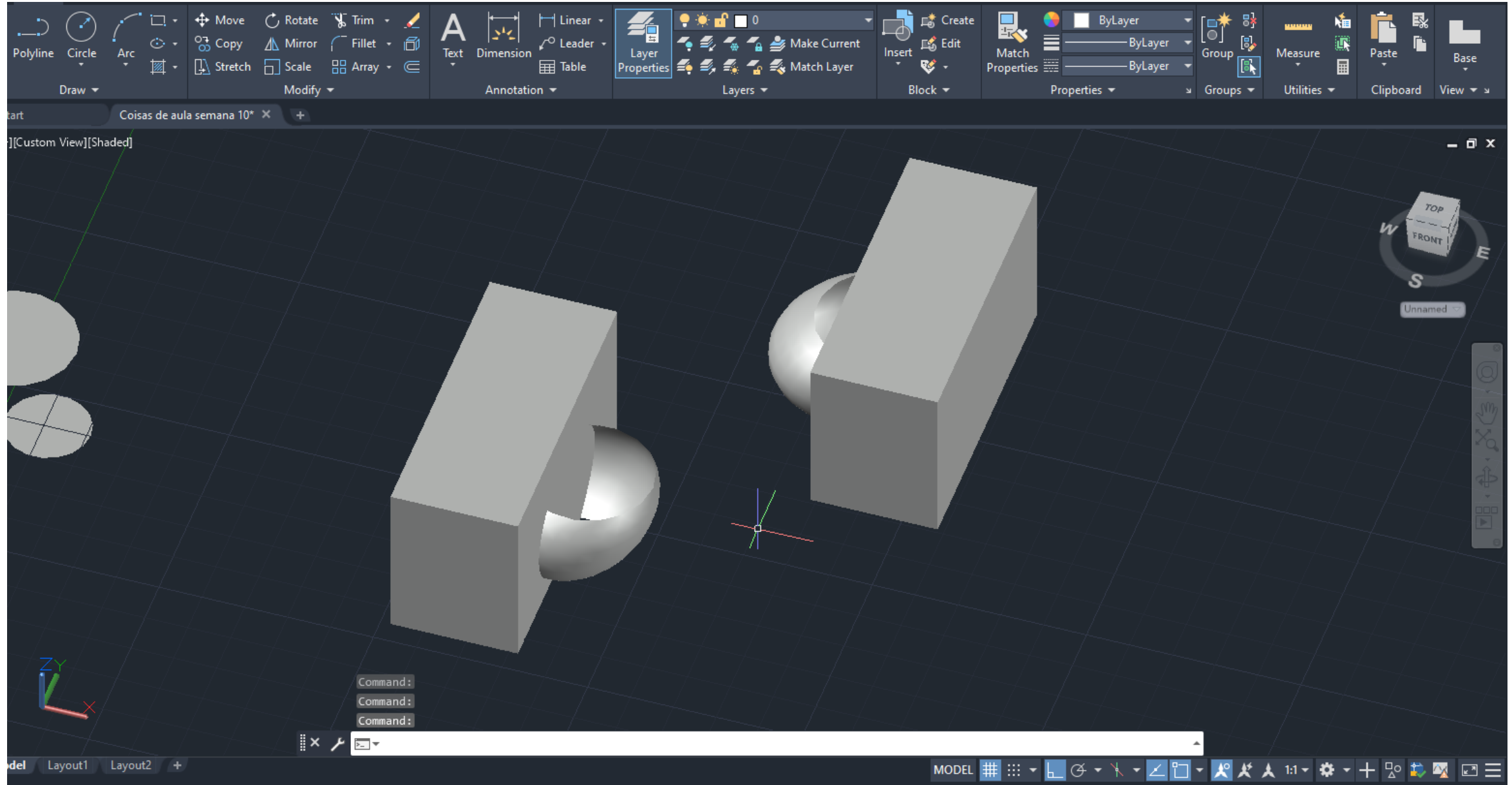
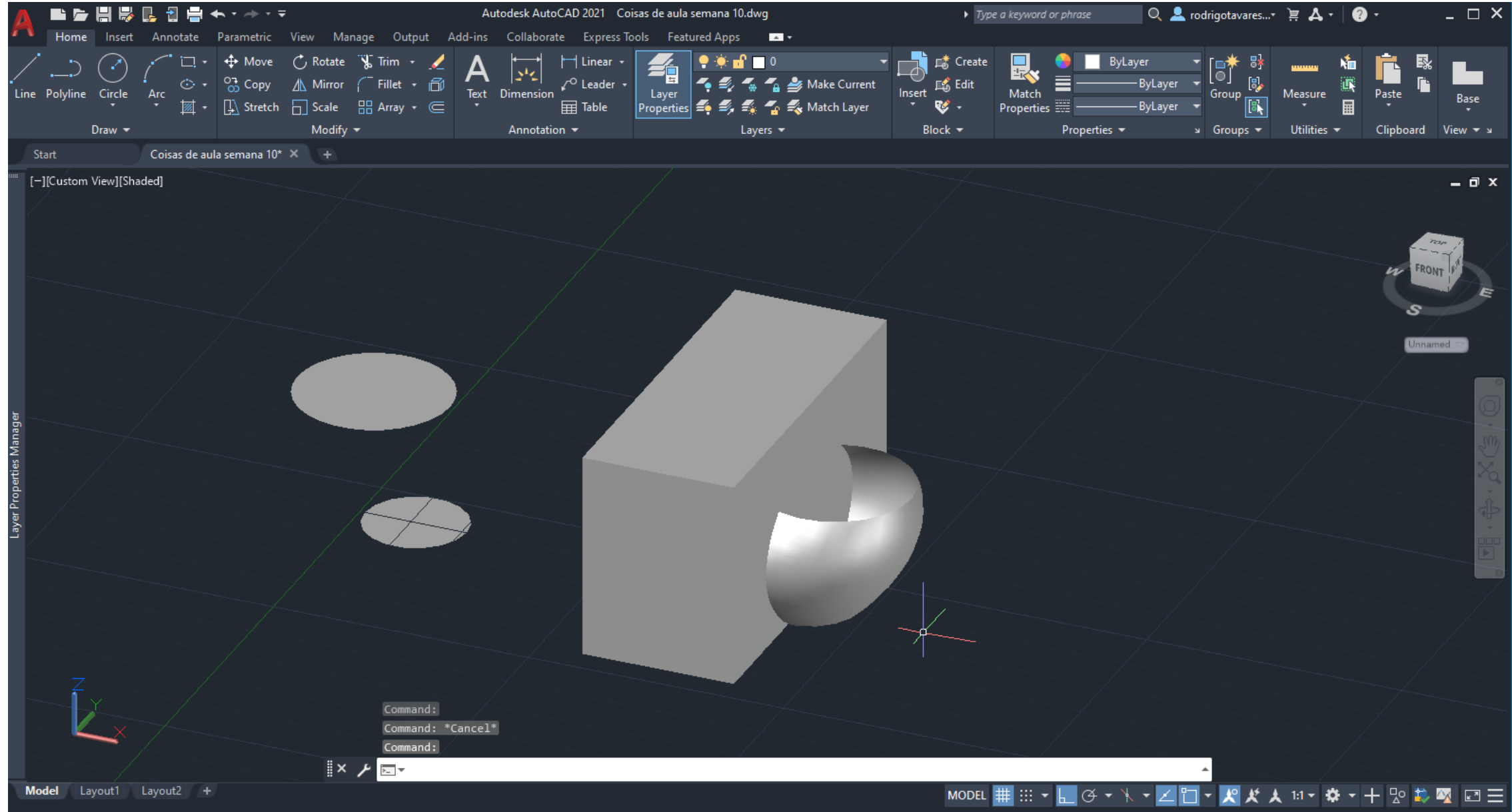
EXPLODE



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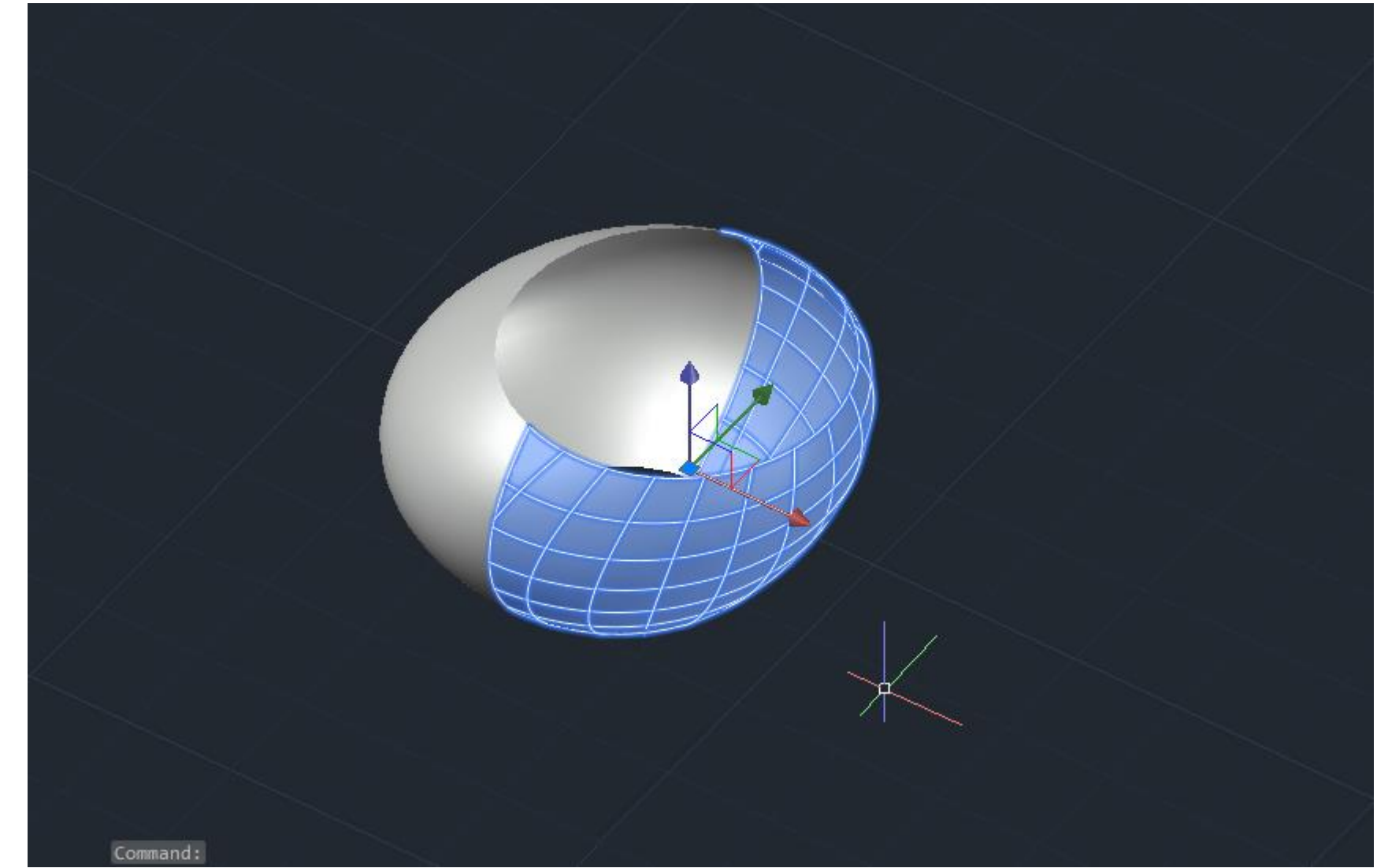
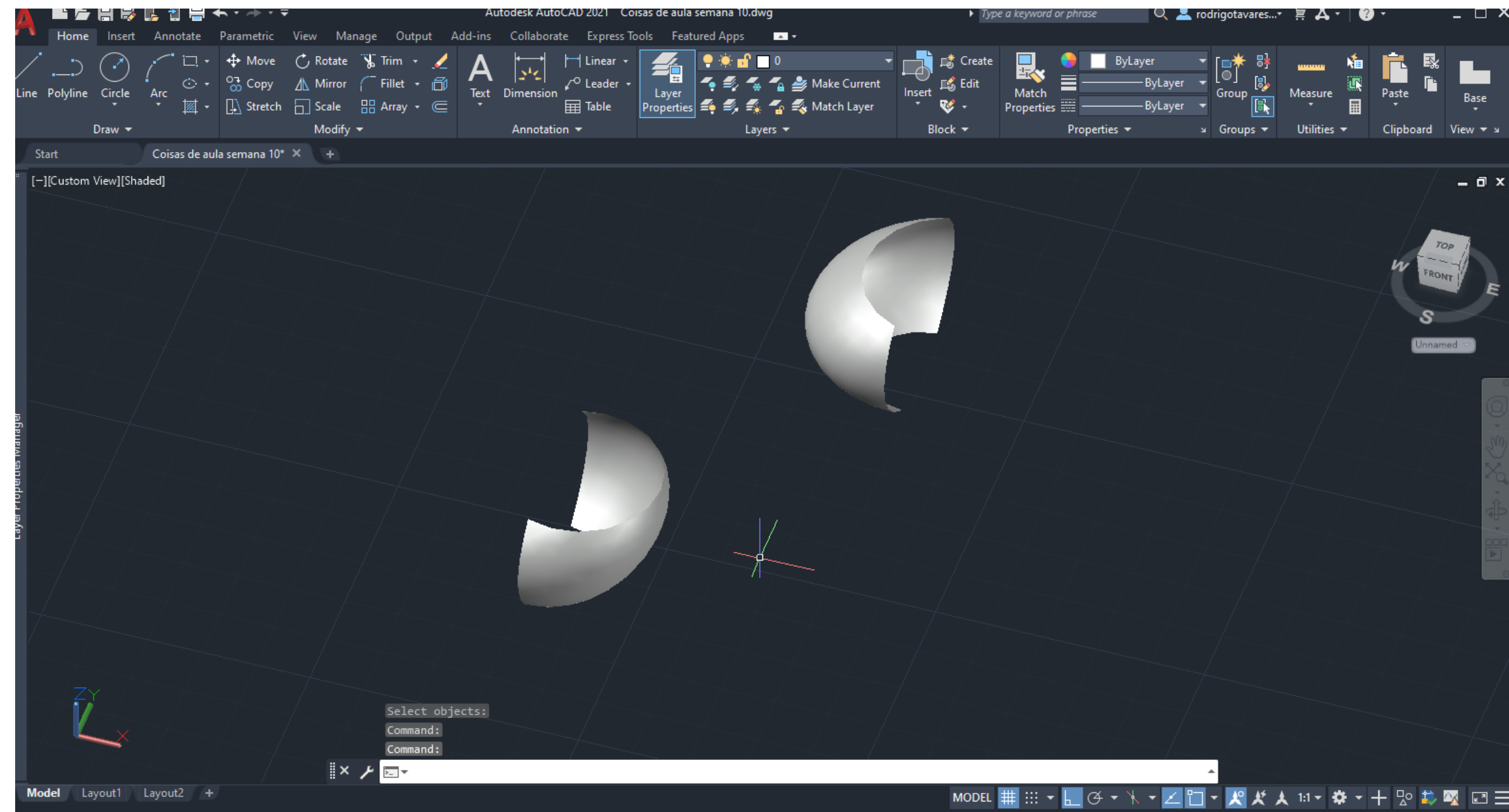
# Exercício de Aula



ReDig

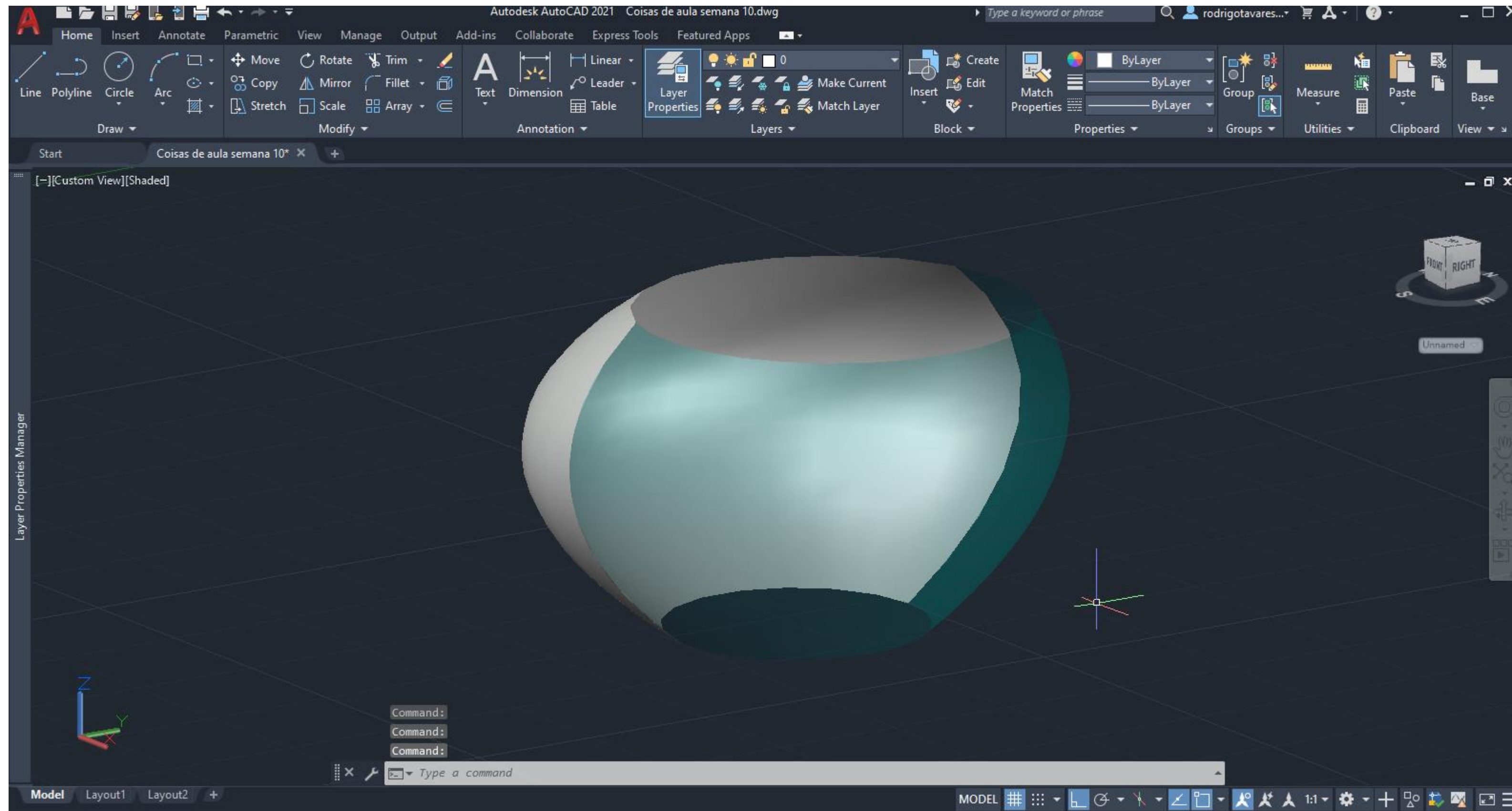
Semana 10

## Exercício de Aula



É realizado um SUBTRACT nas duas formas a que a soma das duas resulte na construção inicial

## Exercício de Aula

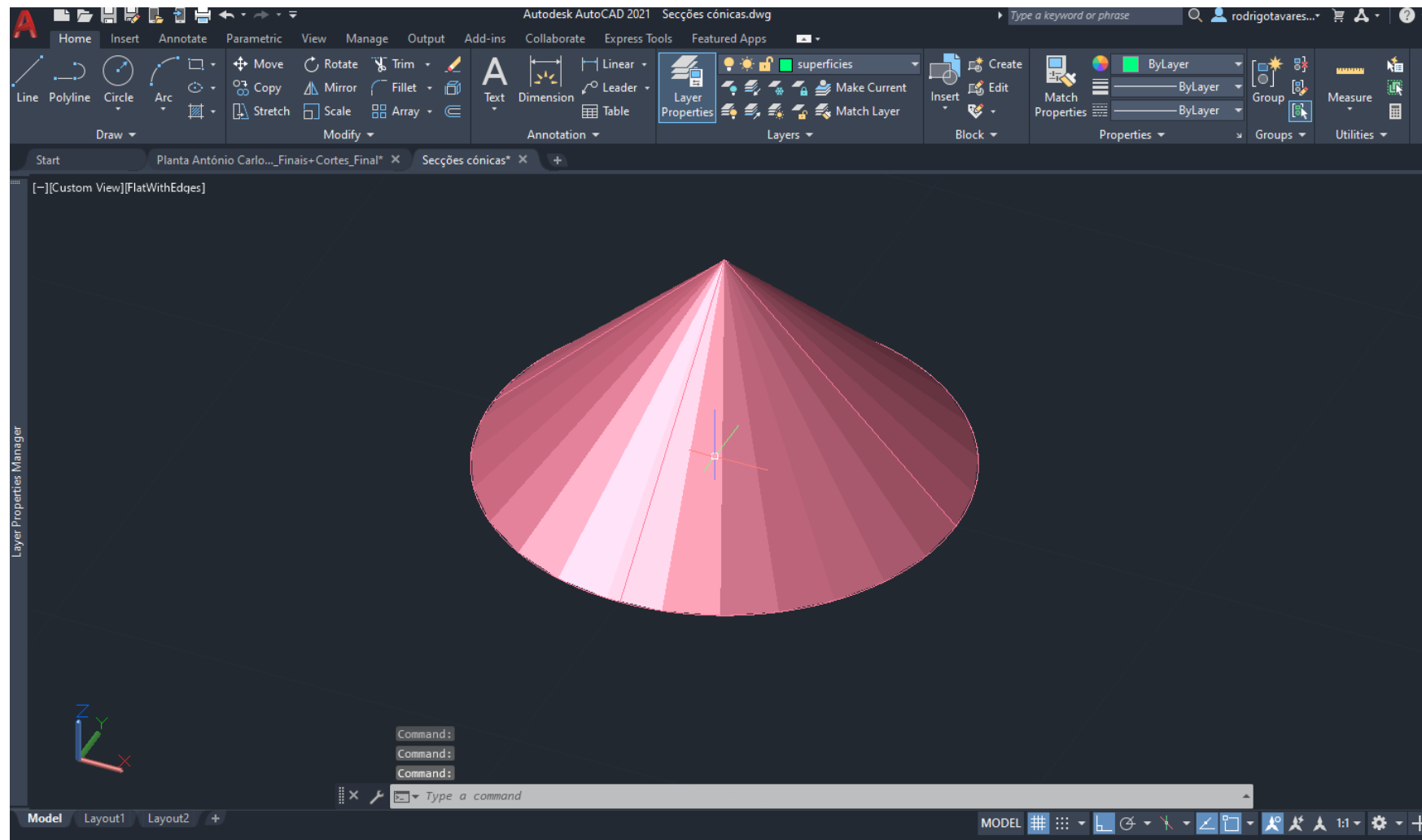


Depois escolher uma das partes para que se torne numa fachada envidraçada

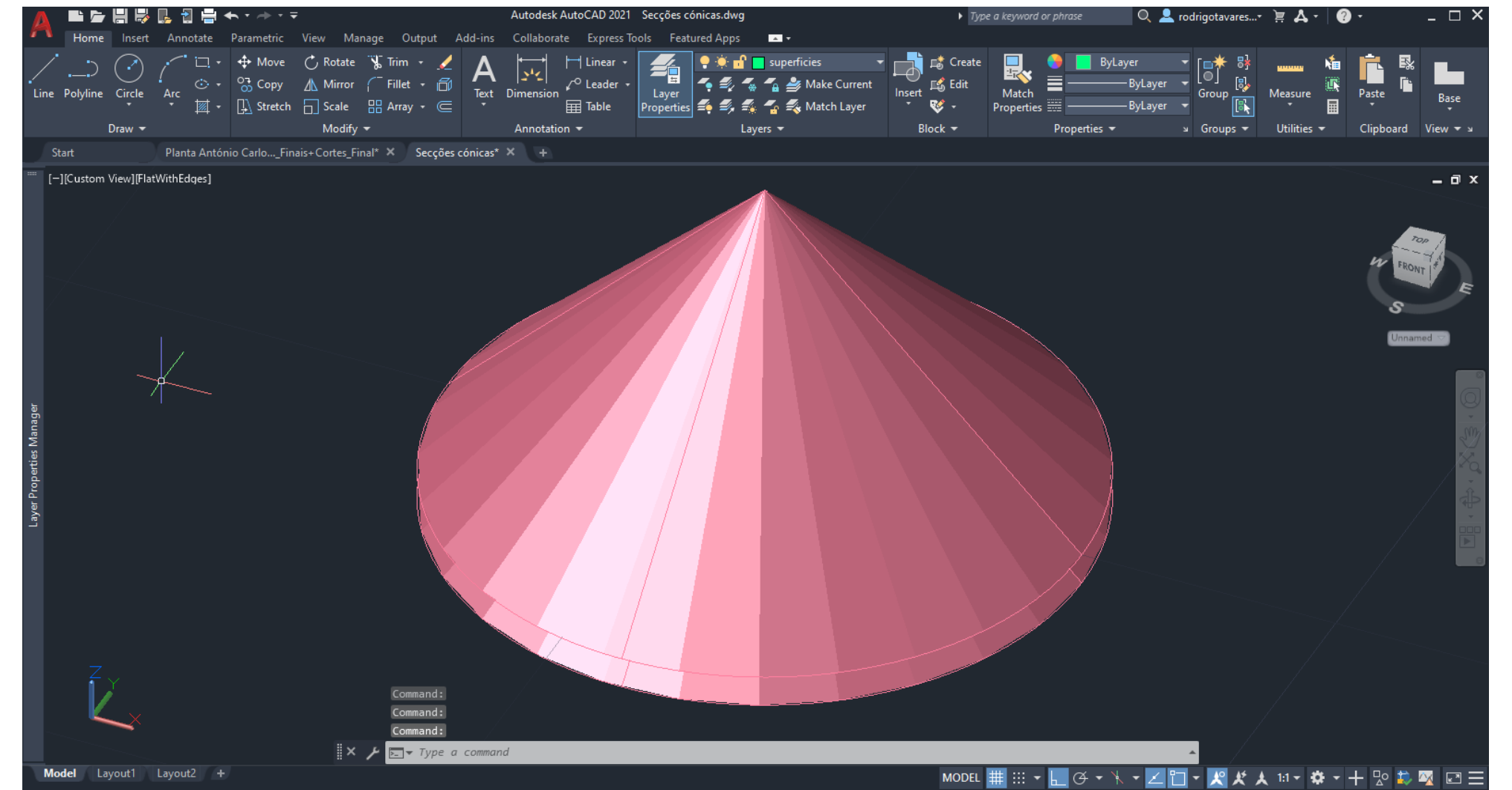
Através de transparência cria este efeito de vidro



# Secções Cónicas

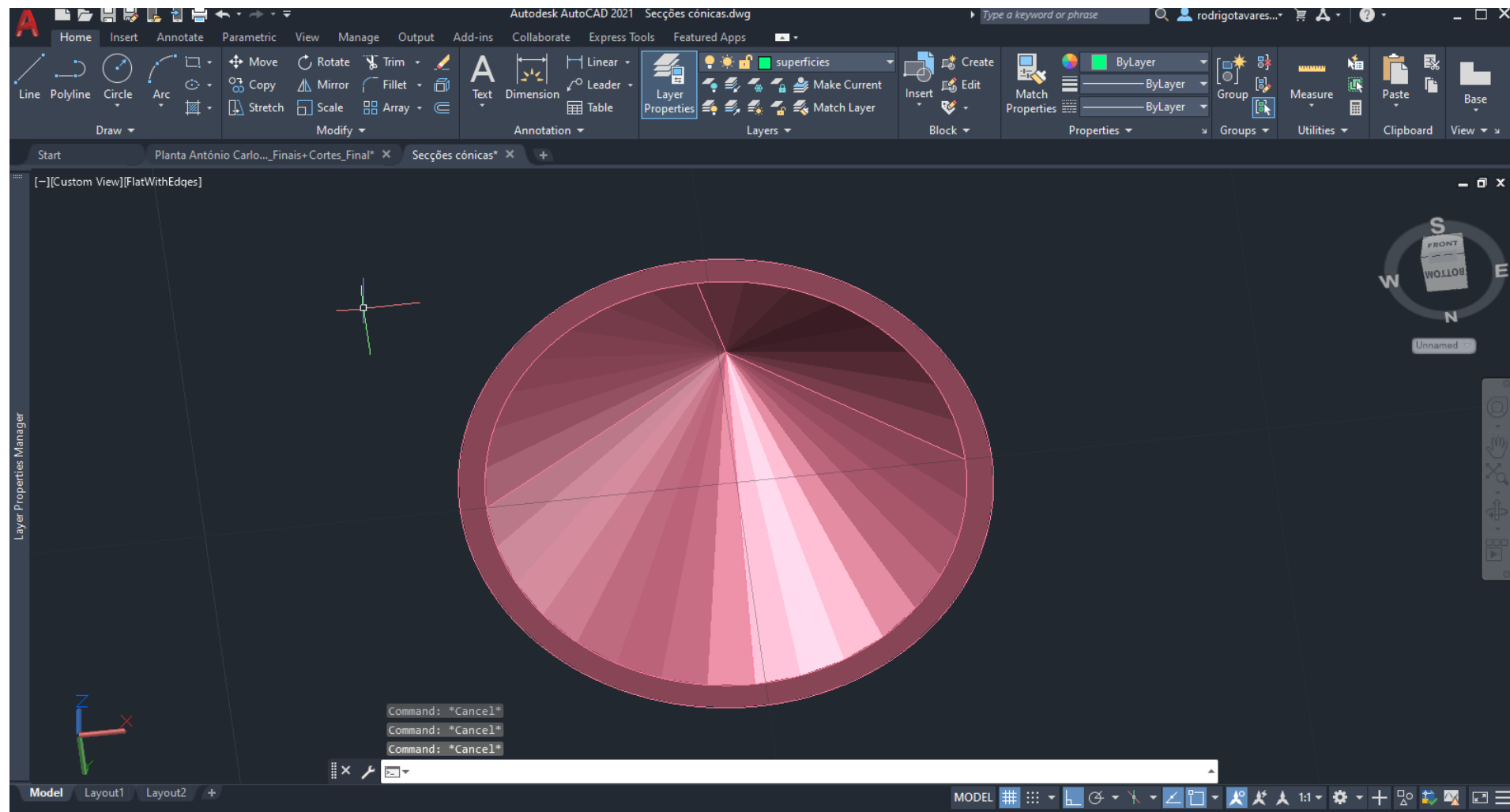


Criação de um cone através do comando CONE com 5 unidades de raio e de altura.

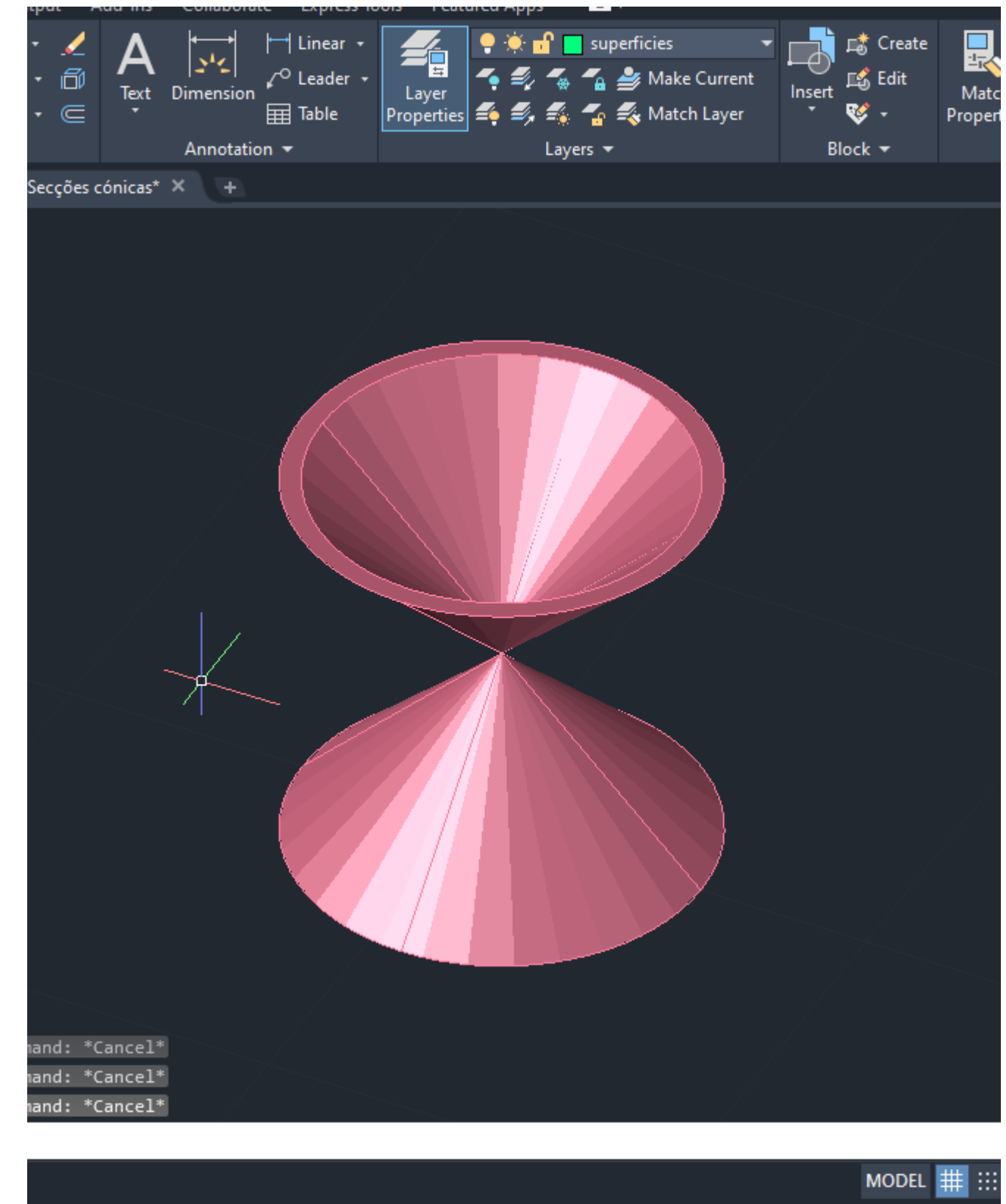


Com o cone criado agora vamos realizar uma subtracção entre dois cones iguais

# Secções Cónicas



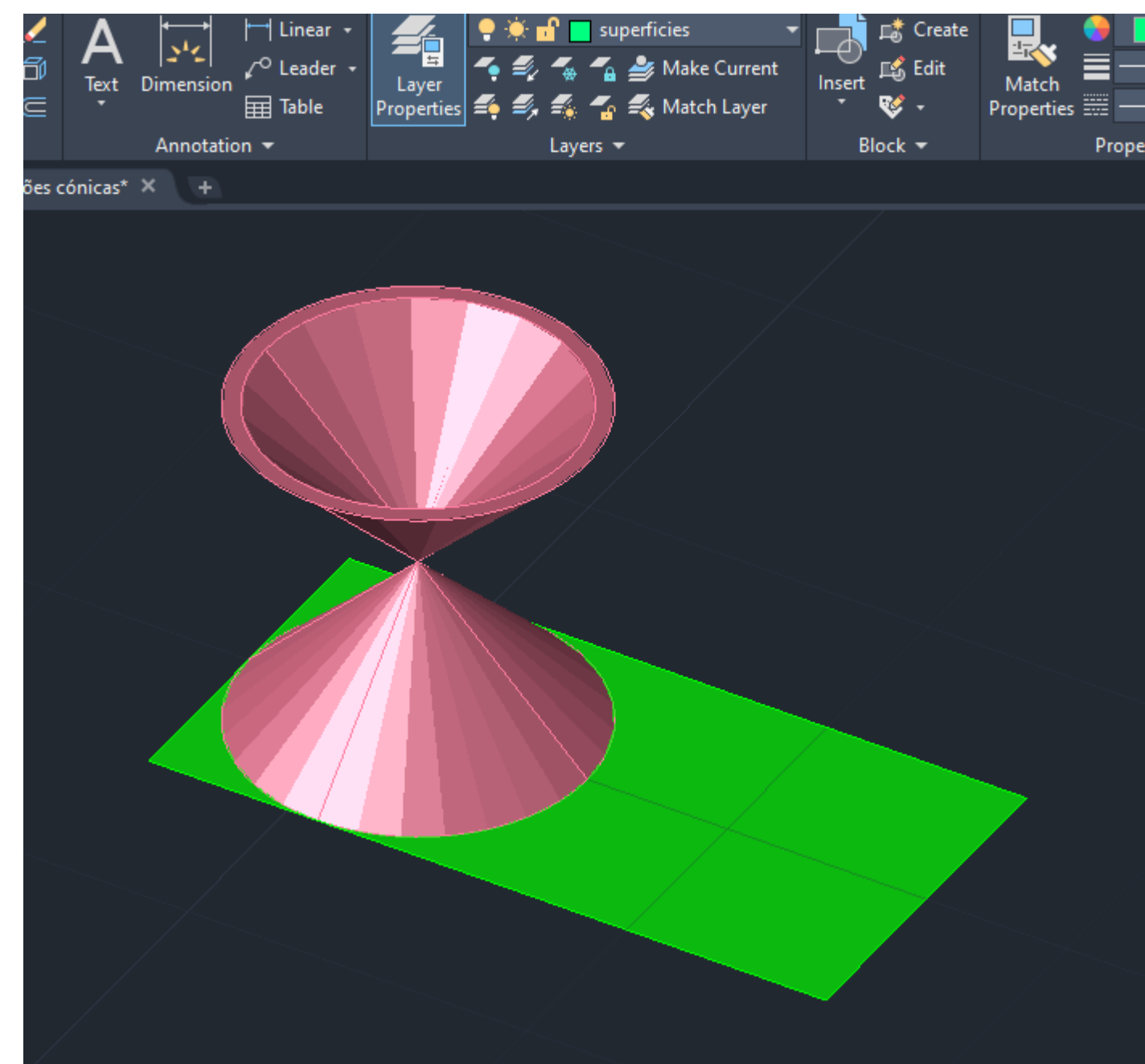
Com a subtracção feita, faz-se um 3DMIRROR no cone de forma a obtermos esta forma



## Secções Cónicas

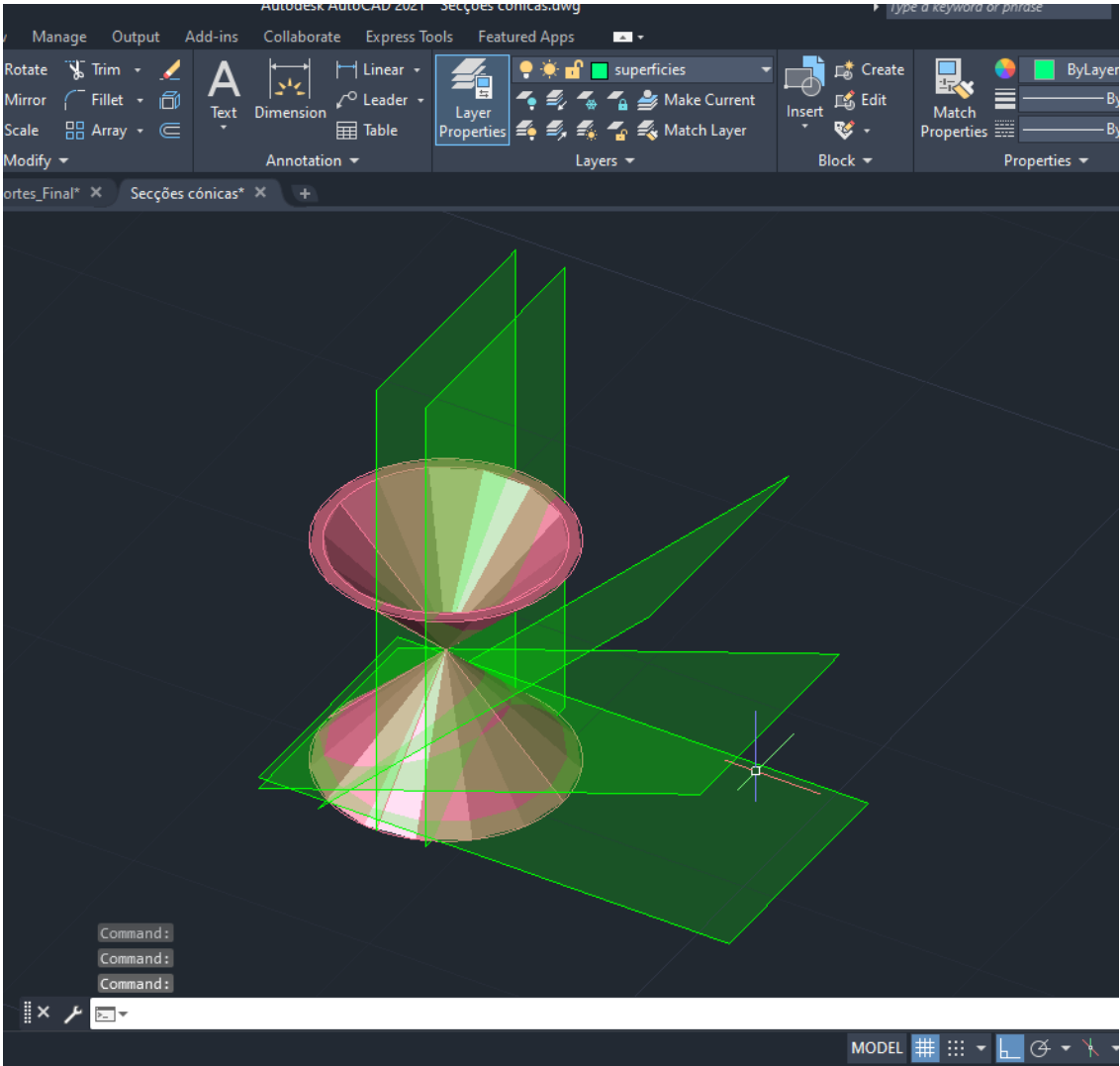
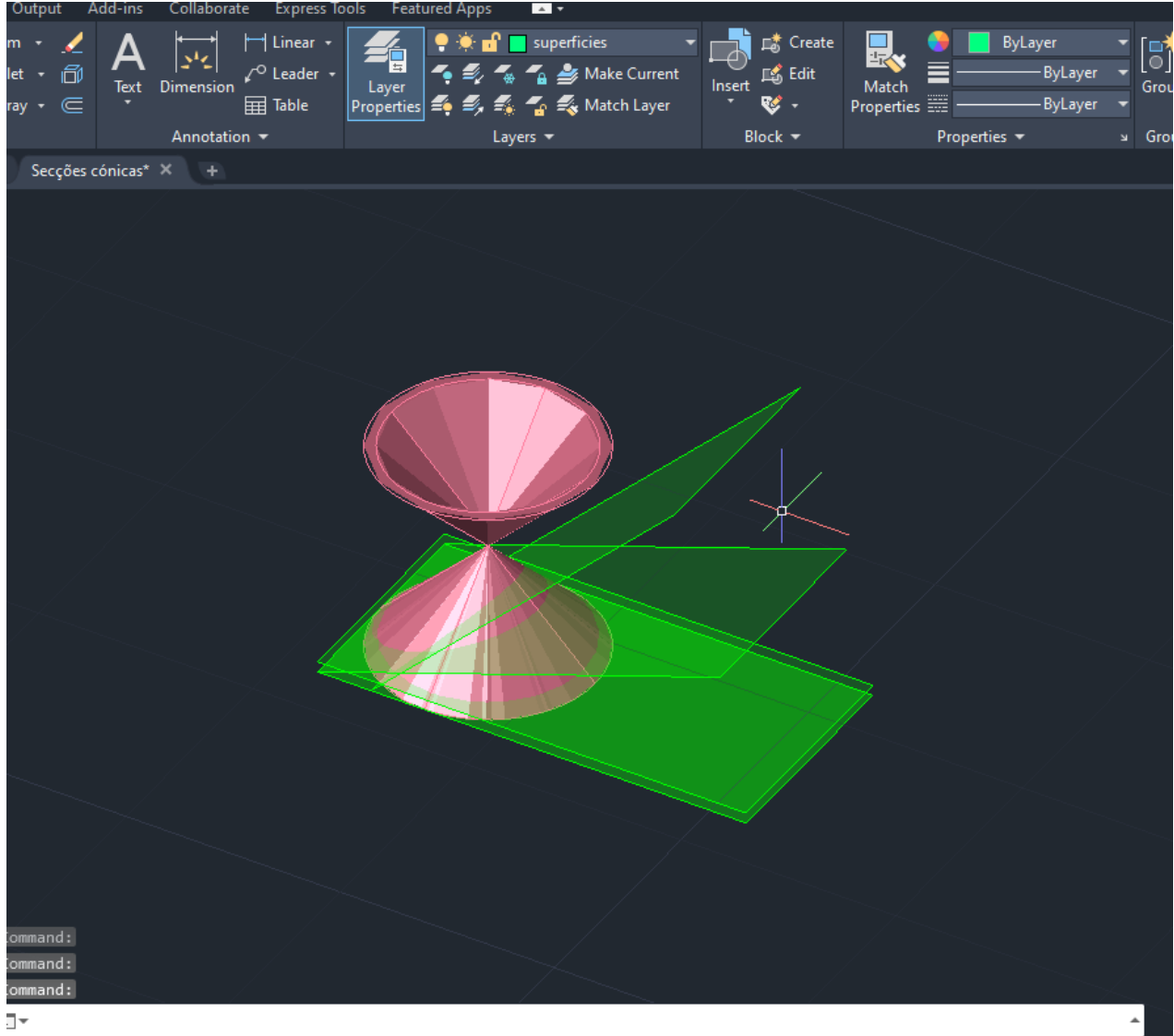
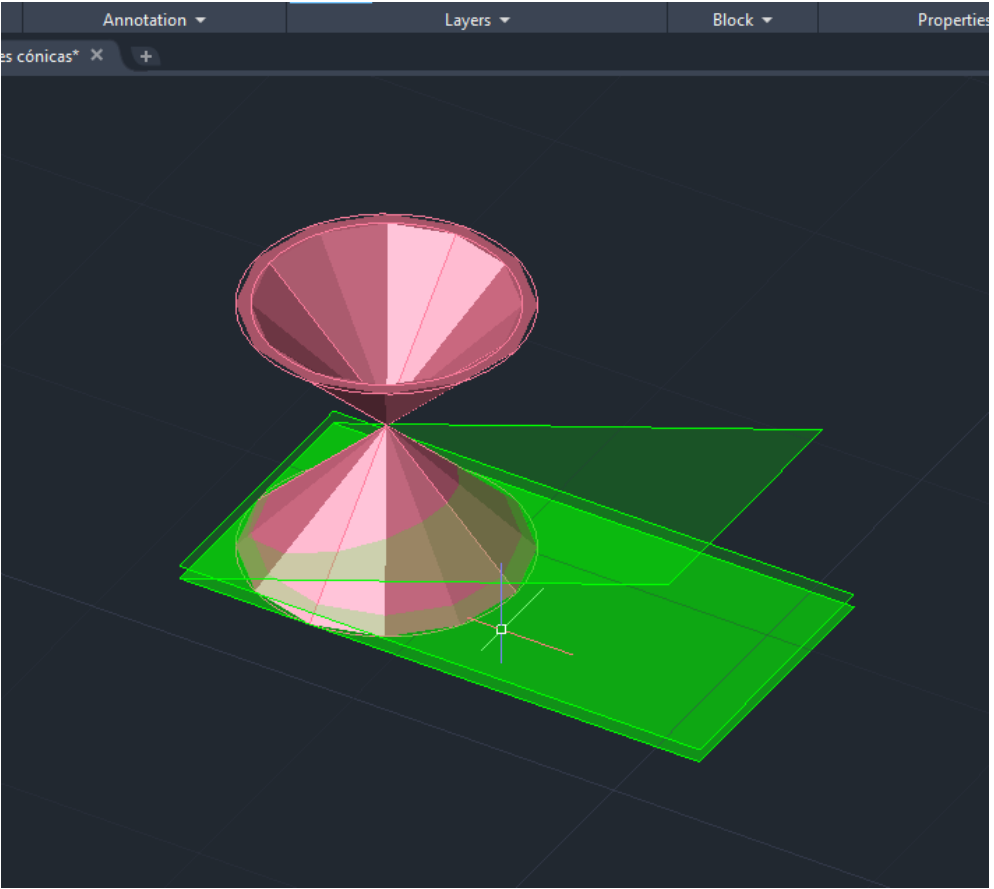
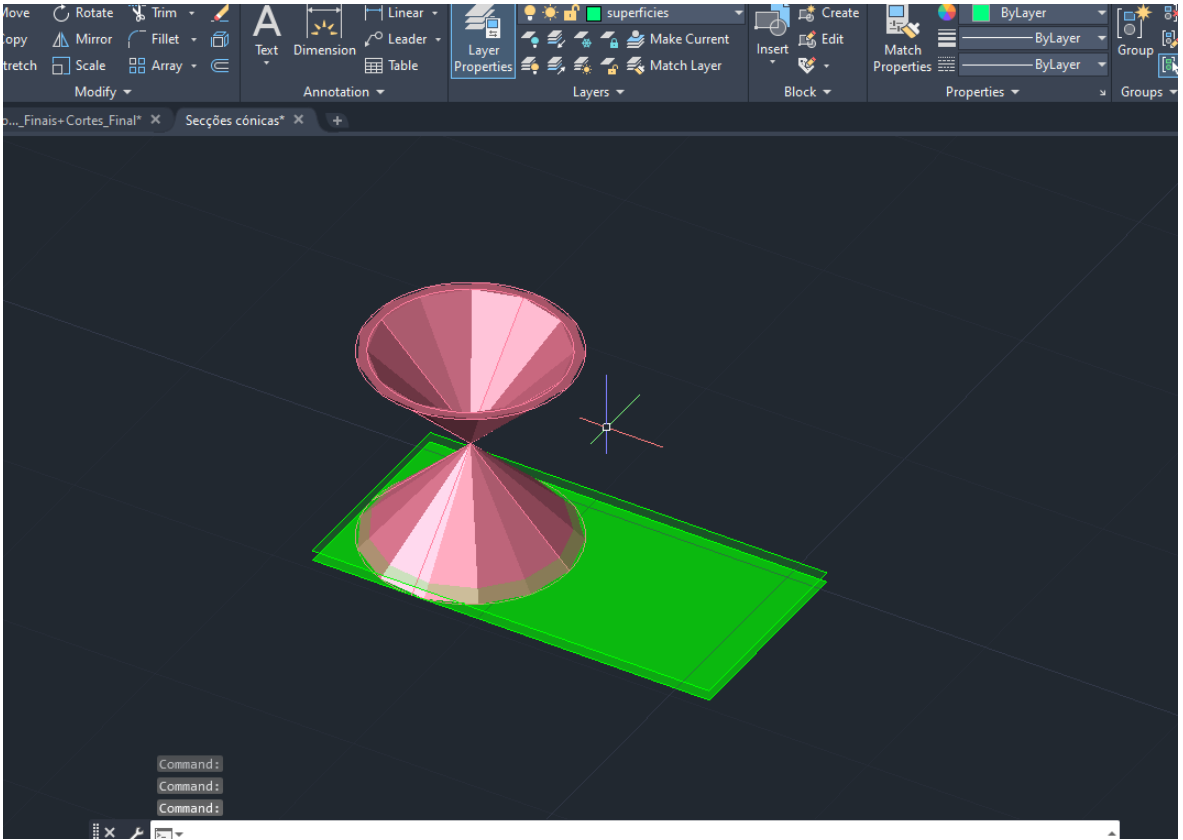


Criação de um retângulo de 20 x 10



Realizar cinco cópias do retângulo

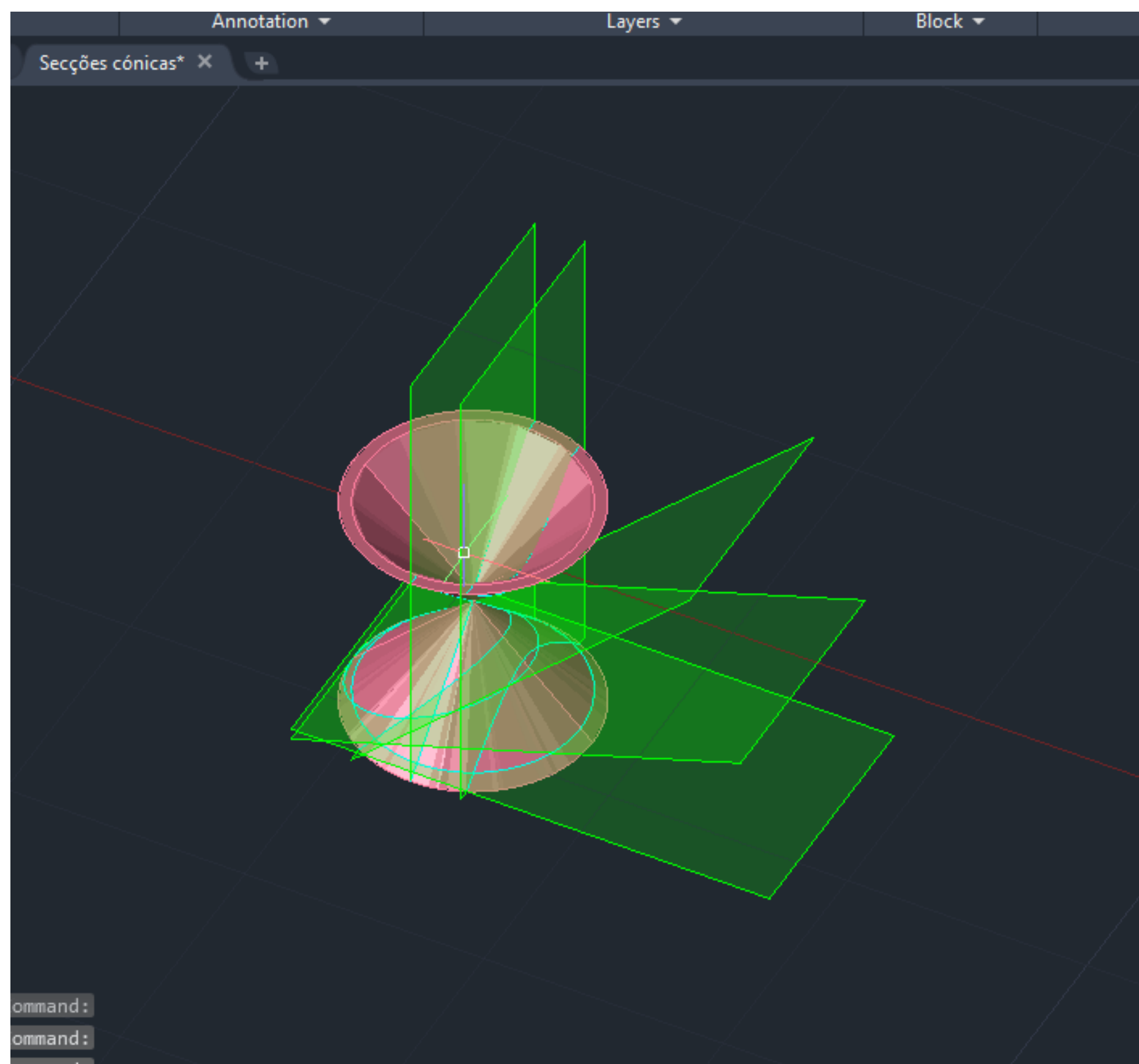
# Secções Cónicas



ReDig

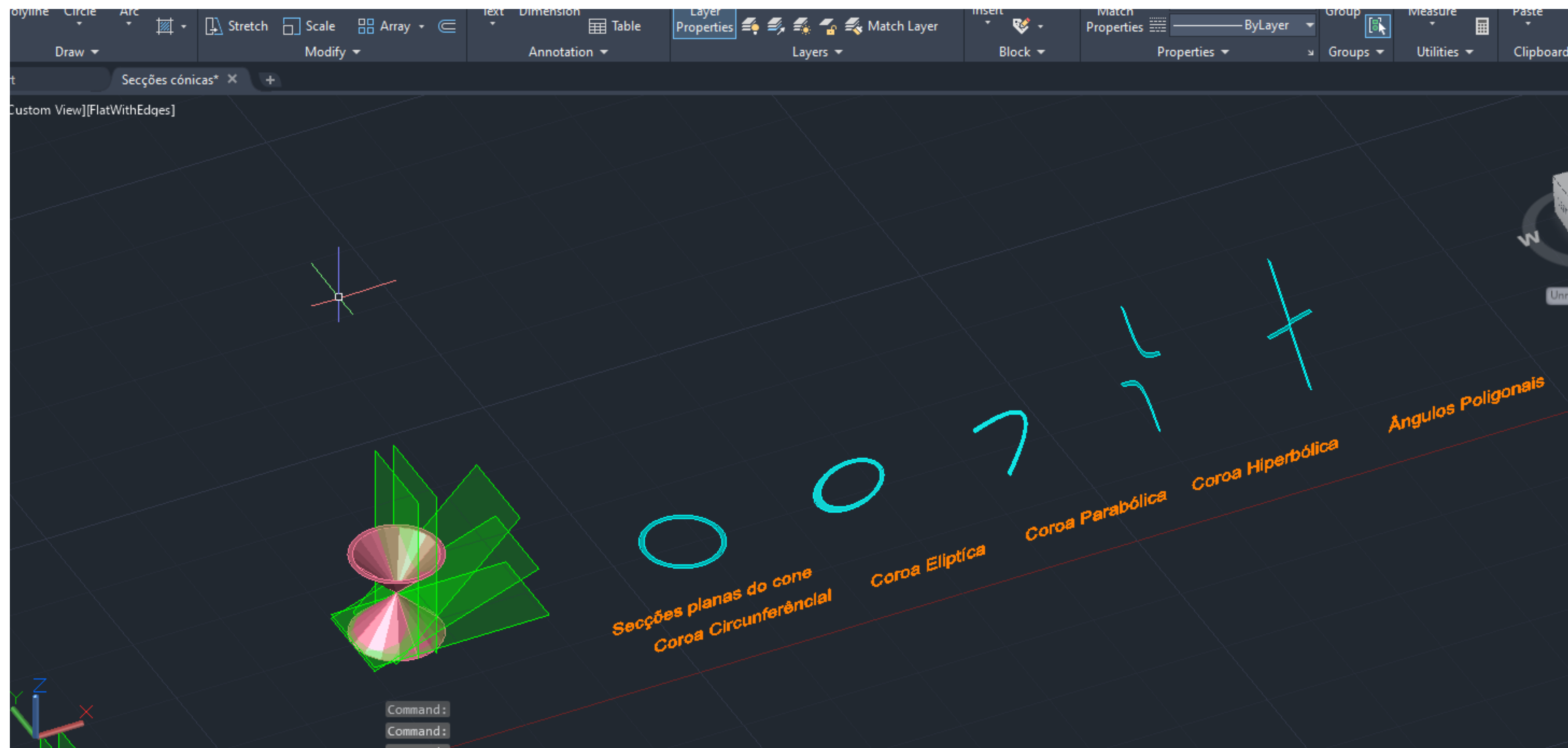
Semana 10

## Secções Cónicas



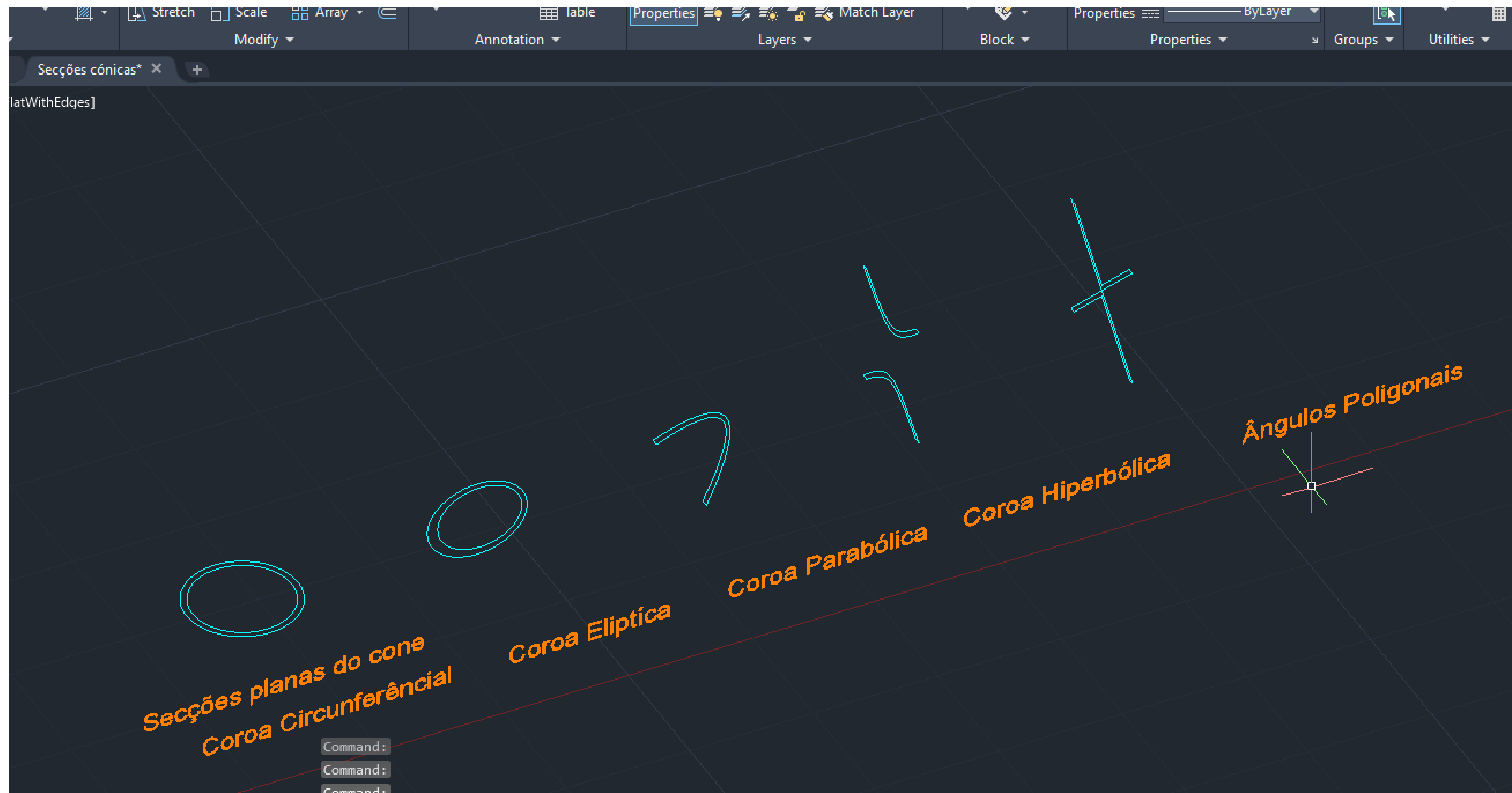
Marcação das Secções através do comando  
Section

## Secções Cónicas



Depois de todas as secções feitas separamo-las da figura para obter uma visão das mesmas

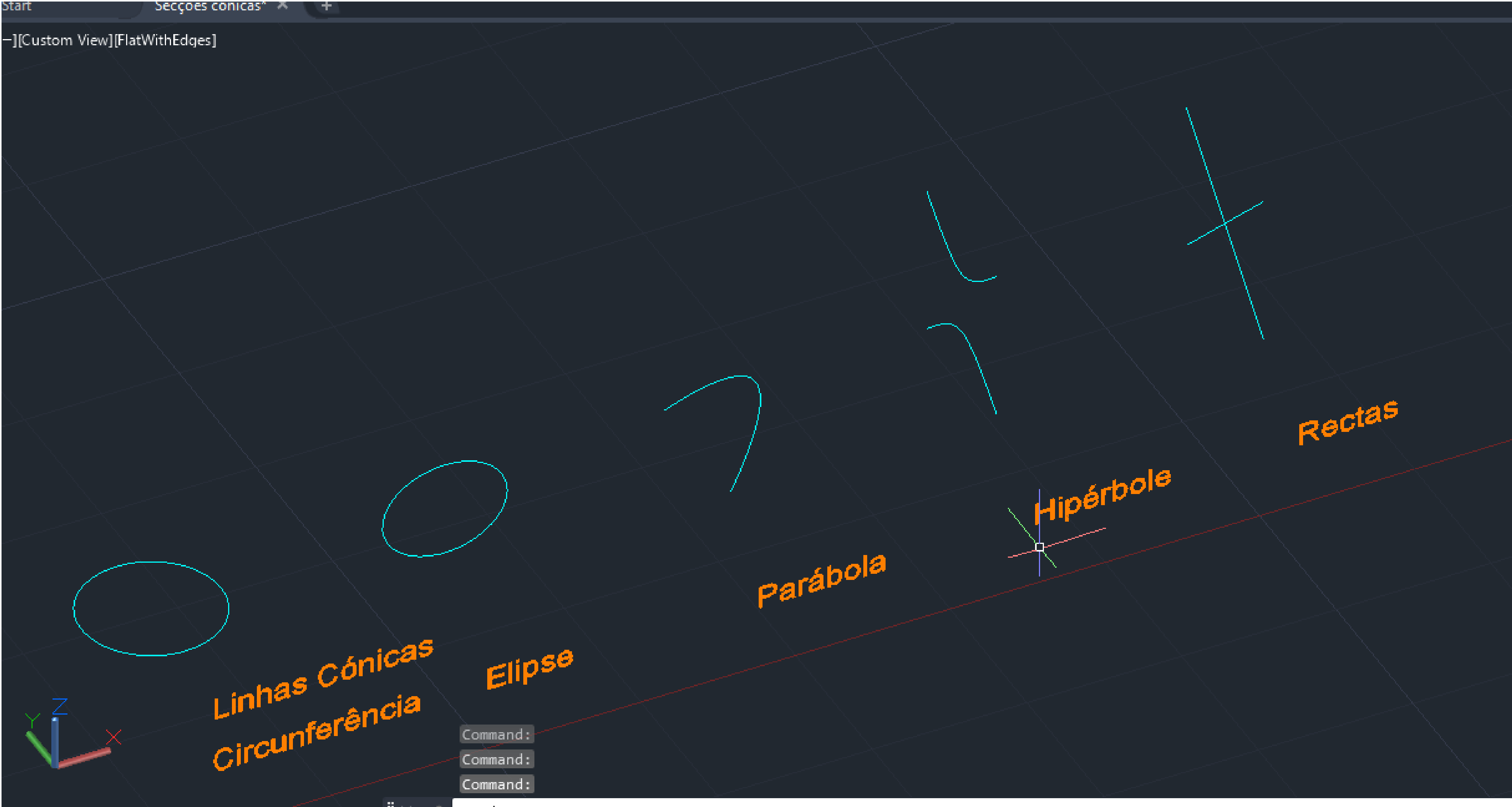
# Secções Cónicas



ReDig

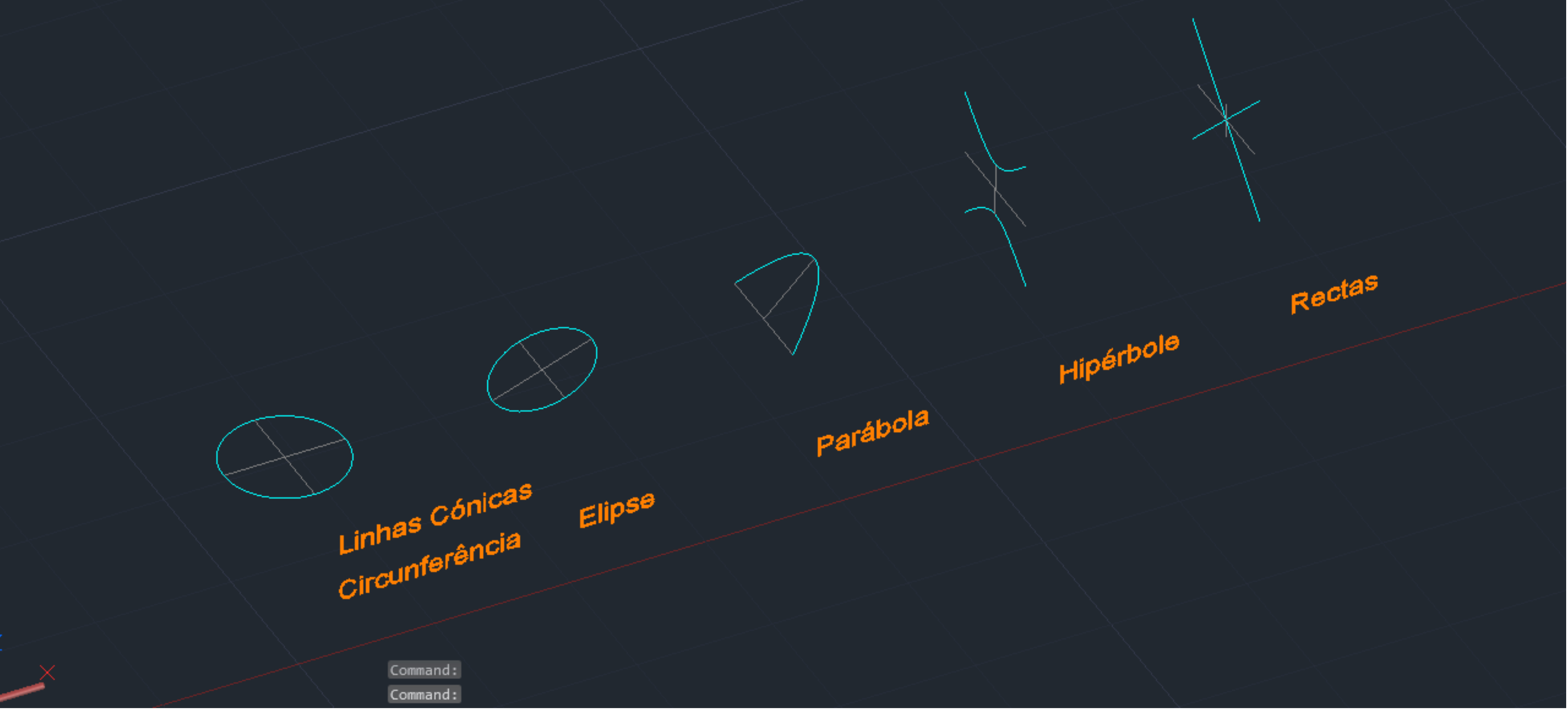
Semana 10

# Secções Cónicas

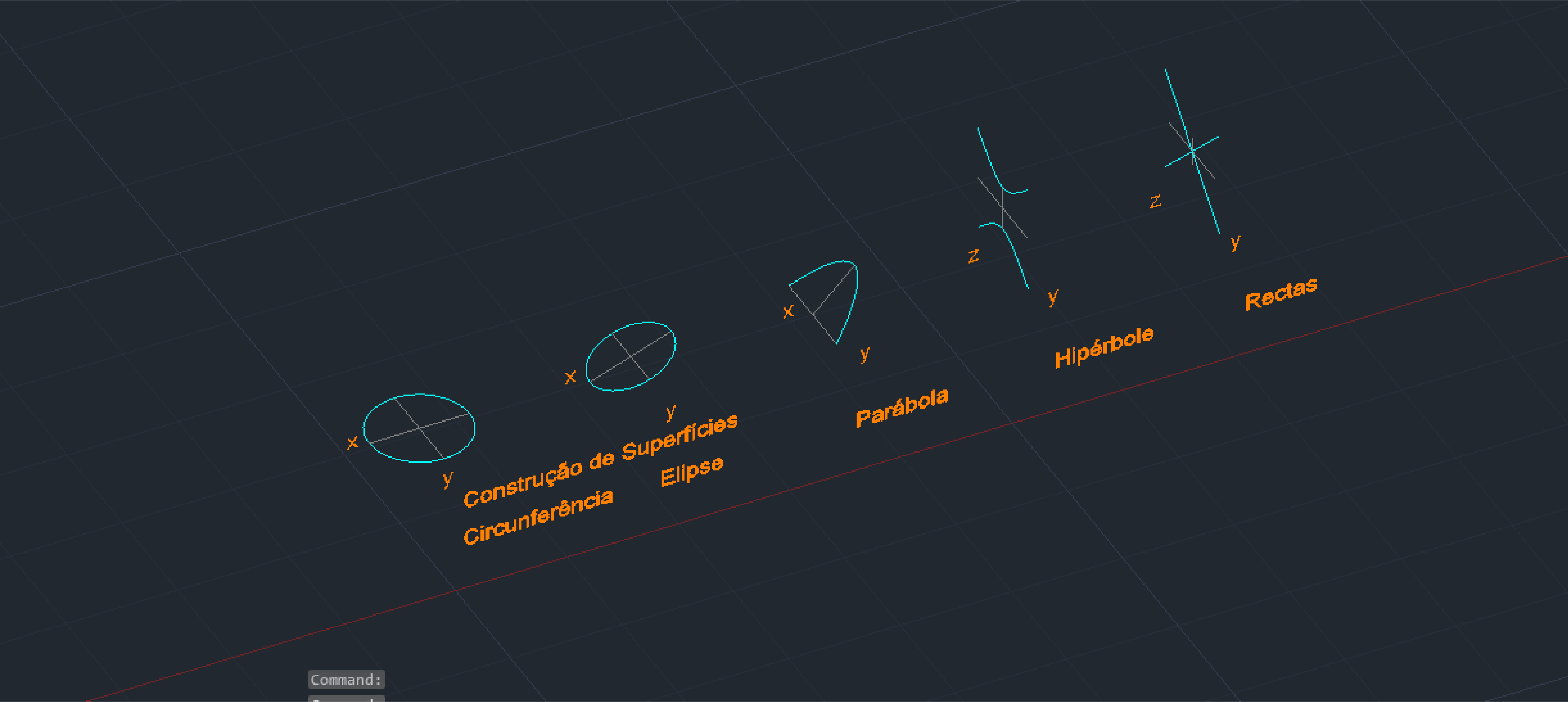




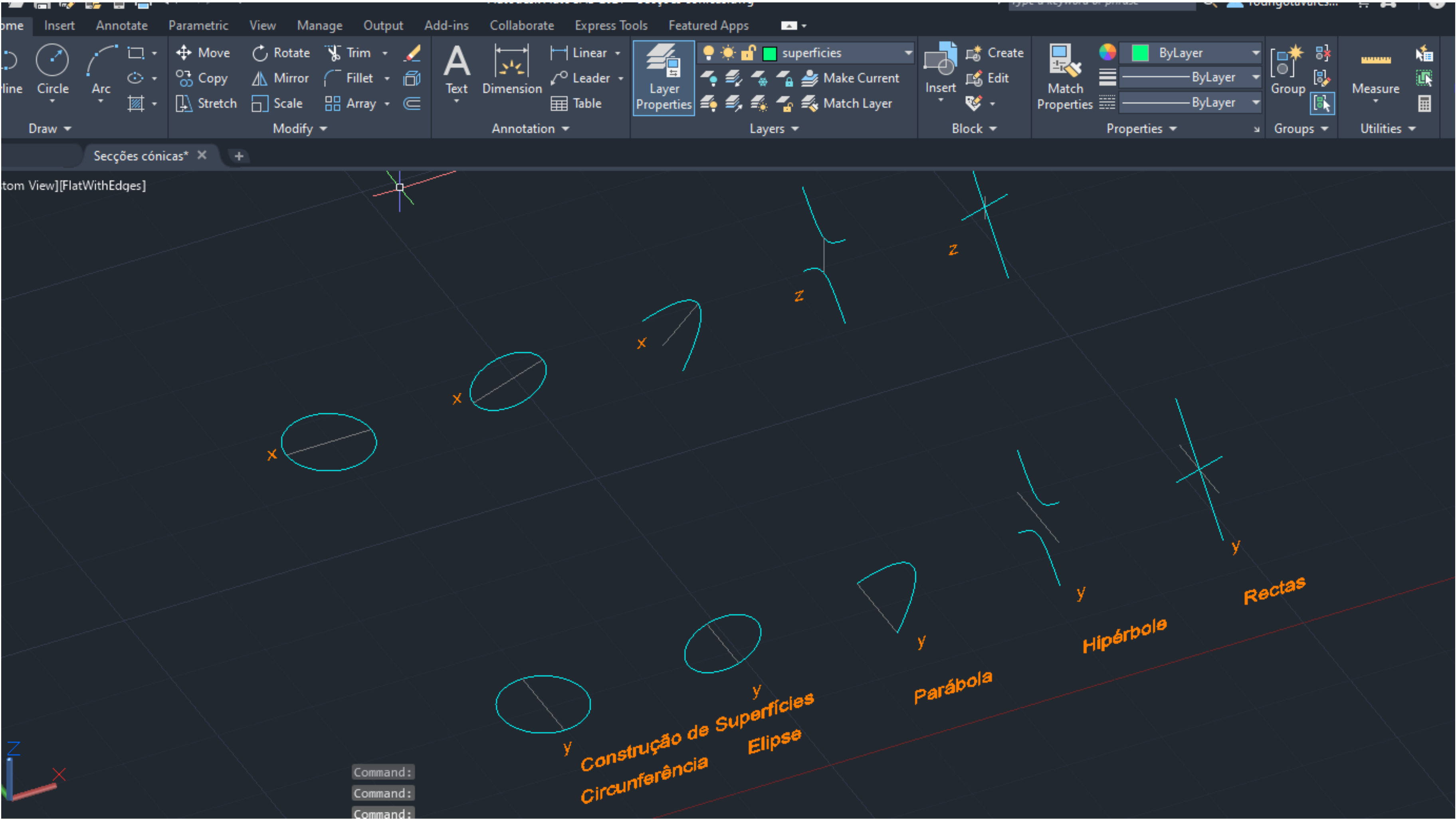
# Secções Cónicas



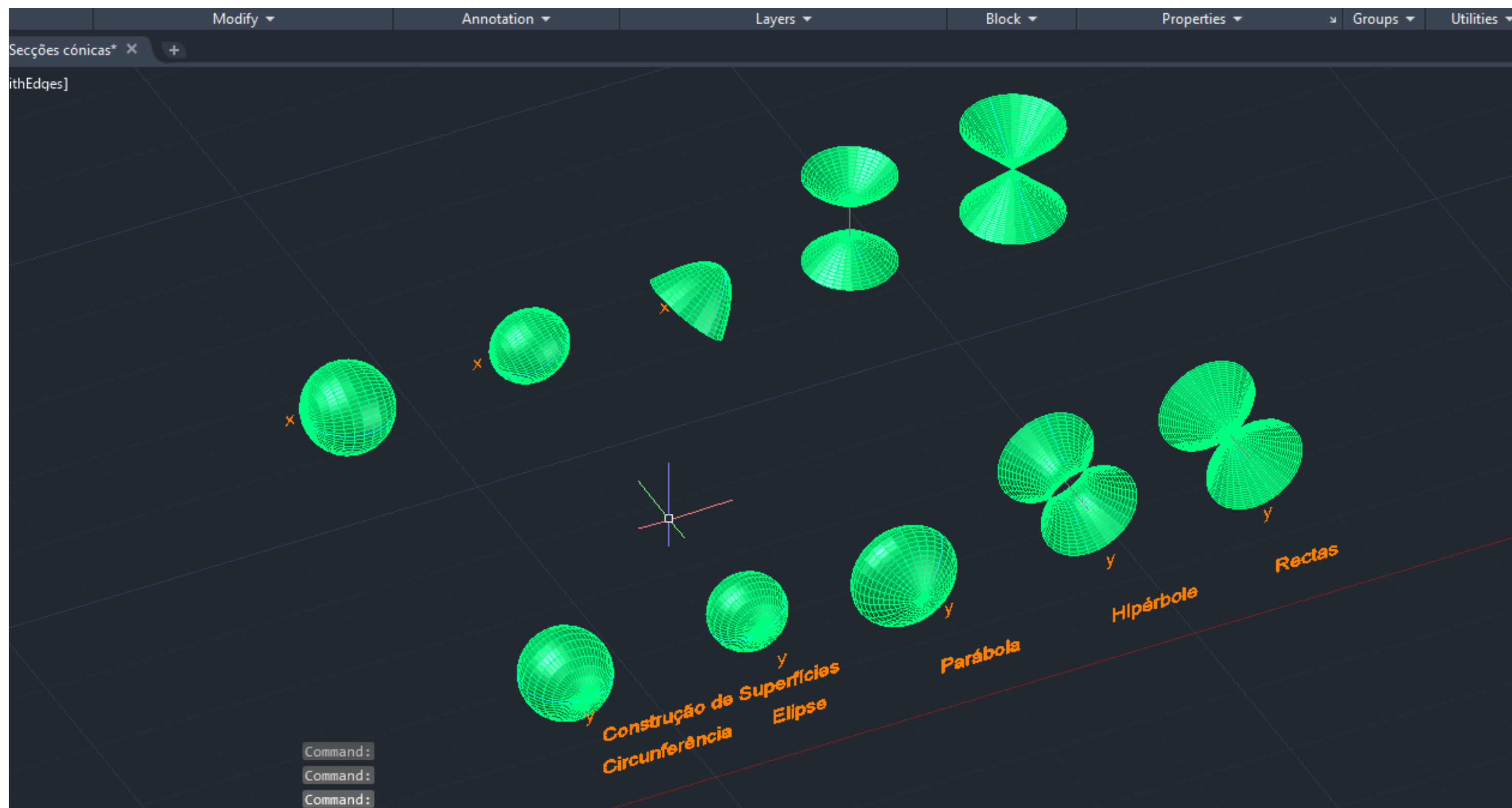
Atribuimos eixos às linhas cónicas



# Secções Cónicas



# Secções Cónicas



Através do REVSURF obtemos estas construções