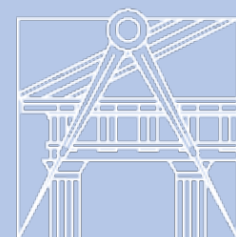


Representação Digital

2023-2024

U LISBOA

UNIVERSIDADE
DE LISBOA



FACULDADE DE ARQUITETURA
LISBON SCHOOL OF ARCHITECTURE
UNIVERSIDADE DE LISBOA

Mestrado Integrado em Arquitectura
Ano Lectivo 2023-2024 1º Semestre
Docente - Nuno Alão 2º Ano

20221332



RAQUEL COELHO DOS SANTOS RODRIGUES VALONGO

ÍNDICE

<u>Semana 1</u>	4 e 5	<u>Semana 7</u>	17 a 22
Aula 1 – 21 setembro		Aula 12 – 2 novembro	
Aula 2 – 22 setembro		Aula 13 – 3 novembro	
<u>Semana 2</u>	6 a 9	<u>Exercício 2</u>	20
Aula 3 – 28 setembro		<u>Semana 8</u>	23 a 27
Aula 4 – 29 setembro		Aula 14 – 9 novembro	
<u>Exercício 1</u>	8	Aula 15 – 10 novembro	
<u>Semana 3</u>	10	<u>Trabalho 1</u>	28
Aula 5 – 6 outubro		<u>Semana 9</u>	29 a 35
<u>Semana 4</u>	11 e 12	Aula 16 – 16 novembro	
Aula 6 – 12 outubro		Aula 17 – 17 novembro	
Aula 7 – 13 outubro		<u>Exercício 3</u>	34
<u>Semana 5</u>	13 e 14	<u>Relações Duais</u>	36 e 37
Aula 8 – 19 outubro		<u>Semana 10</u>	
Aula 9 – 20 outubro		Aula 18 – 23 novembro	
<u>Semana 6</u>	15 e 16	<u>Semana 11</u>	
Aula 10 – 26 outubro		Aula 19 – 30 novembro	
Aula 11 – 27 outubro			

ÍNDICE

Semana 12

Aula 20 – 7 dezembro

Semana 13

Aula 21 – 14 dezembro

Aula 22 – 15 dezembro

Semana 14

Aula 23 – 21 dezembro

Aula 1

Sumário:

Apresentação da cadeira
Início da criação da página index

1. Aceder a uma página de outro aluno e ver a origem da página
2. Copiar a origem da página para o Sublime
3. Alterar o texto e a cor da página, e fazer outras mudanças necessárias

```
exercicos.html
1 <html>
2 <head>
3 <meta charset="UTF-8">
4 <title>Página da aluna Raquel Valongo</title>
5 <link type="text/css" rel="stylesheet" href="rv.css">
6 </head>
7 <body>
8 <div class="header">
9 <a href="http://www.fa.ulisboa.pt" target="_blank">Faculdade de Arquitetura da Universidade de Lisboa</a></div>
10 <div class="content">
11 <h3>Mestrado Integrado em Arquitetura</h3>
12 <a href="https://www.fa.ulisboa.pt/munualao/" target="_blank">Docente: Nuno Alão</a></div>
13 </div>
14 <div class="content">
15 <div class="content">
16 <div class="content">
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18 <div class="content">
19 <div class="content">
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27 <div class="content">
28 <div class="content">
29 <div class="content">
30 <div class="content">
31 <div class="content">
32 </div>
33 </body>
34 </html>
```

```
entregas.html
1 <html>
2 <head>
3 <meta charset="UTF-8">
4 <title>Página da aluna Raquel Valongo</title>
5 <link type="text/css" rel="stylesheet" href="rv.css">
6 </head>
7 <body>
8 <div class="header">
9 <a href="http://www.fa.ulisboa.pt" target="_blank">Faculdade de Arquitetura da Universidade de Lisboa</a></div>
10 <div class="content">
11 <h3>Mestrado Integrado em Arquitetura</h3>
12 <a href="https://www.fa.ulisboa.pt/munualao/" target="_blank">Docente: Nuno Alão</a></div>
13 </div>
14 <div class="content">
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31 <div class="content">
32 </div>
33 </body>
34 </html>
```

```
index.html
1 <html>
2 <head>
3 <meta charset="UTF-8">
4 <title>Página da aluna Raquel Valongo</title>
5 <link type="text/css" rel="stylesheet" href="rv.css">
6 </head>
7 <body>
8 <div class="header">
9 <a href="http://www.fa.ulisboa.pt" target="_blank">Faculdade de Arquitetura da Universidade de Lisboa</a></div>
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12 <a href="https://www.fa.ulisboa.pt/munualao/" target="_blank">Docente: Nuno Alão</a></div>
13 </div>
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28 <div class="content">
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30 <div class="content">
31 <div class="content">
32 </div>
33 </body>
34 </html>
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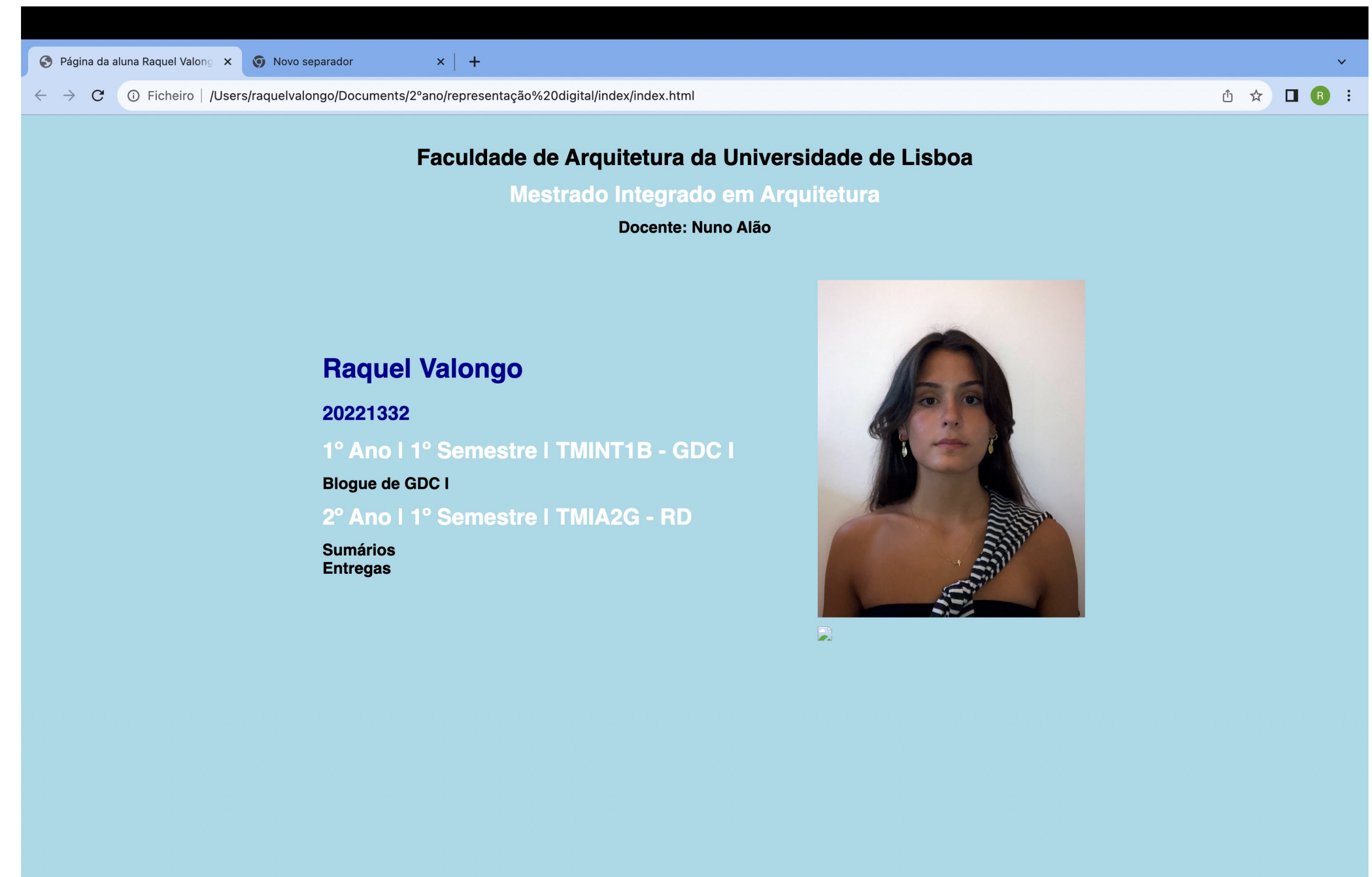
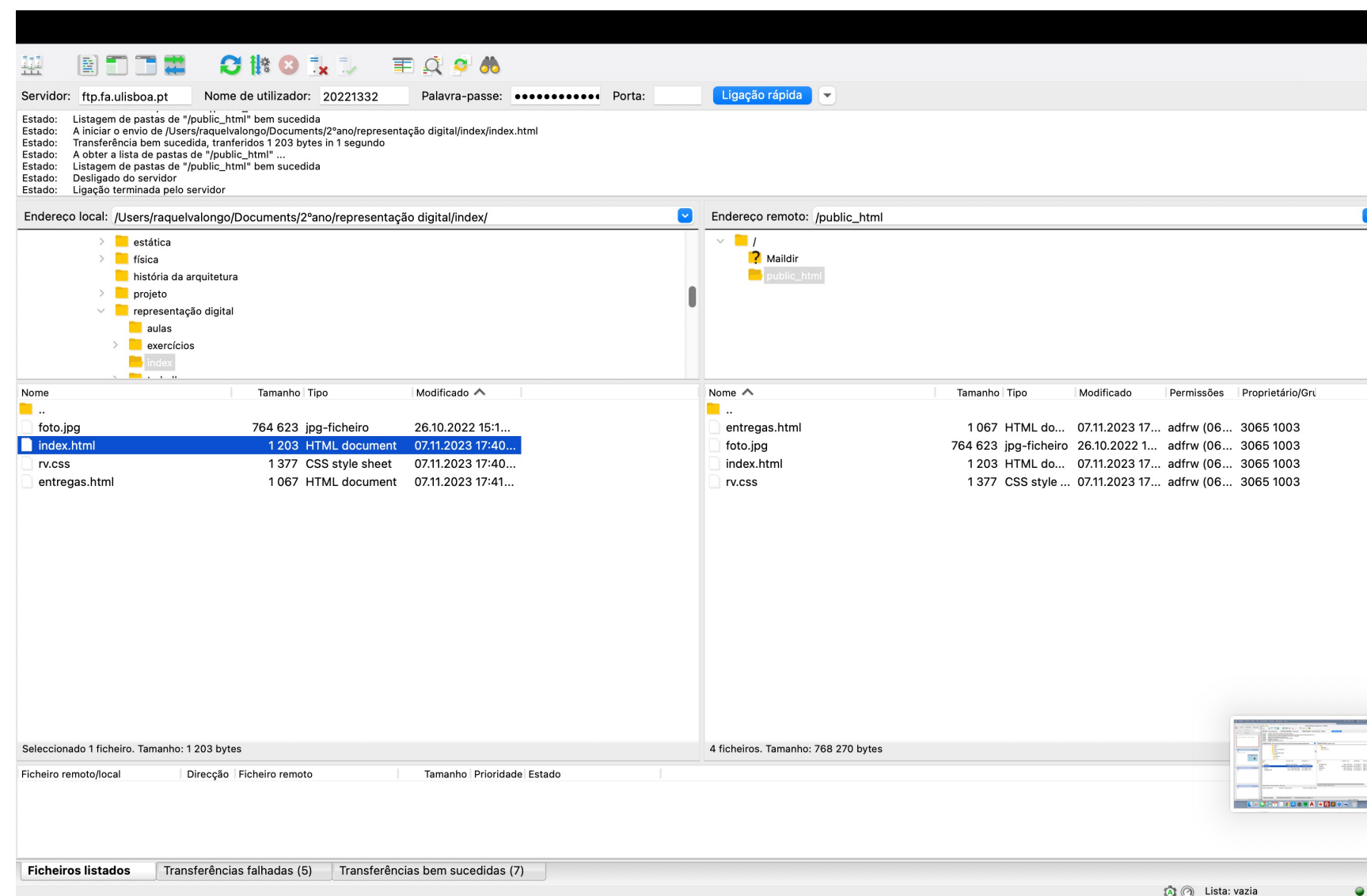
```
rv.css
1 body {
2 margin: 0;
3 padding: 0;
4 color: white;
5 background-color: LightBlue;
6 text-align: center;
7 }
8
9 .header {
10 background-color: LightBlue;
11 padding: 10px;
12 text-align: center;
13 }
14
15 .main-content {
16 display: flex;
17 justify-content: center;
18 align-items: center;
19 max-width: 100%;
20 padding: 10px;
21 }
22
23 .content {
24 text-align: left;
25 max-width: 30%;
26 padding: 10px;
27 }
28
29 .image-container {
30 display: flex;
31 flex-direction: column;
32 max-width: 30%;
33 text-align: center;
34 margin-left: 5%;
35 }
36
37 .main-image {
38 max-width: 300px;
39 max-height: 80px;
40 }
41
42 .secondary-image {
43 max-width: 300px;
44 max-height: 80px;
45 margin-top: 10px;
46 }
47
48 .link-a {
49 color: white;
50 }
51
52 a {
53 color: #000000;
54 text-decoration: none;
55 }
56
57 a:hover {
58 color: grey;
59 }
```

Aula 2

Sumário:

Continuação da criação da página de index

1. Aceder à página da faculdade na aplicação Filezilla
2. Colocar o ficheiro index e outros necessários

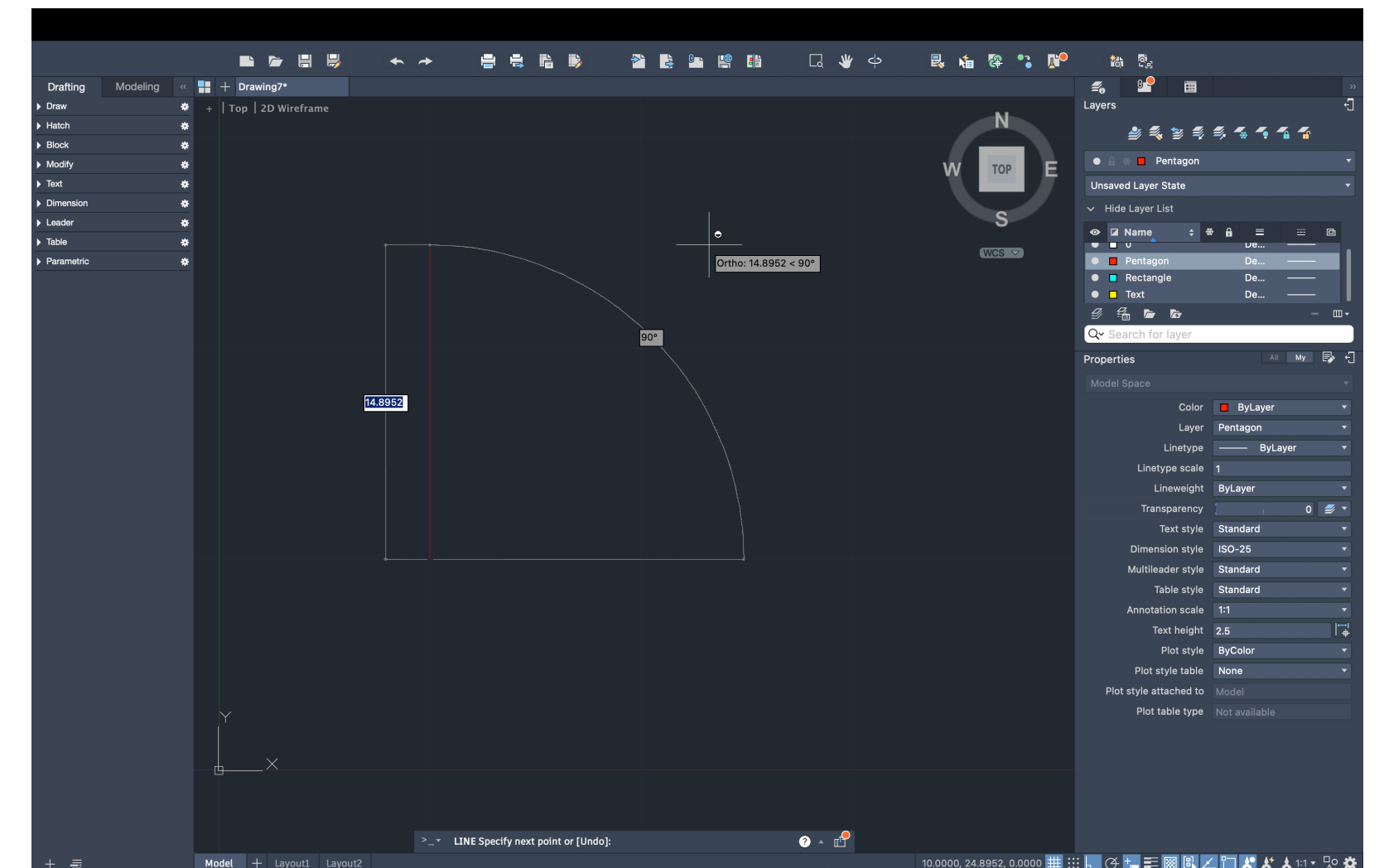
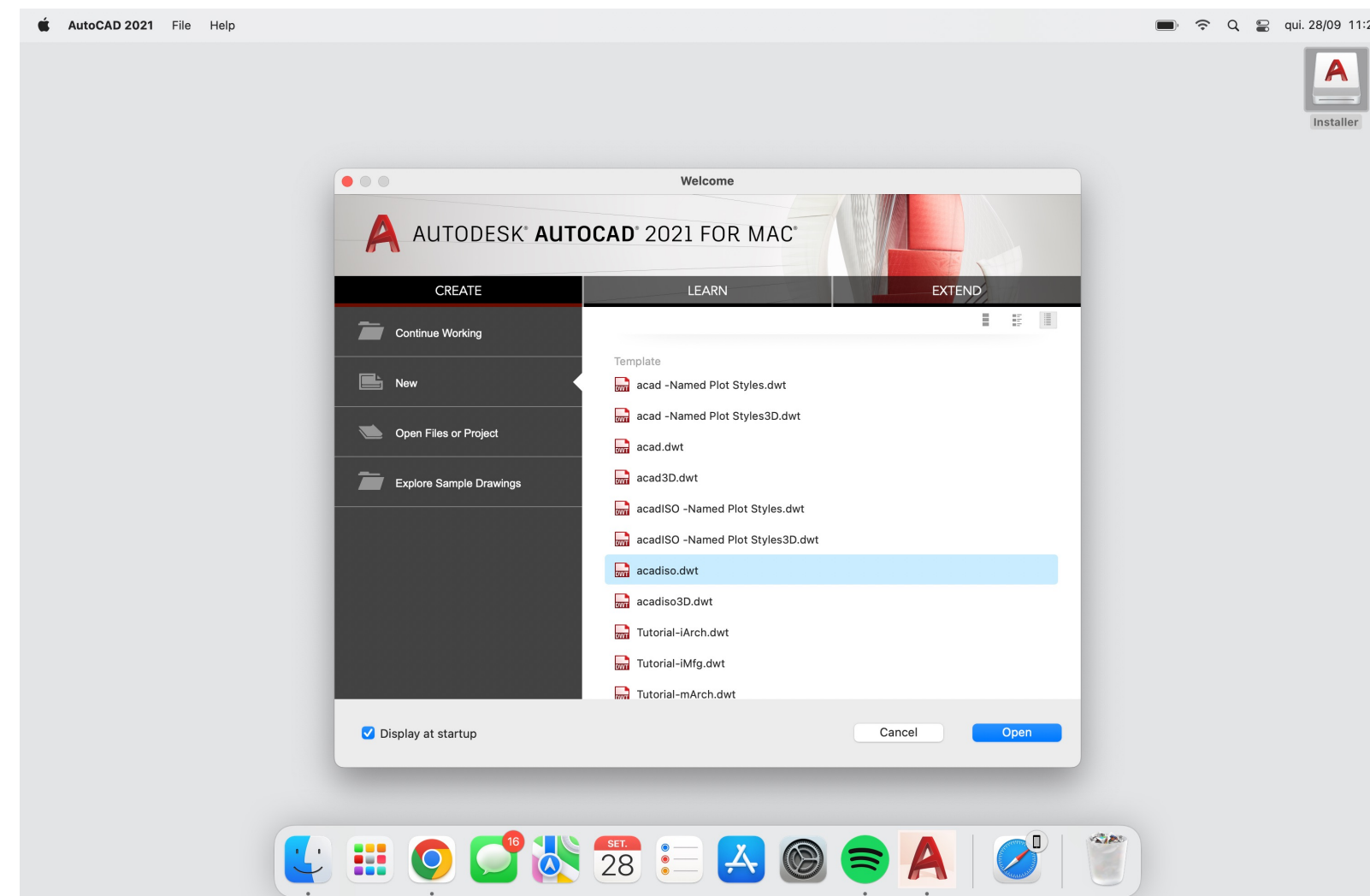
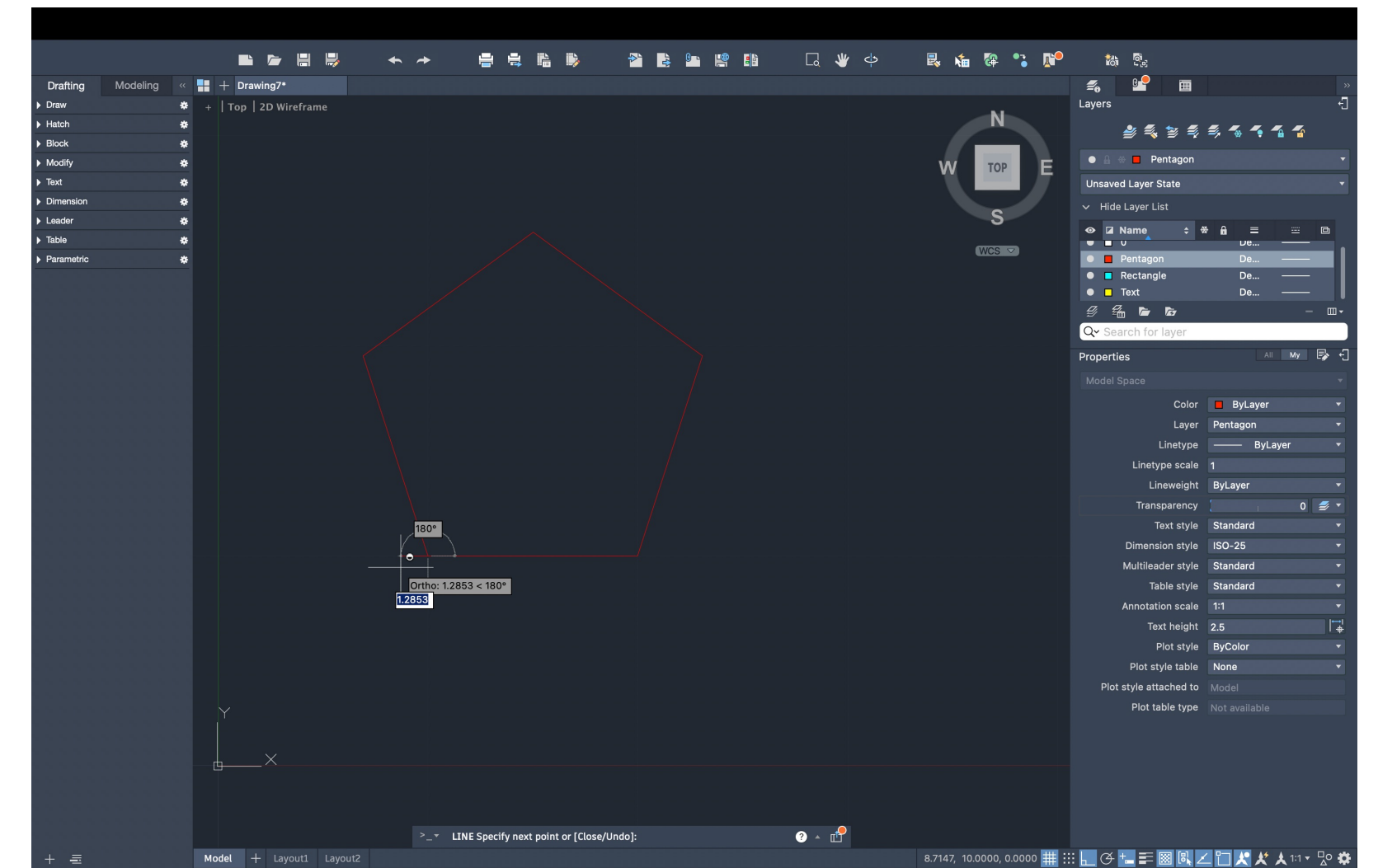


Aula 3:

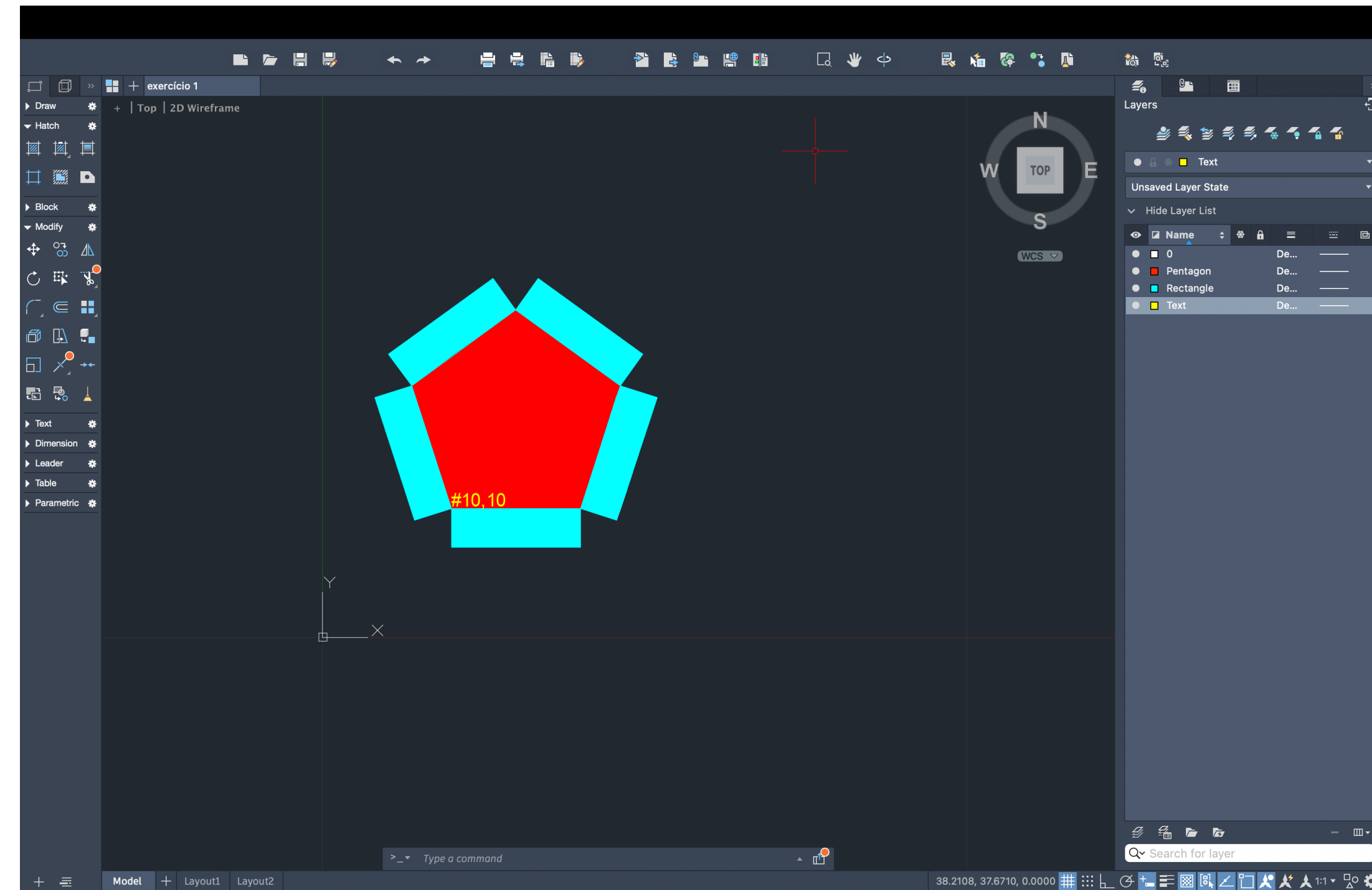
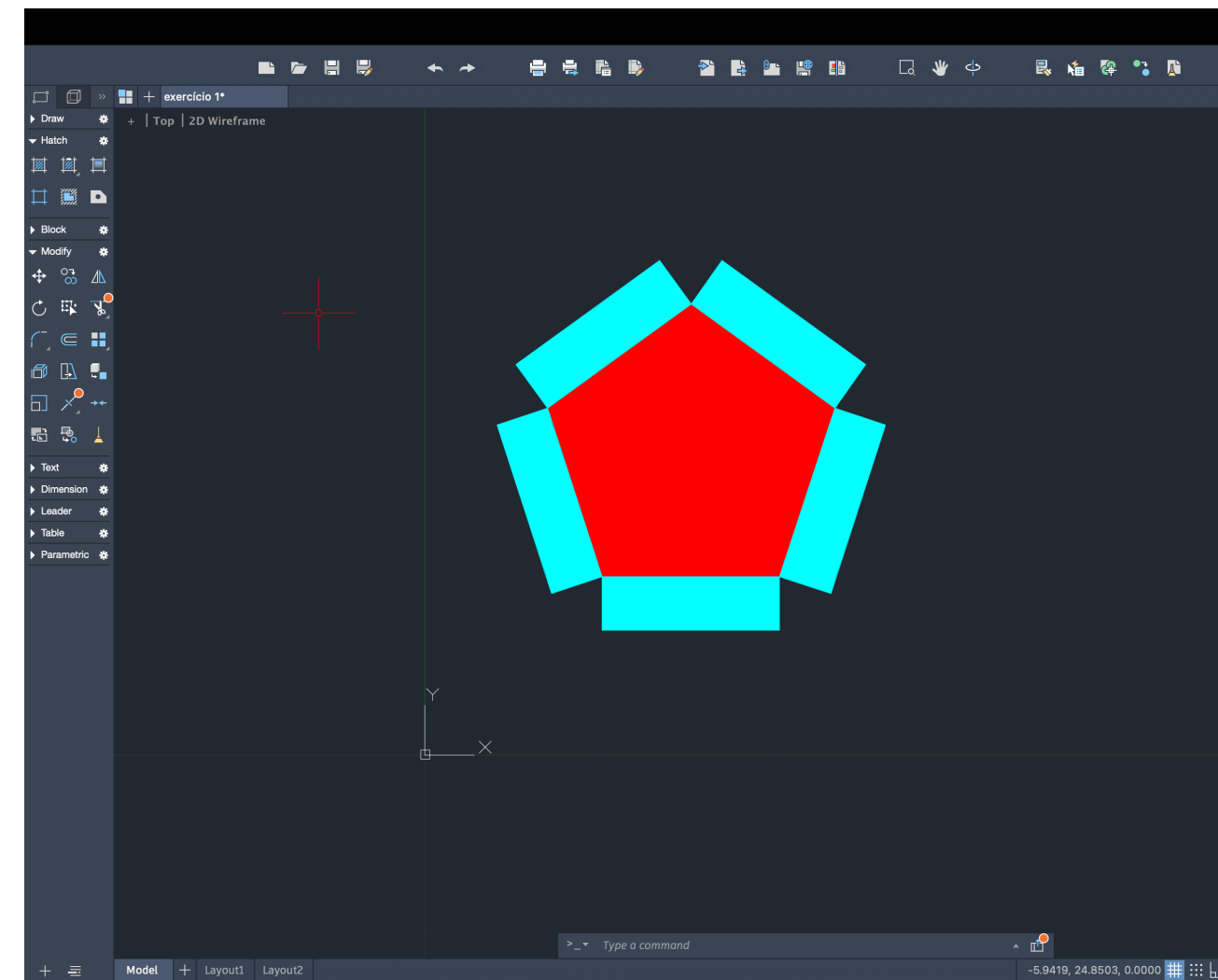
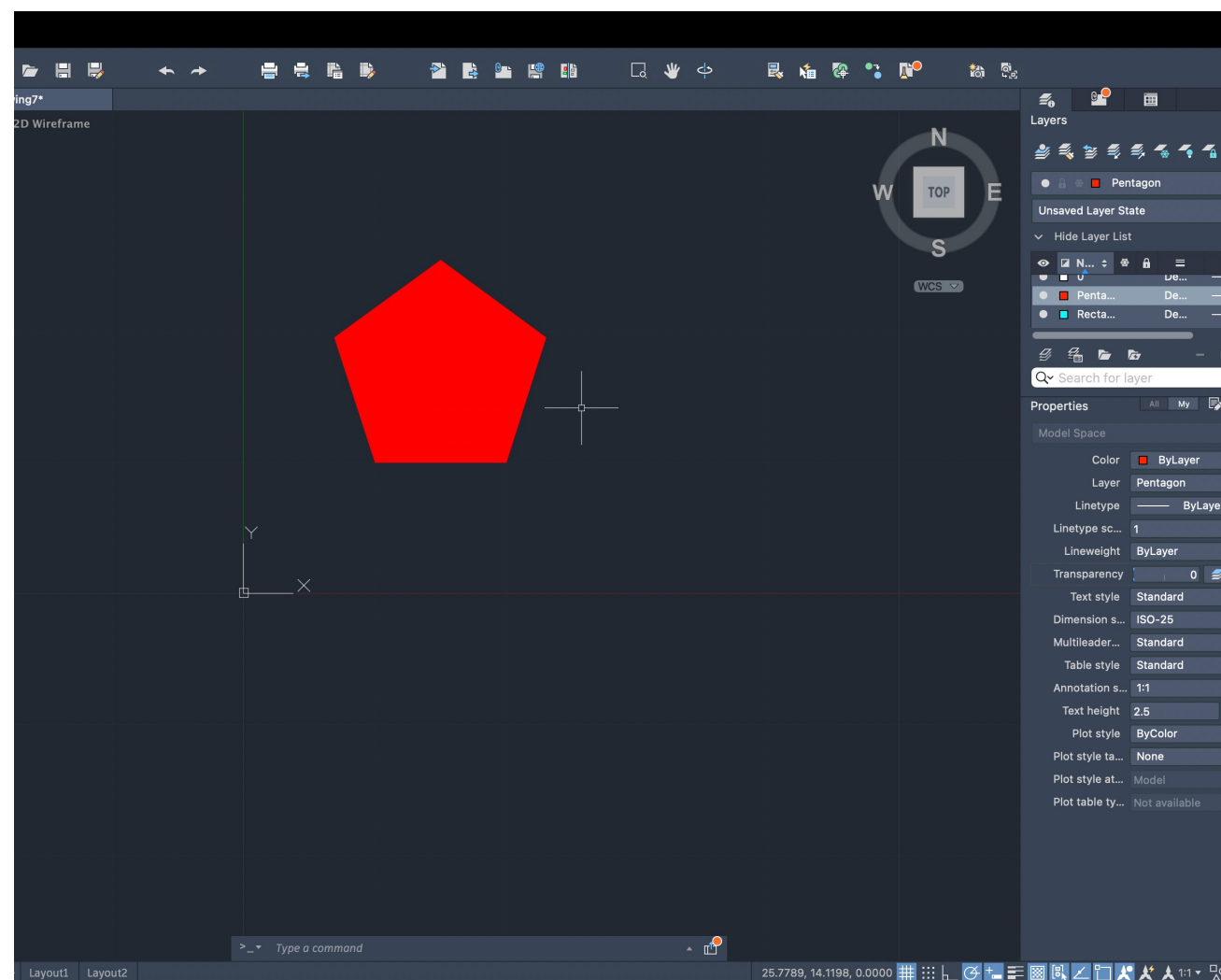
Sumário:

Realização do primeiro exercício em Autocad

1. Ficheiro: acadiso.dwt
2. Criar layers
3. Layer Pentagon: Fazer pentágono: Comando L – line
4. Primeiro ponto 10,10
5. Próximo ponto 20,10
6. Próximos pontos @10< 0, @10

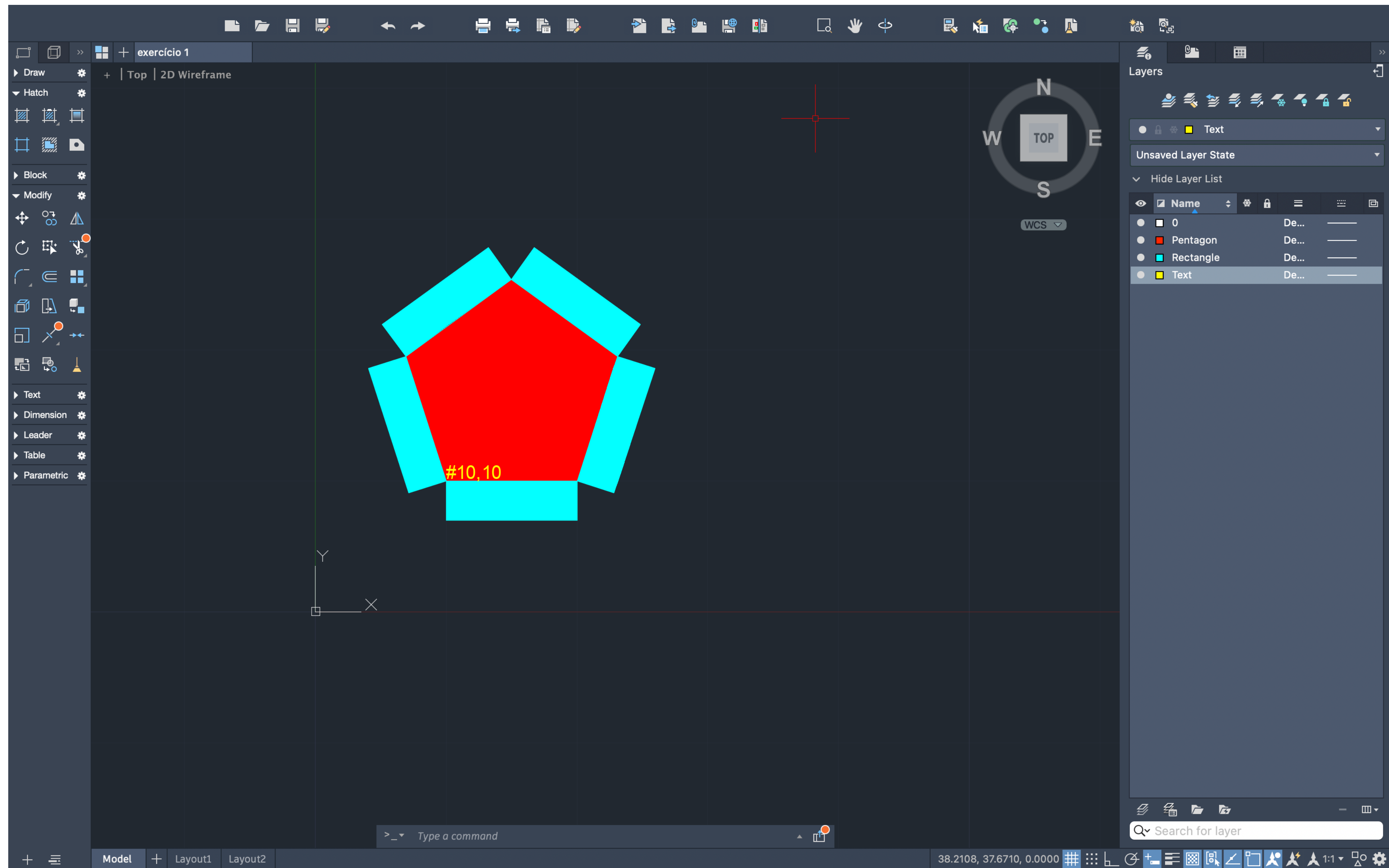


6. Comando H – hatch, Solid
7. Layer rectangle: Fazer os retângulos: comando PL- polyline
8. Ativar ortho mode para fazer ângulos retos rigorosos
9. 10, enter → 3, enter ↑, 10 enter ←
10. Comando C- close
11. Comando CO-copy, fazer mais 4 cópias
12. Comando M-move
13. Comando RO- rotate / Comando AL – align para os vértices do pentágono
14. Layer- Texto
15. Comando DT – texto
16. Height 1 Rotation 0



ReDig

Semana 2



ReDig

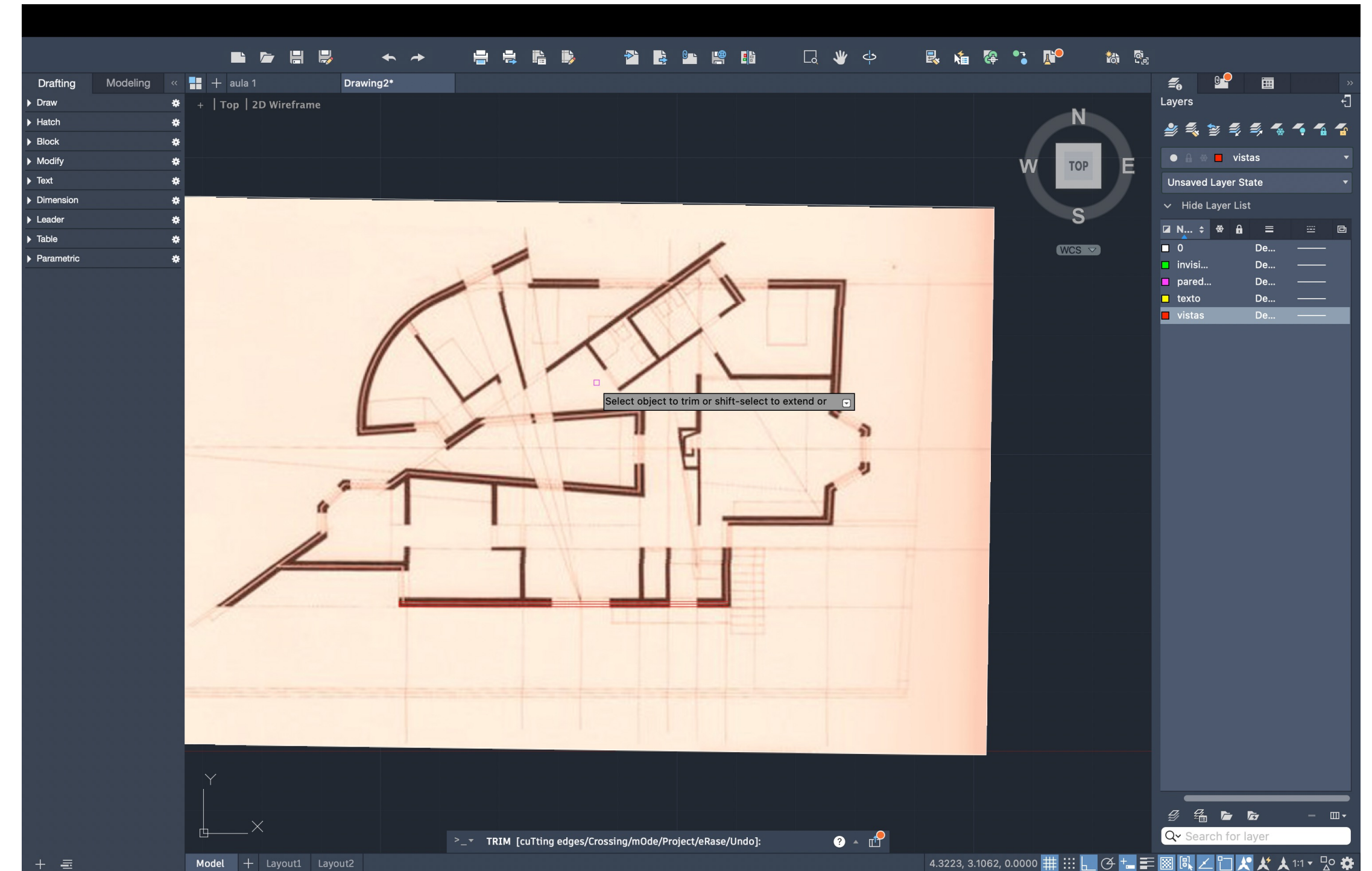
Exercício 1- 2D Autocad

Aula 4

Sumário:

Início da realização do trabalho 1– desenho da planta da Casa António Siza

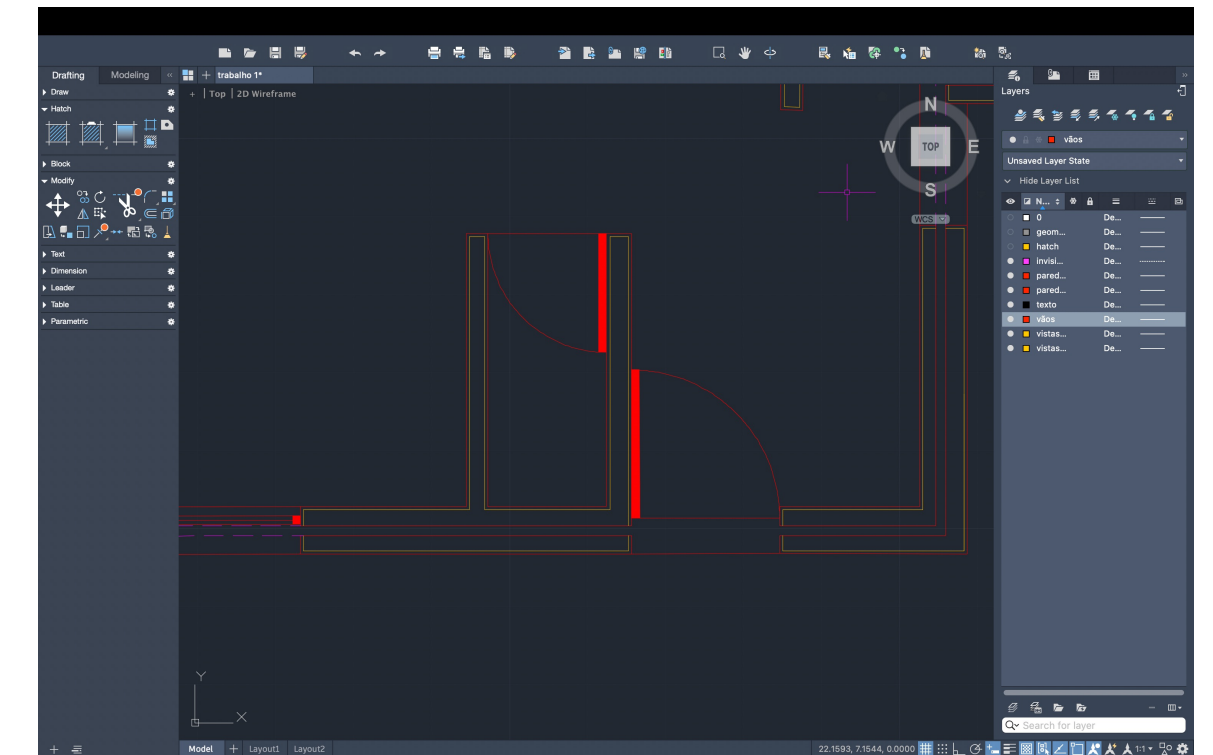
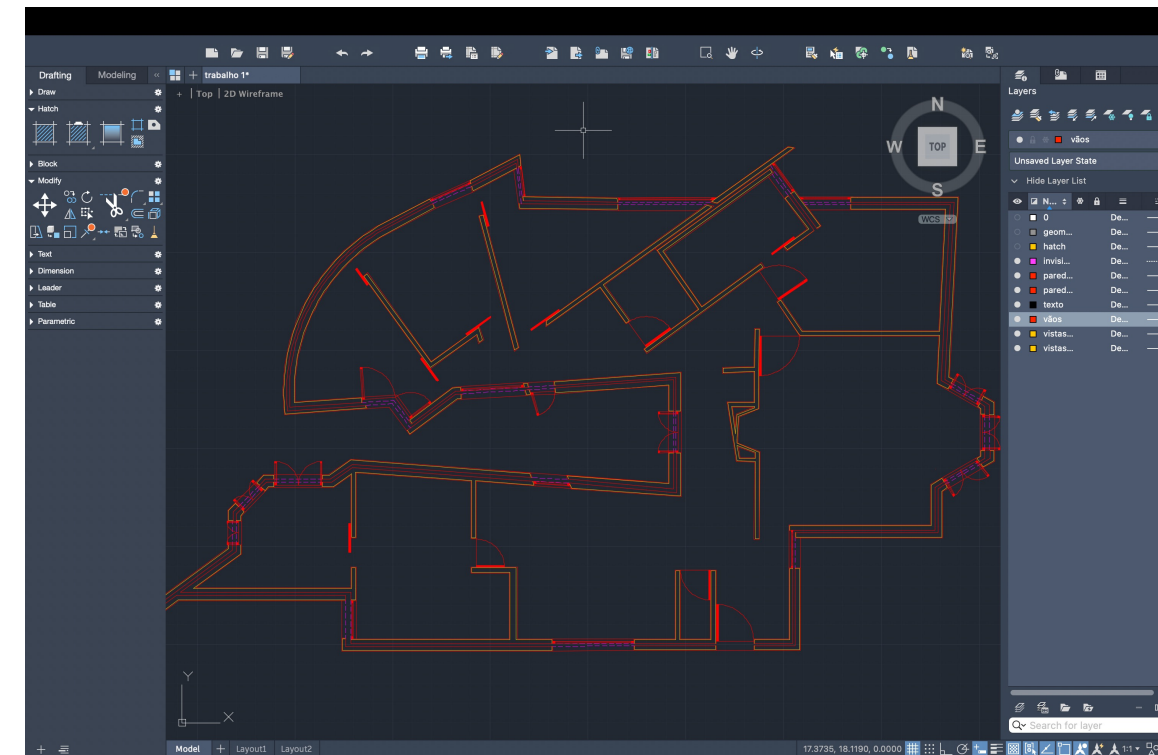
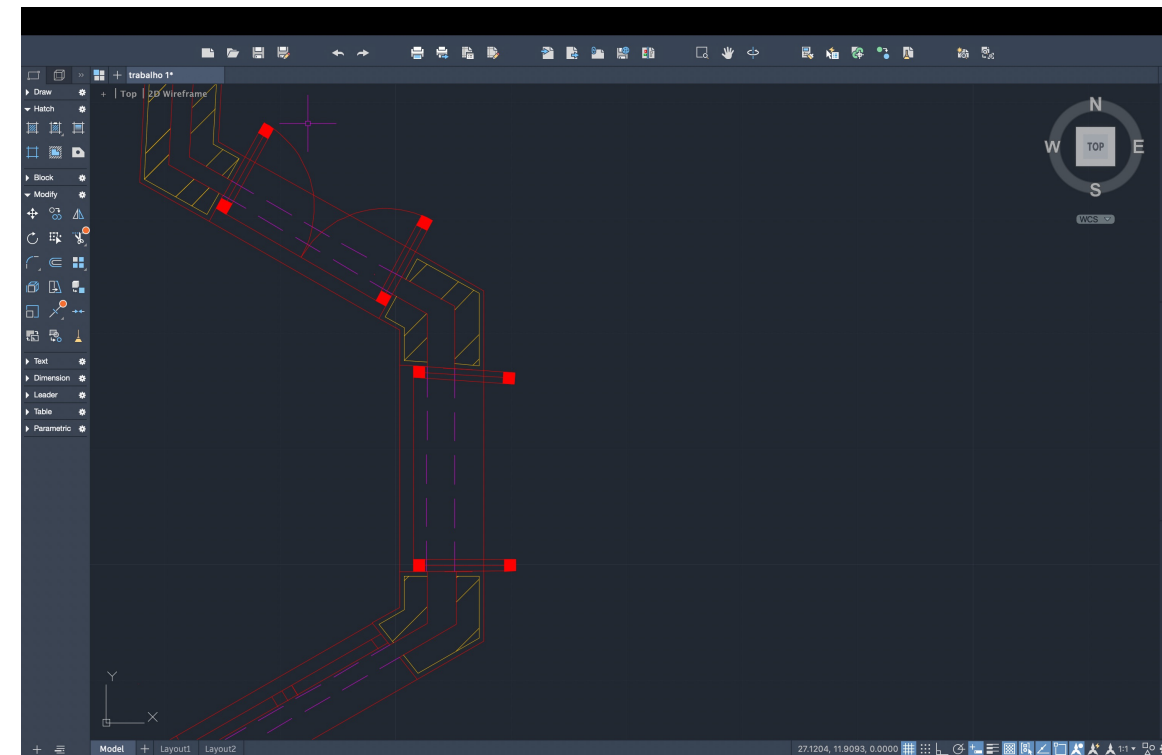
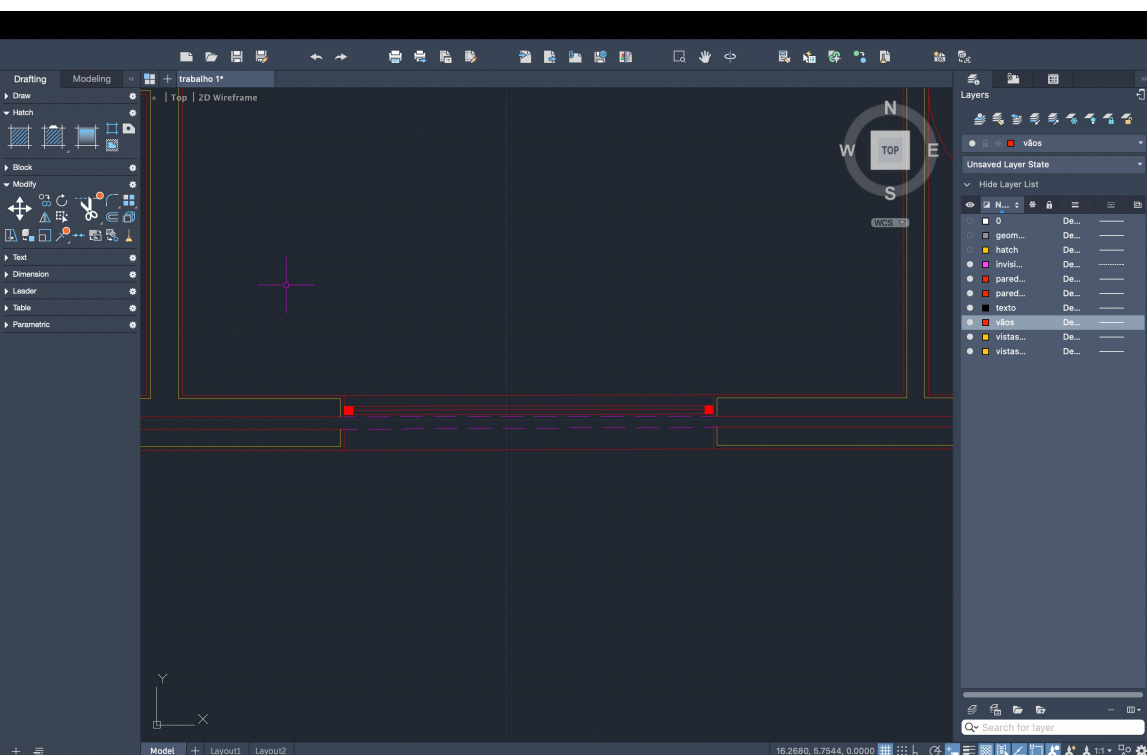
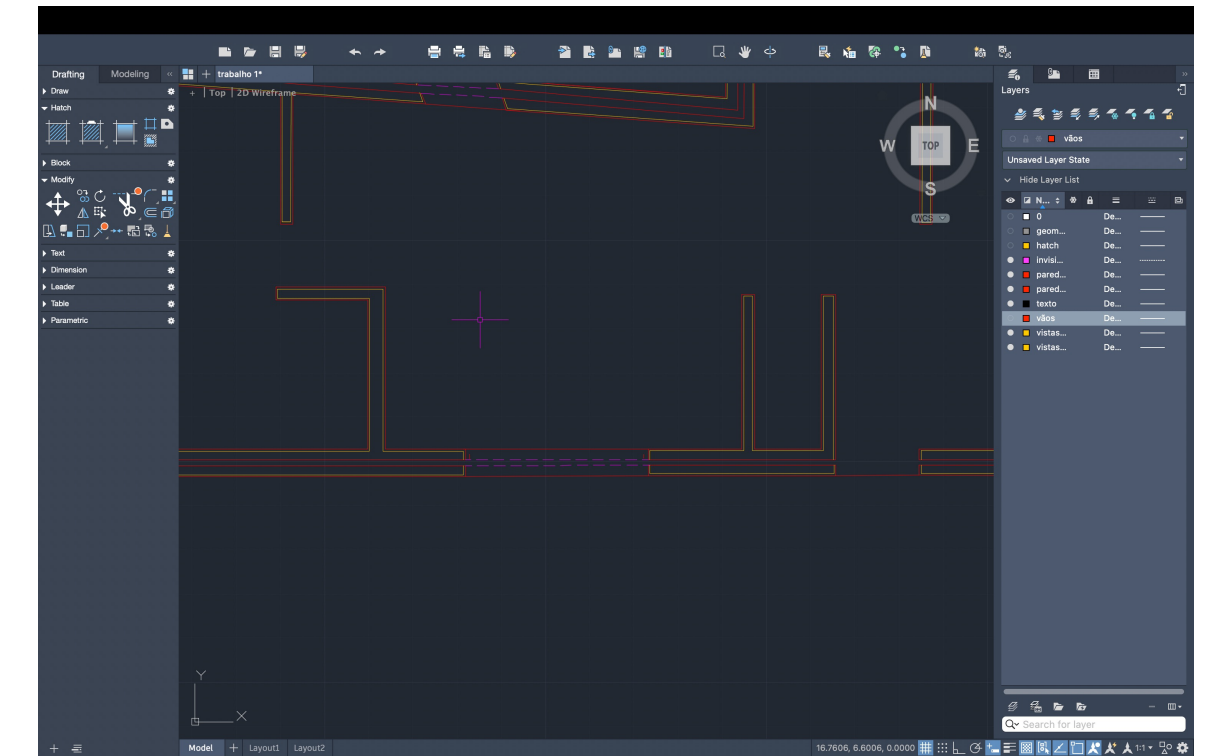
- 1.Criação de layers: Invisibilidades, paredes, texto e vistas
- 2.Inserir a imagem da planta: Comando ATTATCH – scale 1
- 3.Escalar a planta: Linha na porta/cama/ degrau (objetos com medida standard)
- 4.



Aula 5

Sumário:

Continuação do desenho da planta - vãos



ReDig

Semana 3

Aula 6

Sumário:

Informações sobre como criar um layout e escrever informações construtivas

Aula 7

Sumário:

Informações sobre como mudar as informações construtivas e os tipos de linhas

Aula 8

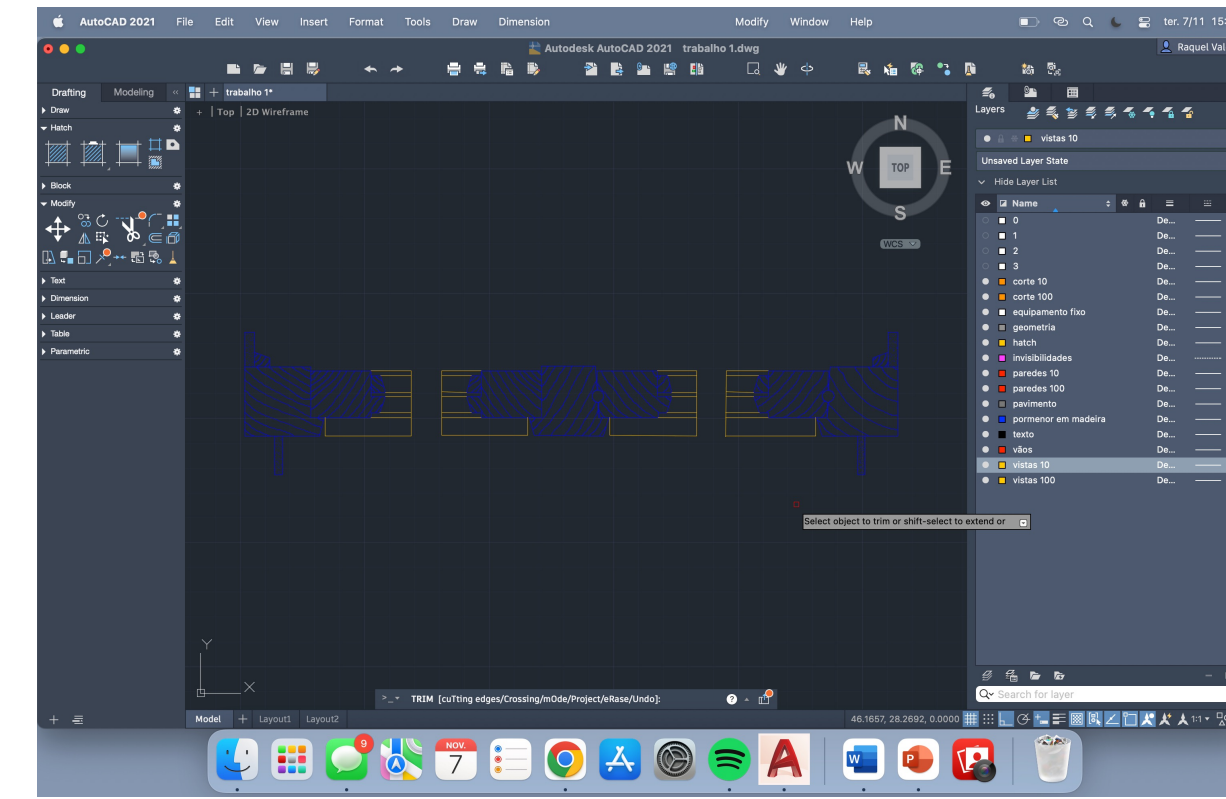
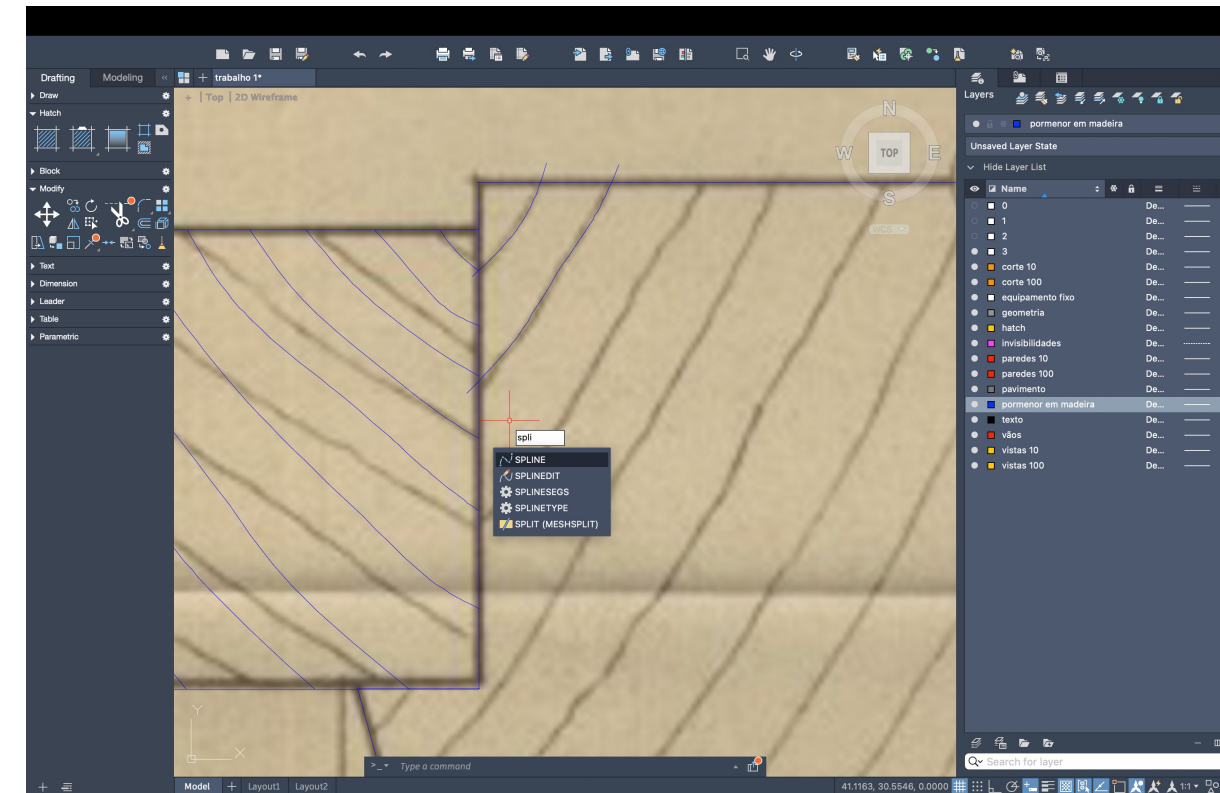
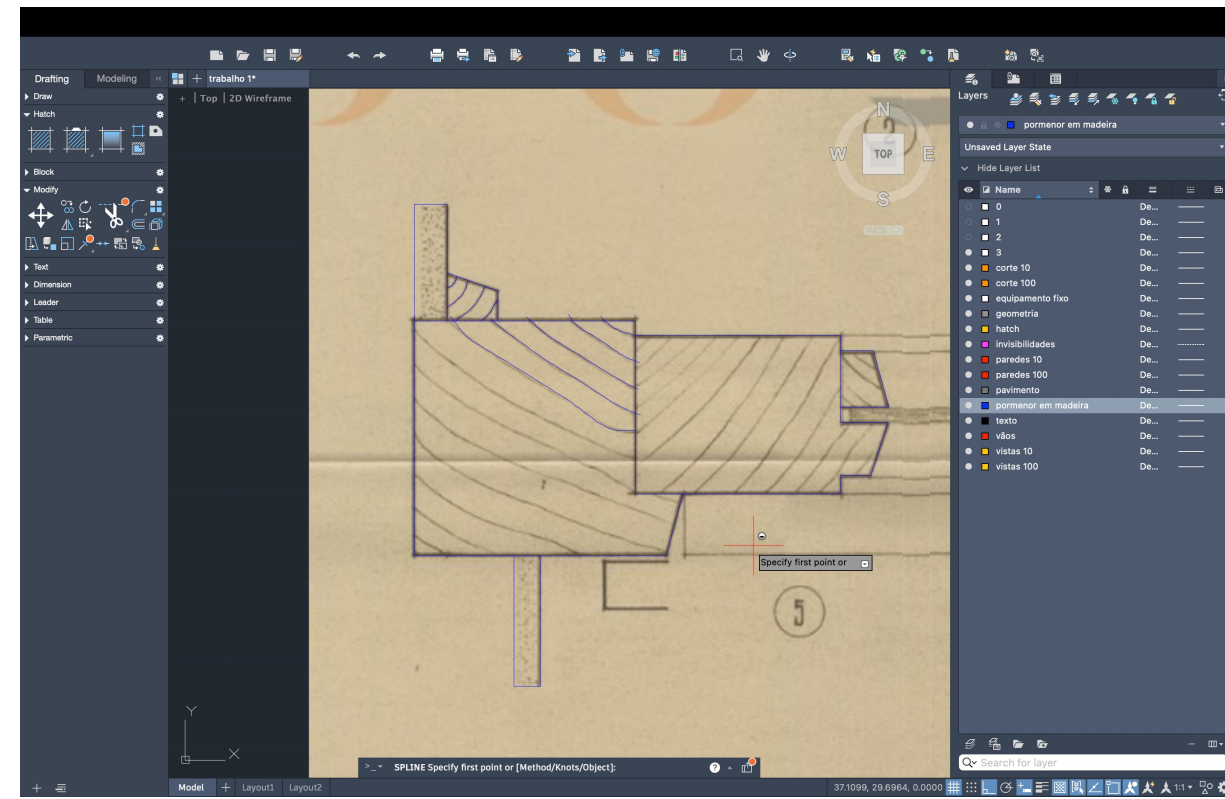
Sumário:

Continuação do desenho da planta

Aula 9

Sumário:

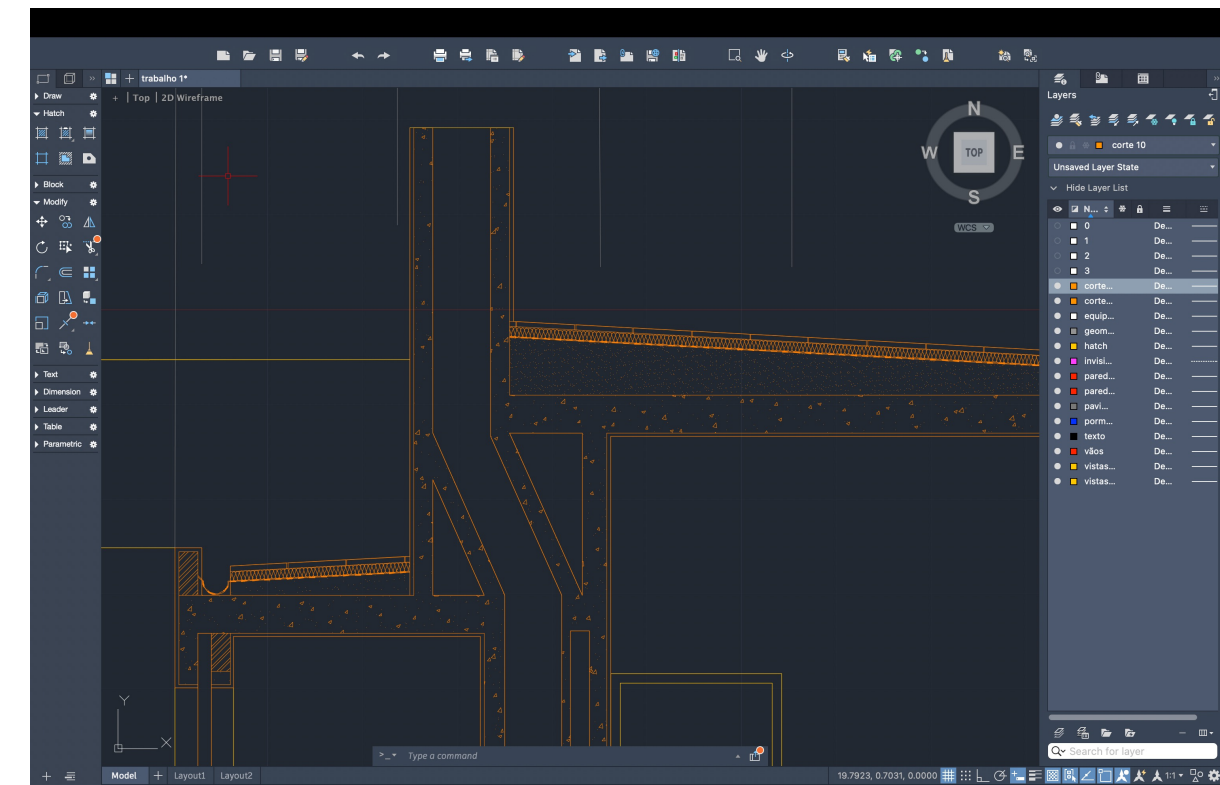
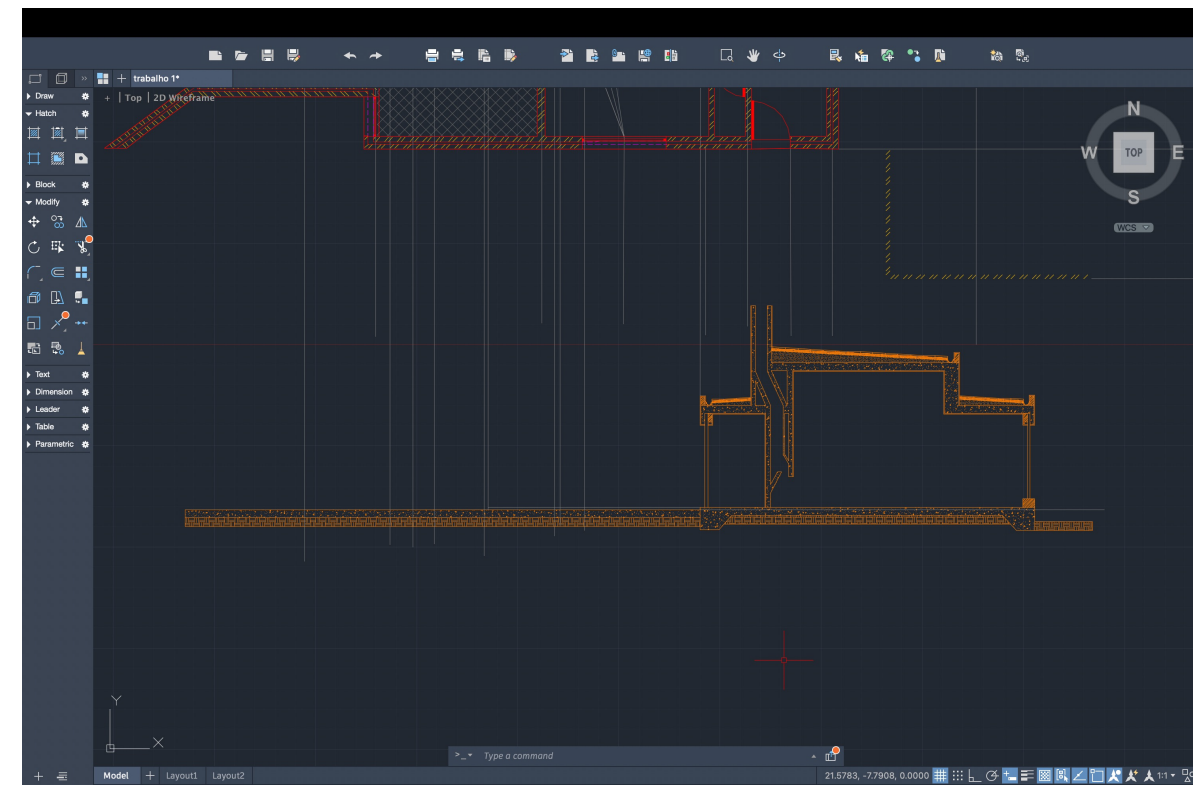
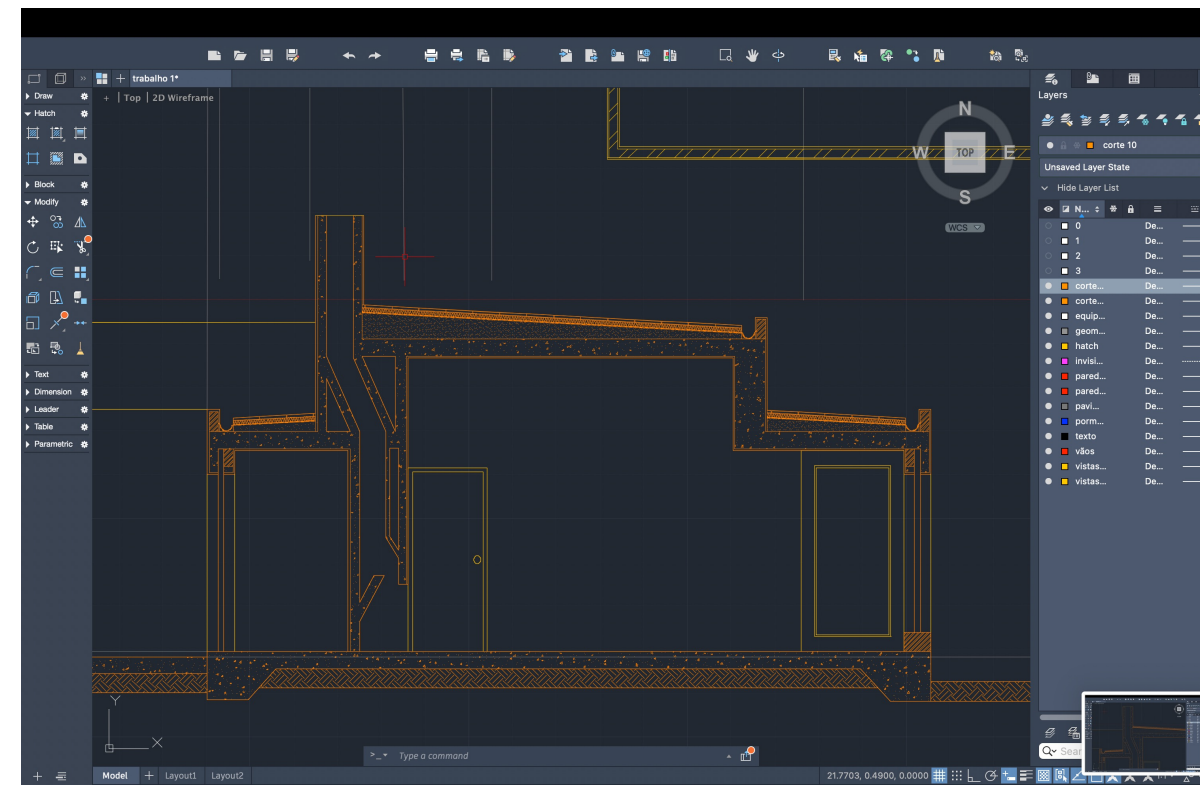
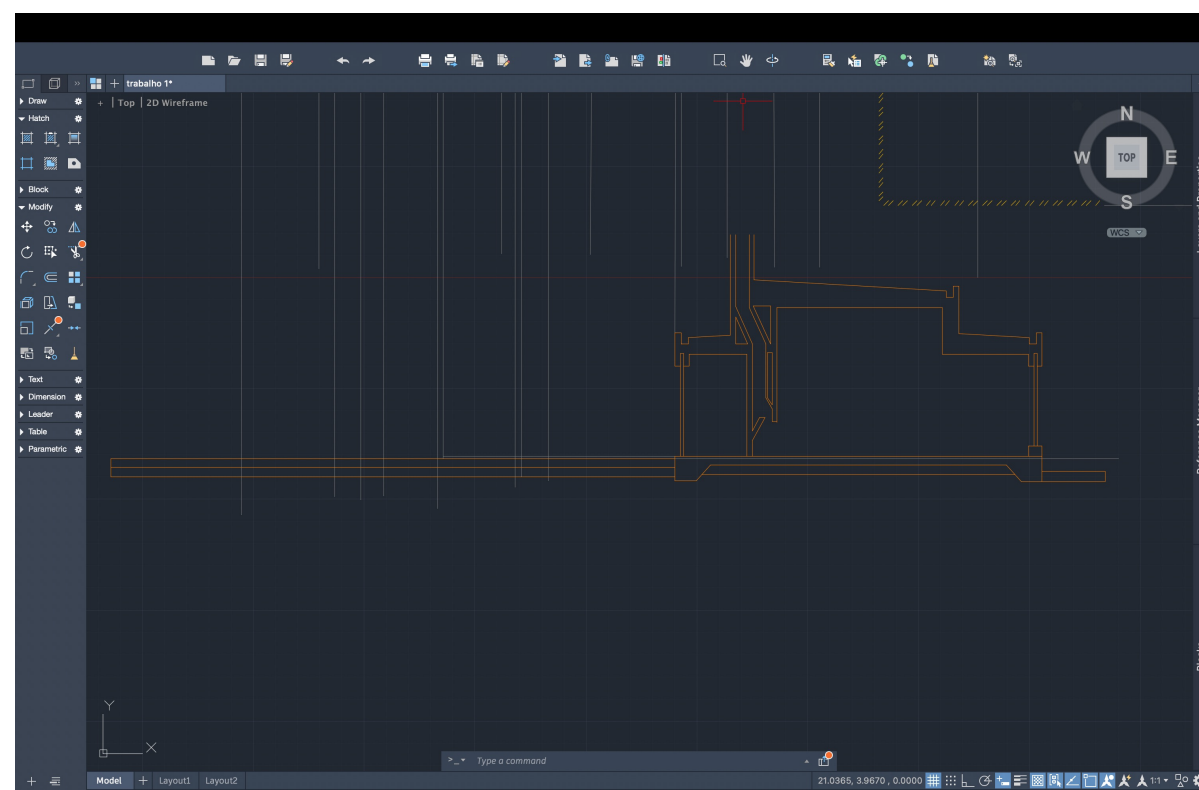
Continuação do desenho da planta – pormenor em madeira do caixilho da janela



Aula 10

Sumário:

Início do desenho de um corte da casa do Siza e desenho do detalhe da cobertura



Aula 11

Sumário:

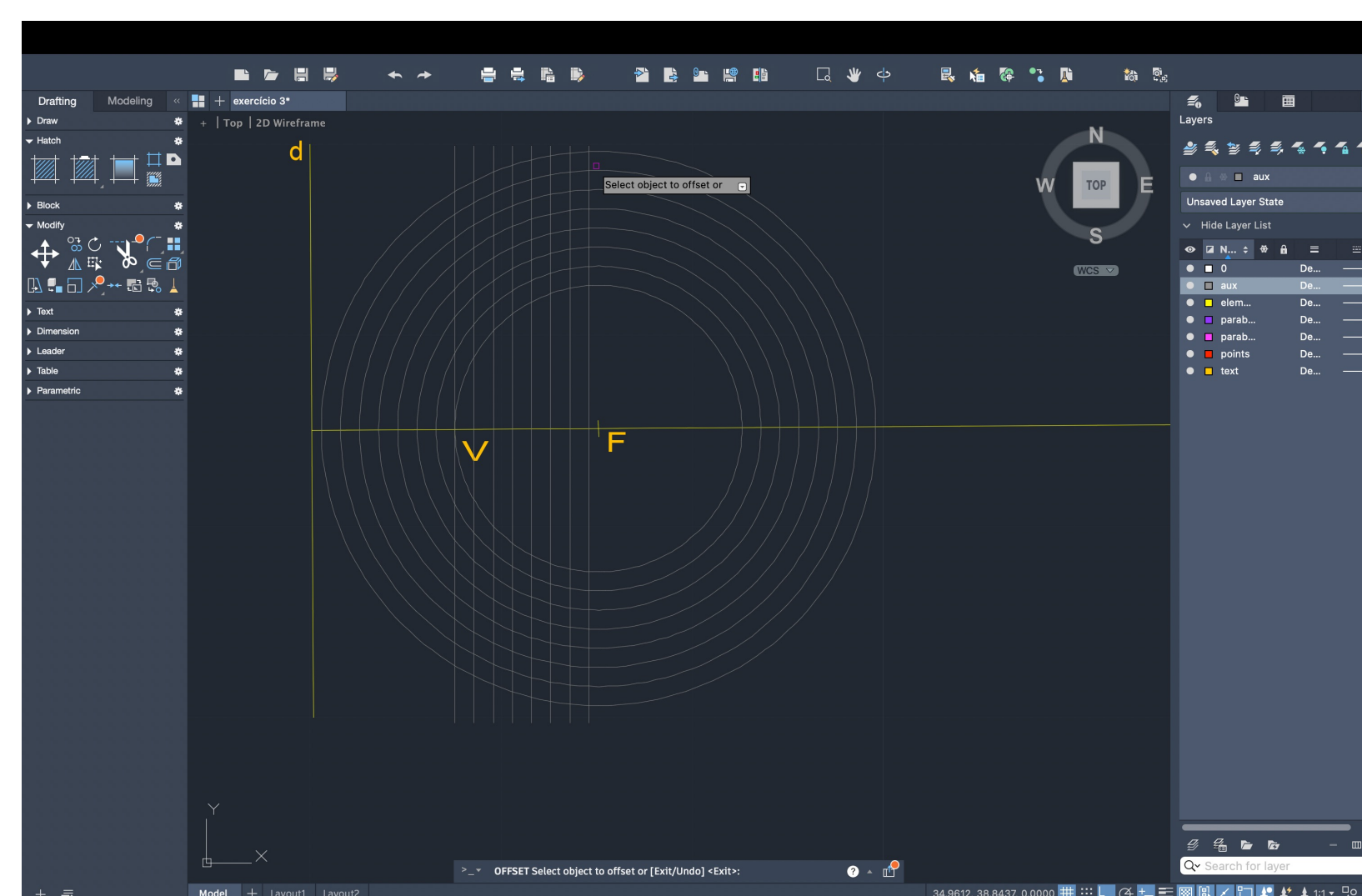
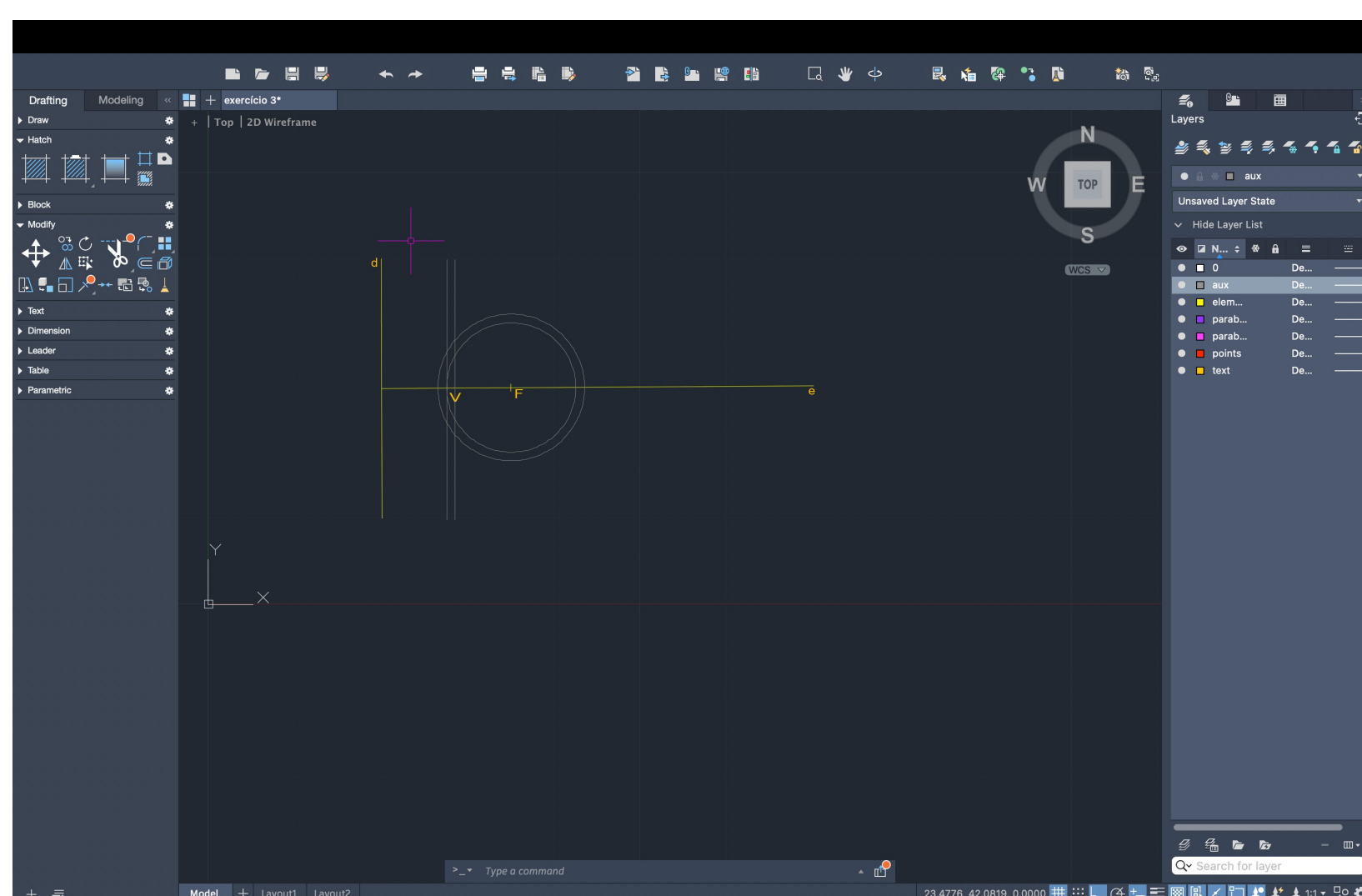
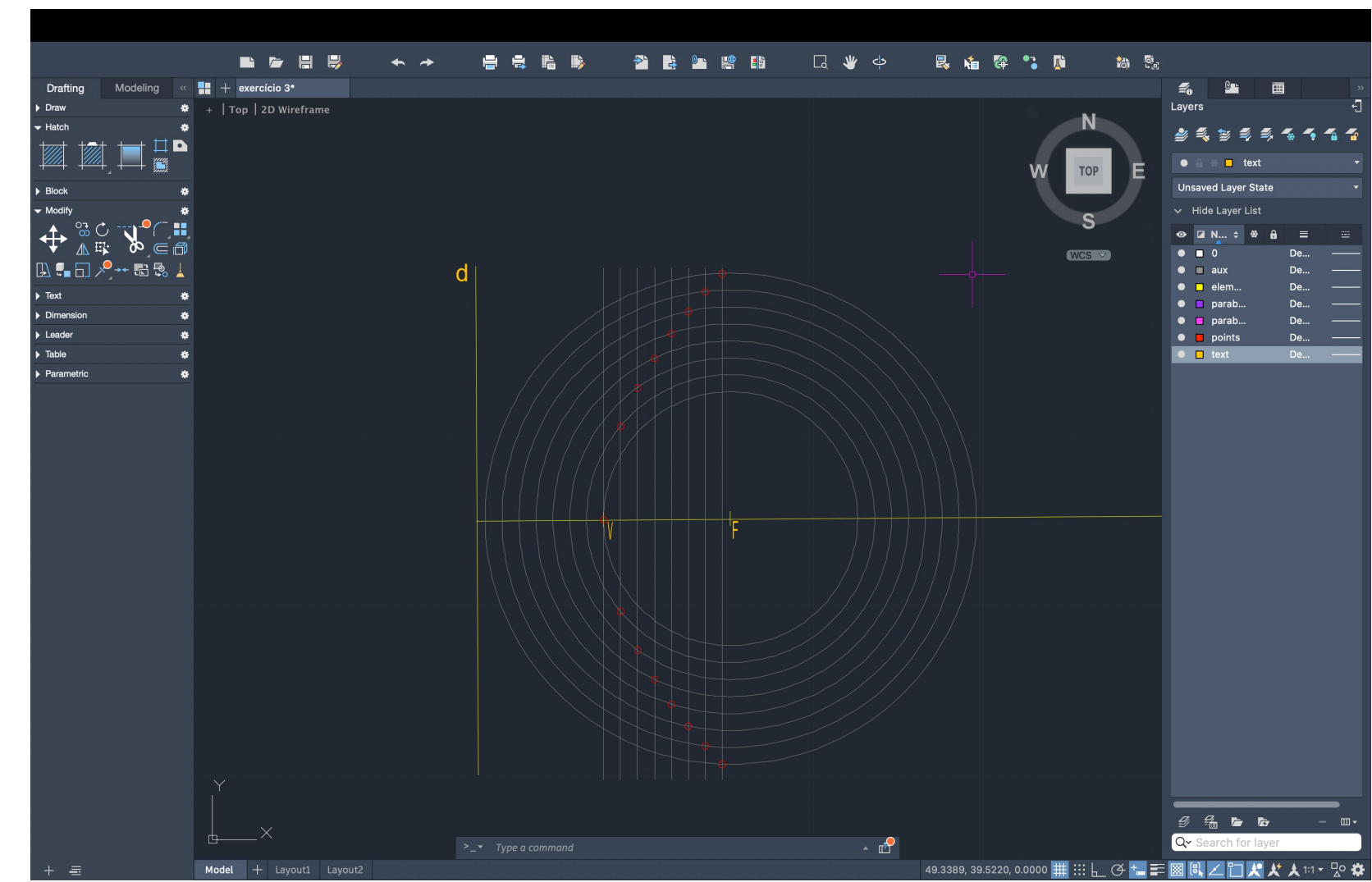
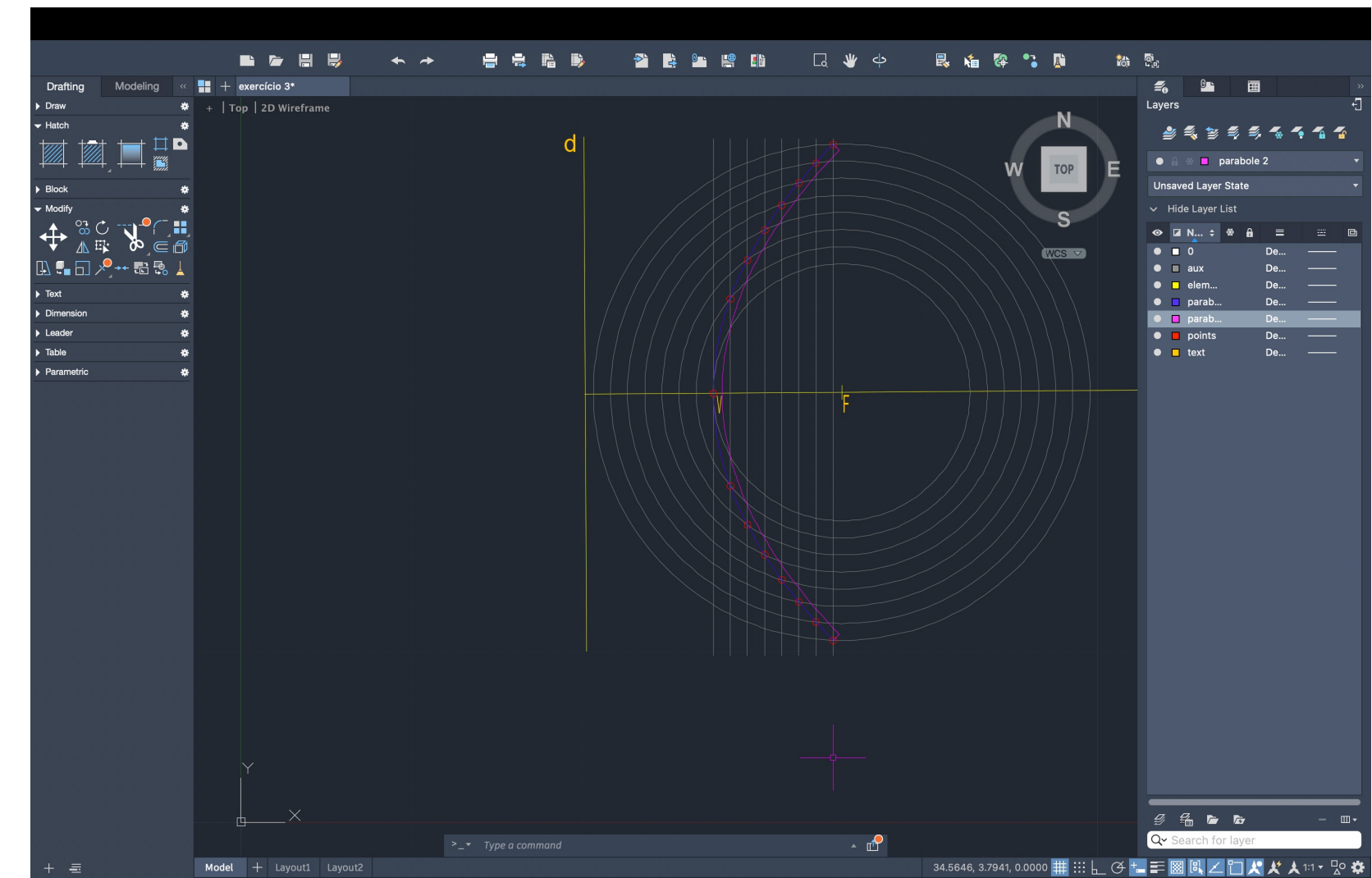
Continuação do desenho do corte e do detalhe da cobertura

Inserir equipamentos móveis e fixos

Aula 12

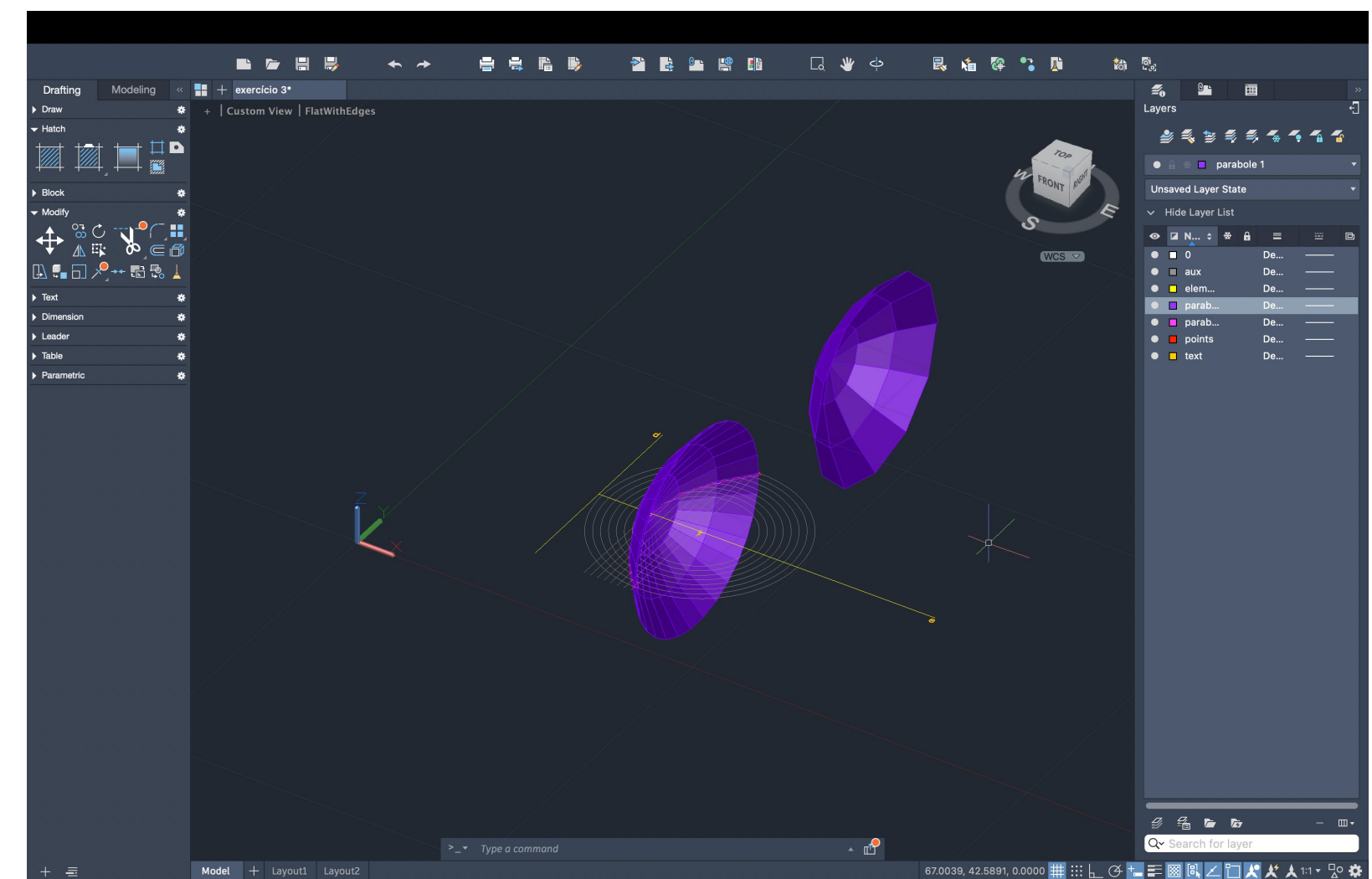
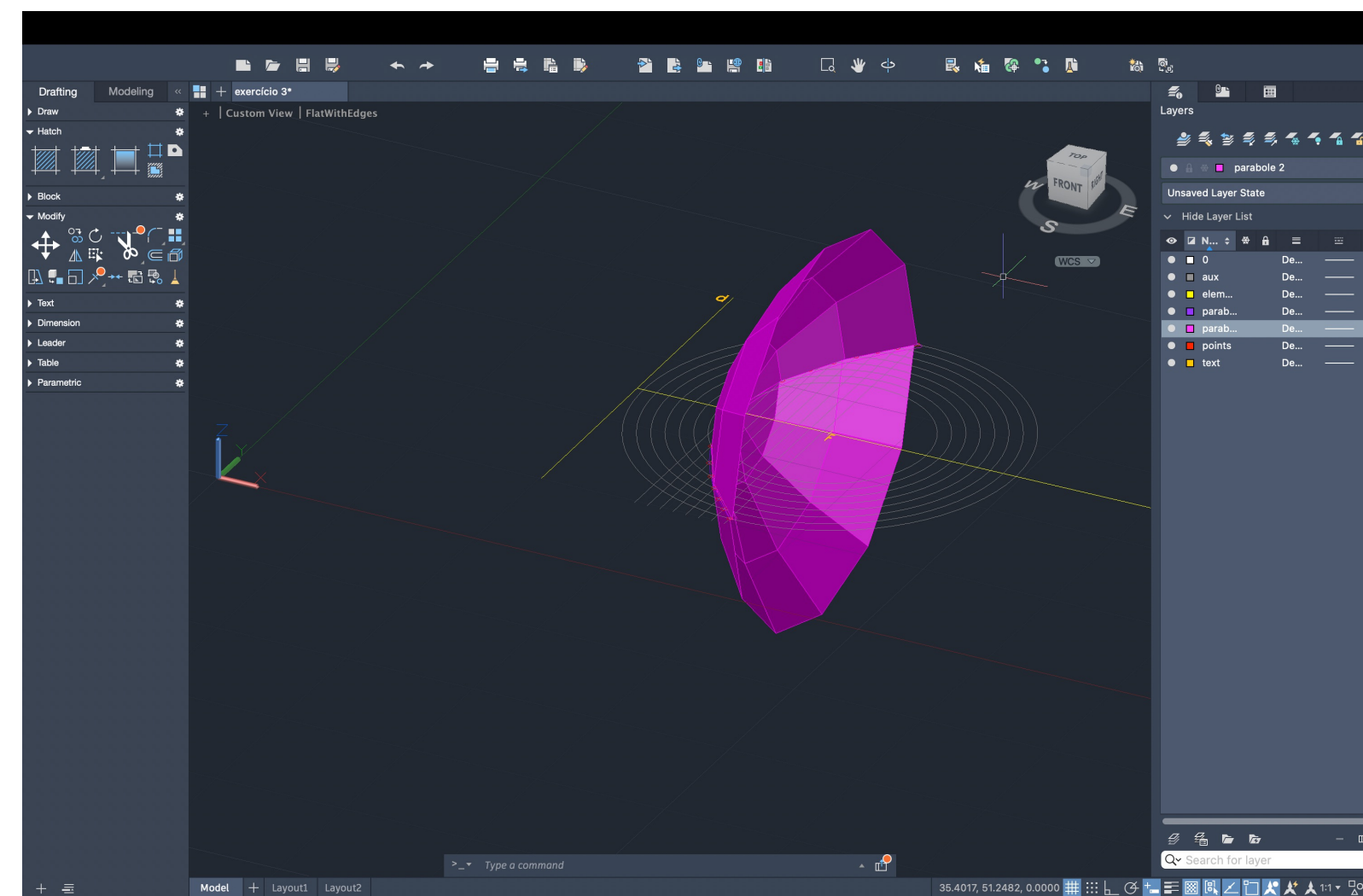
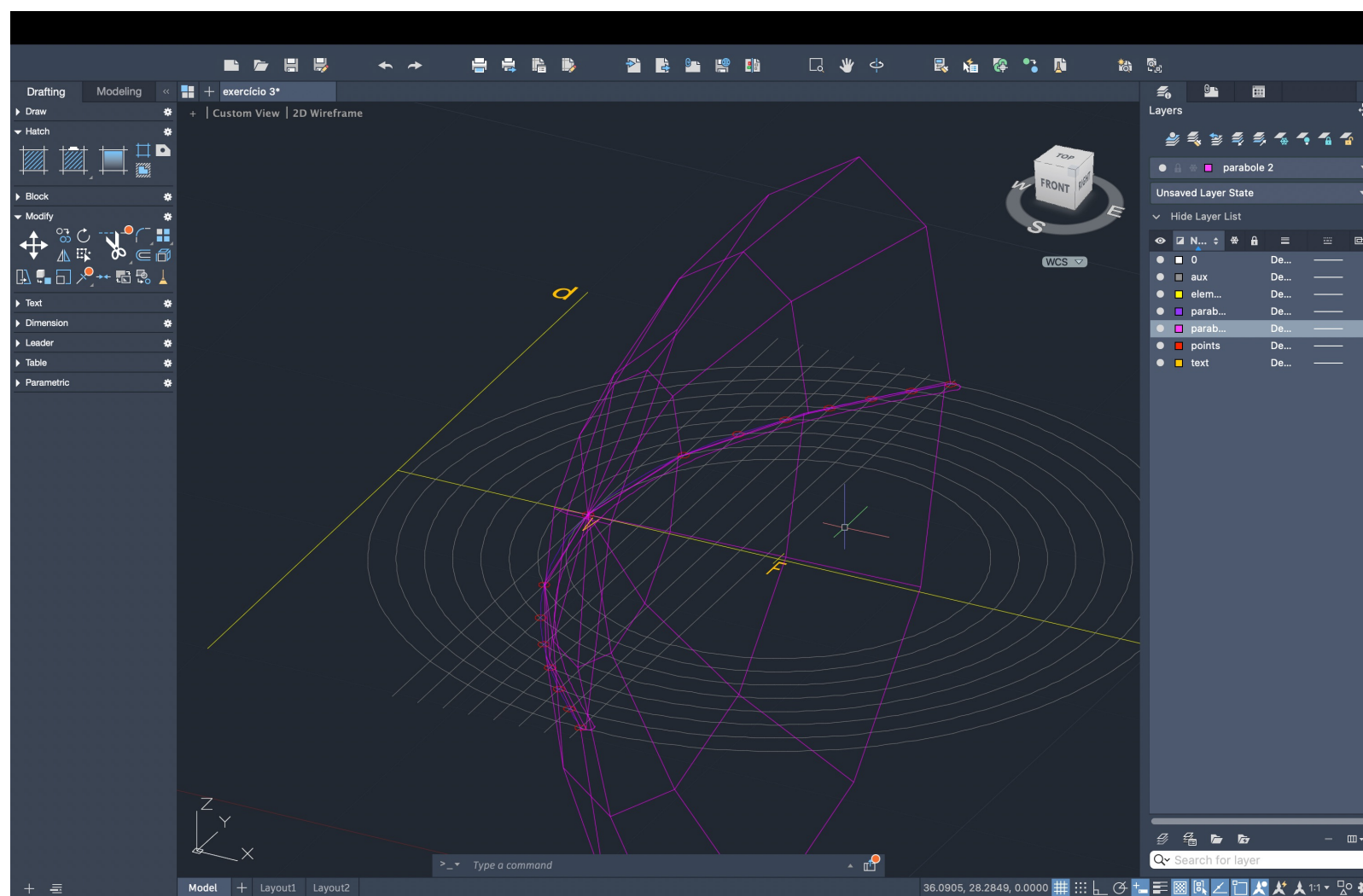
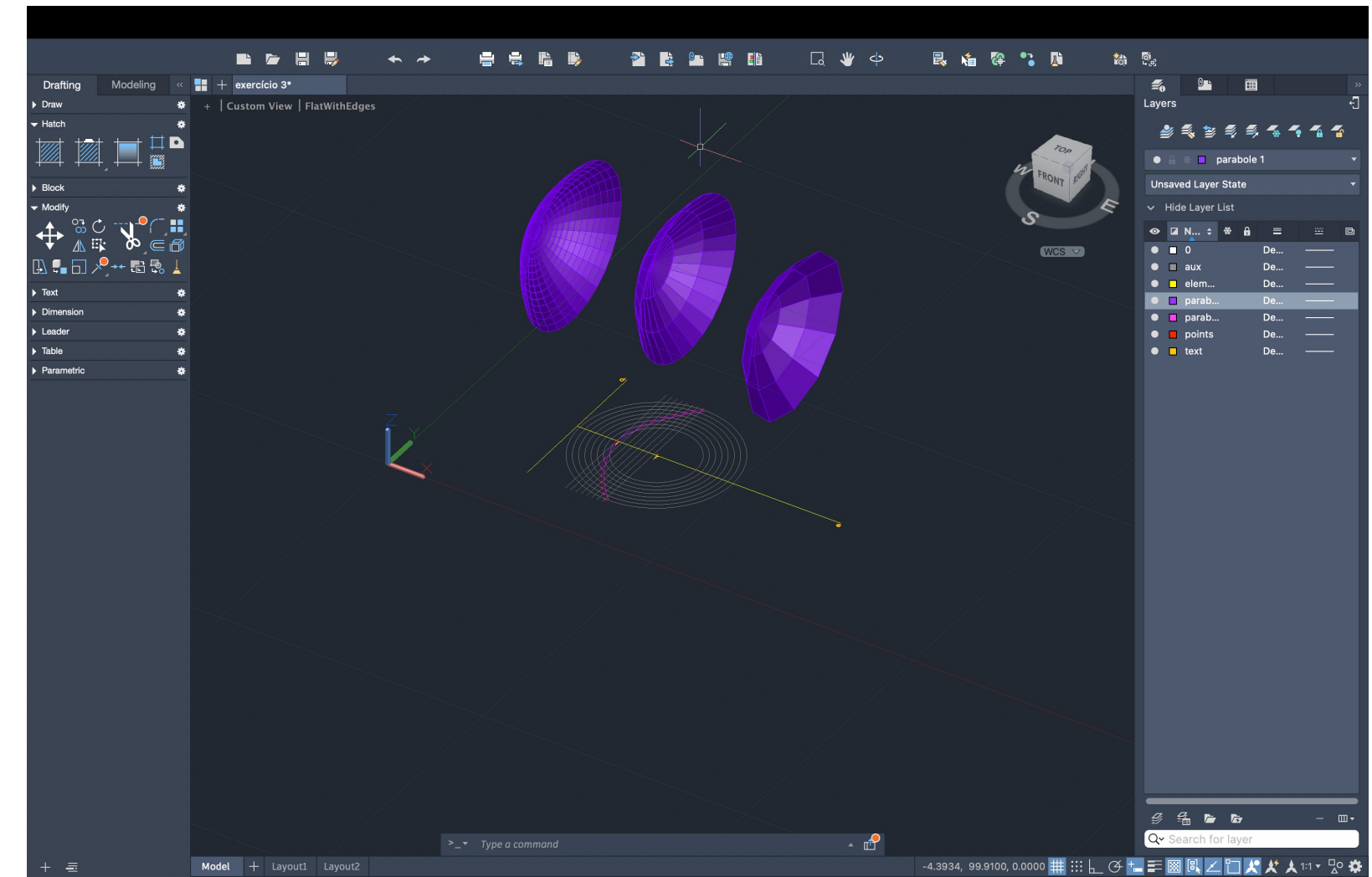
Sumário:

Realização do exercício 2 em Autocad 3D



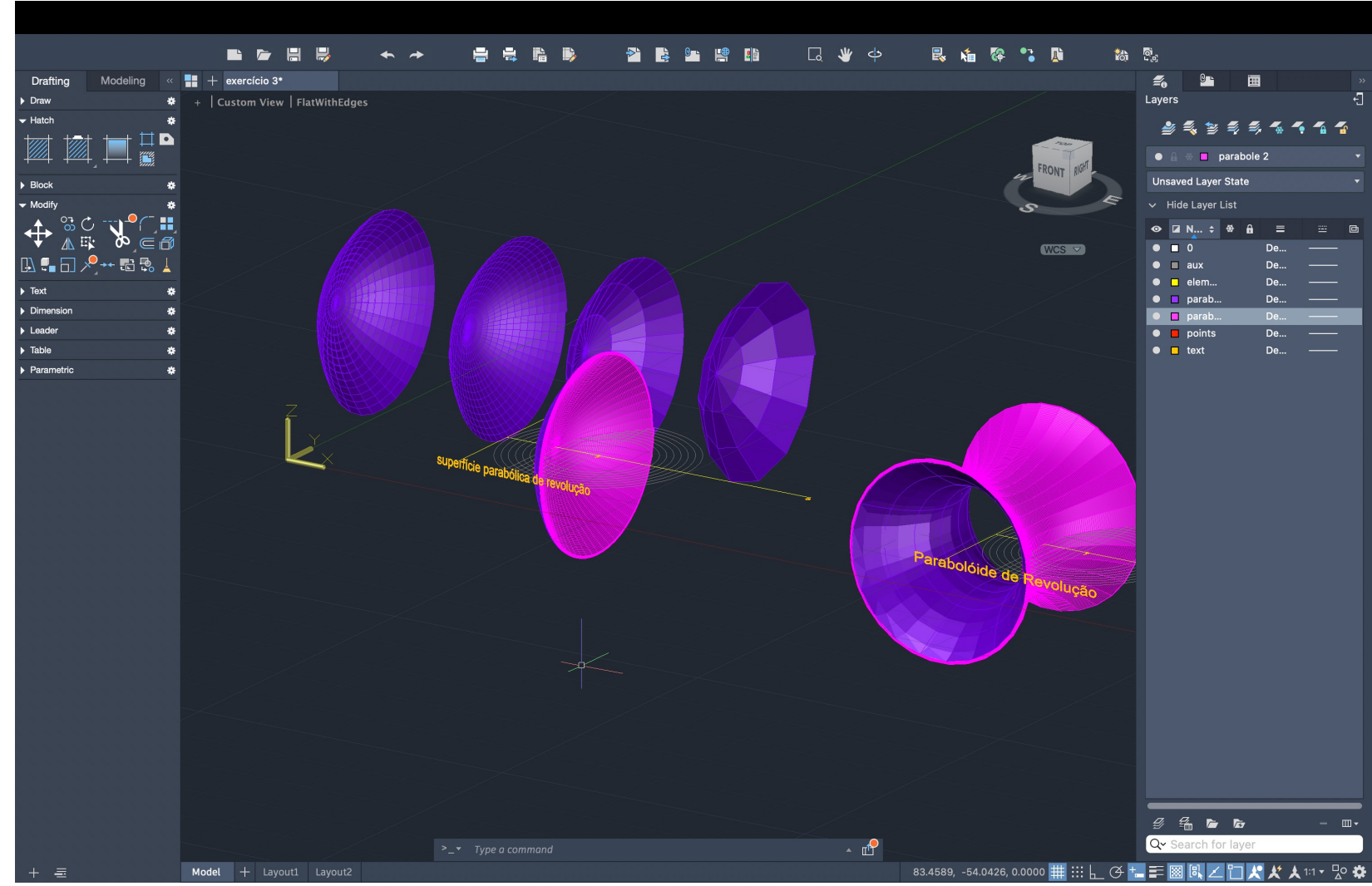
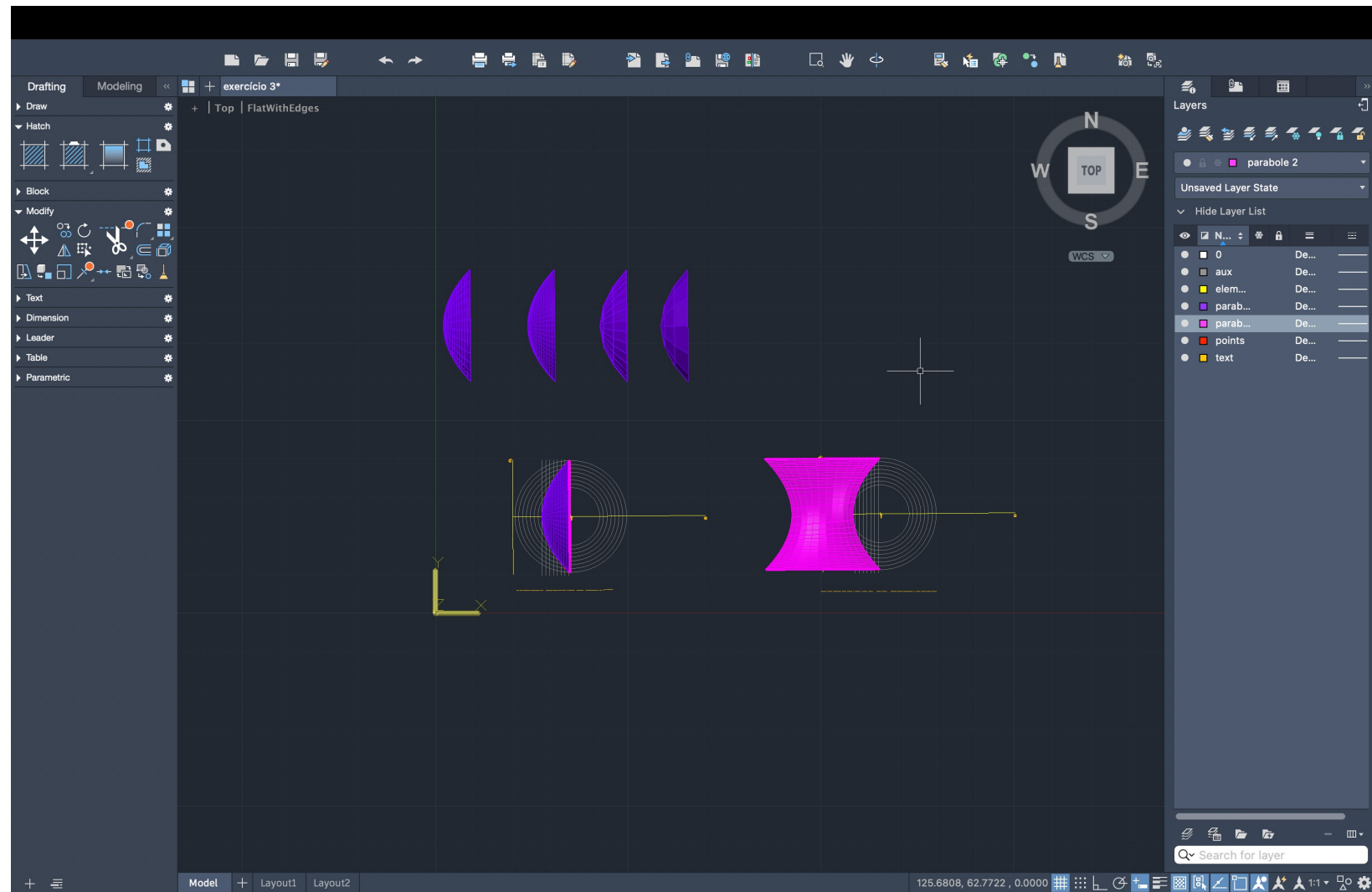
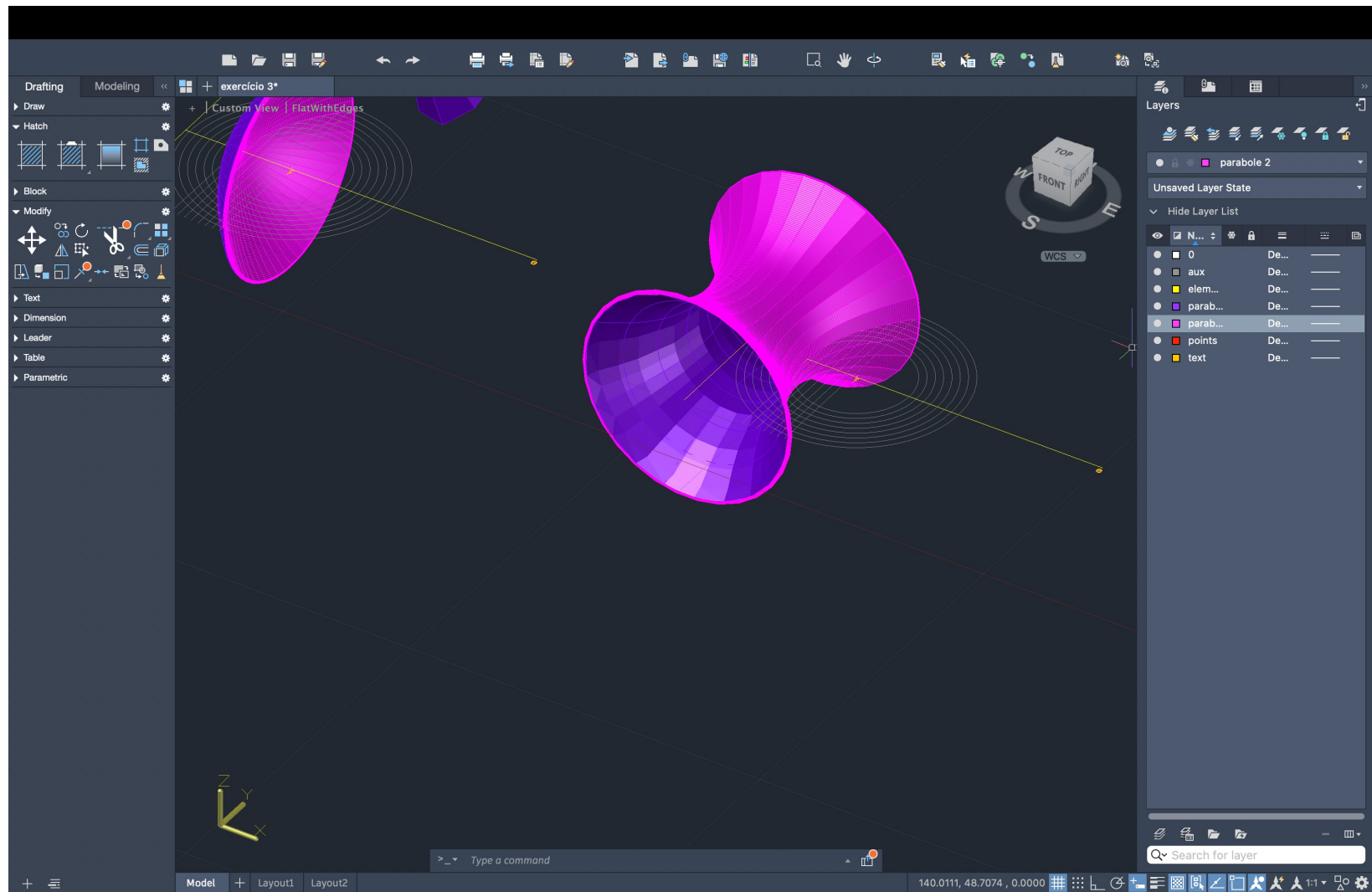
Semana 7

ReDig



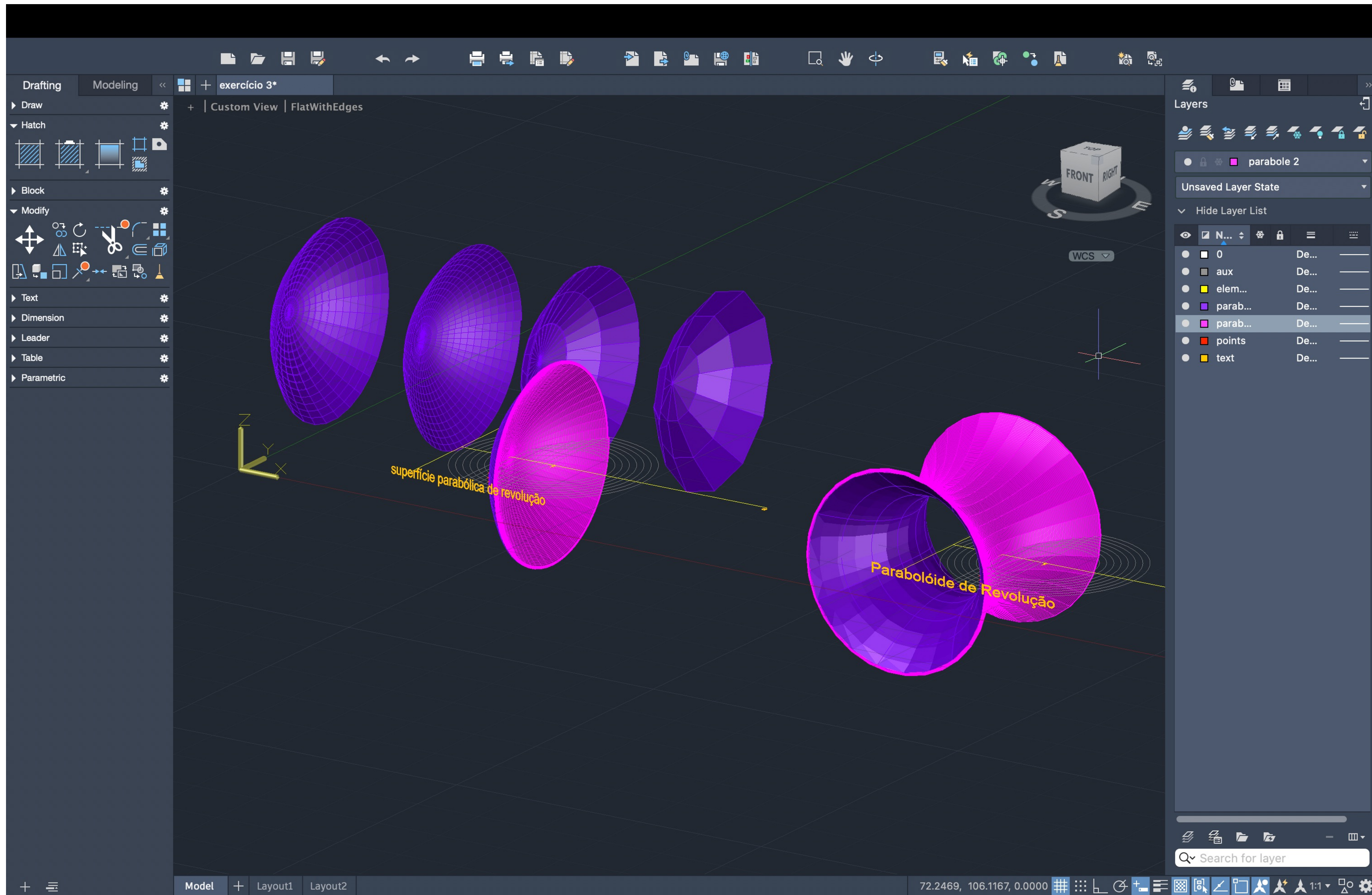
ReDig

Semana 7



ReDig

Semana 7



ReDig

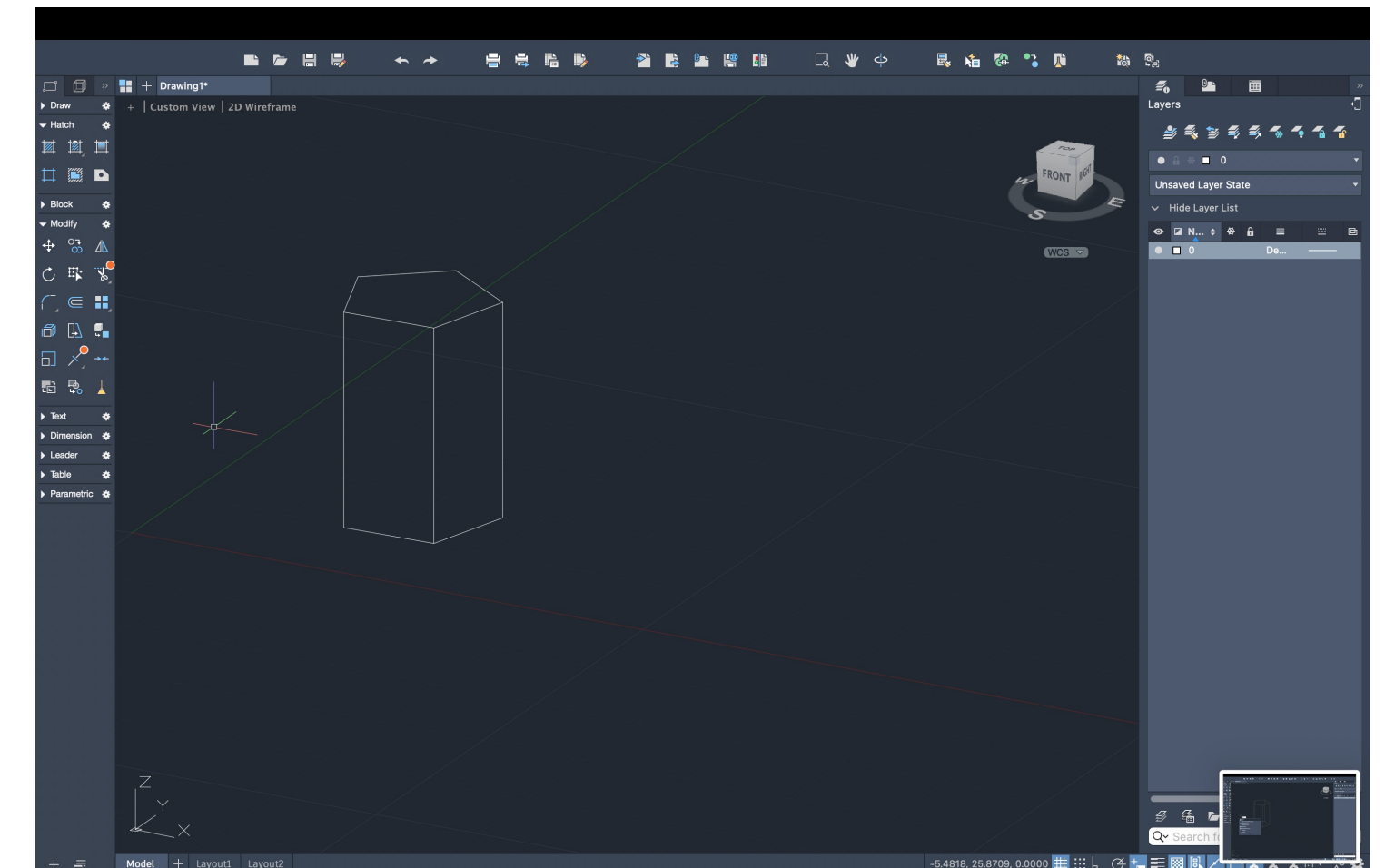
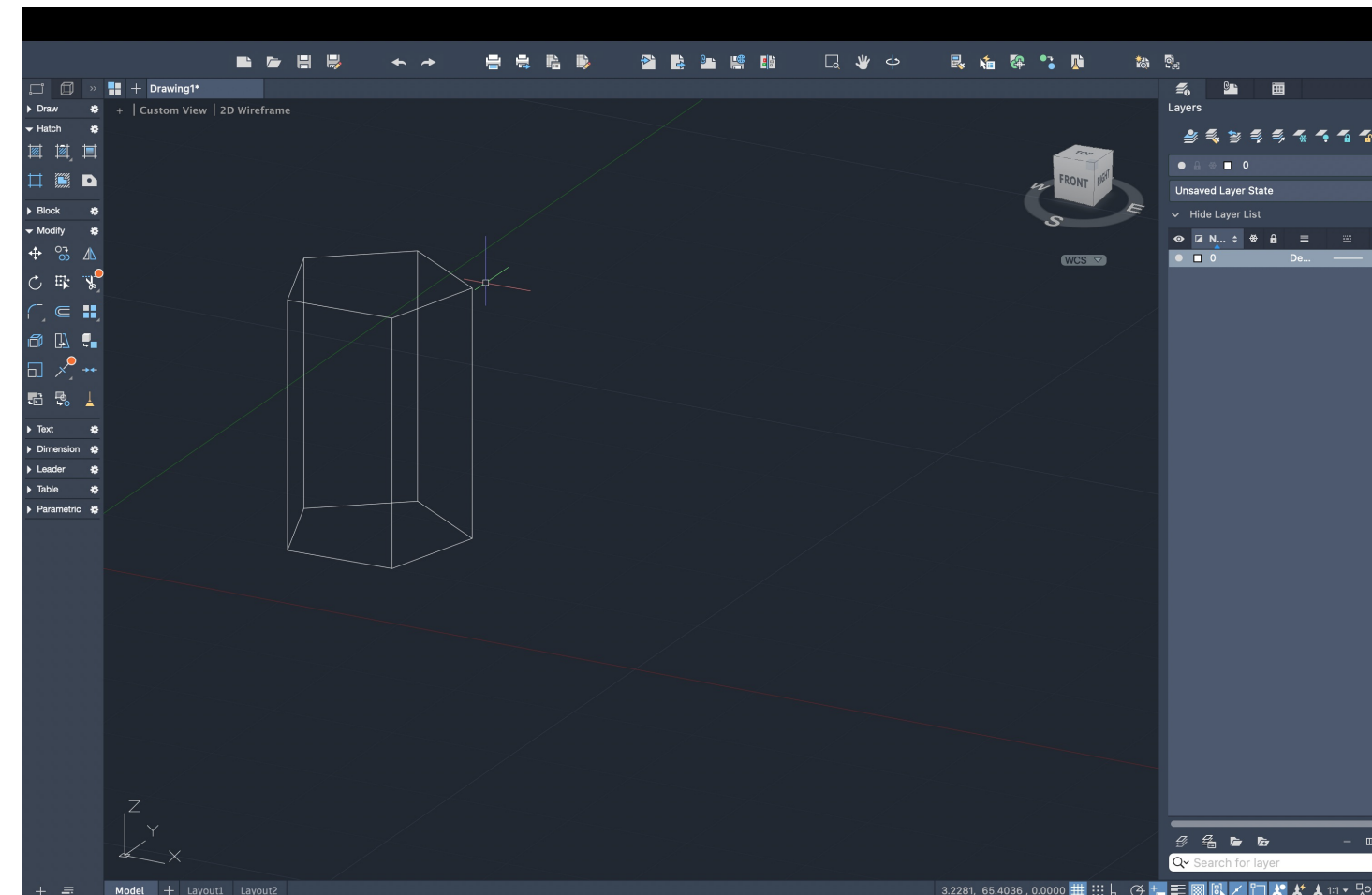
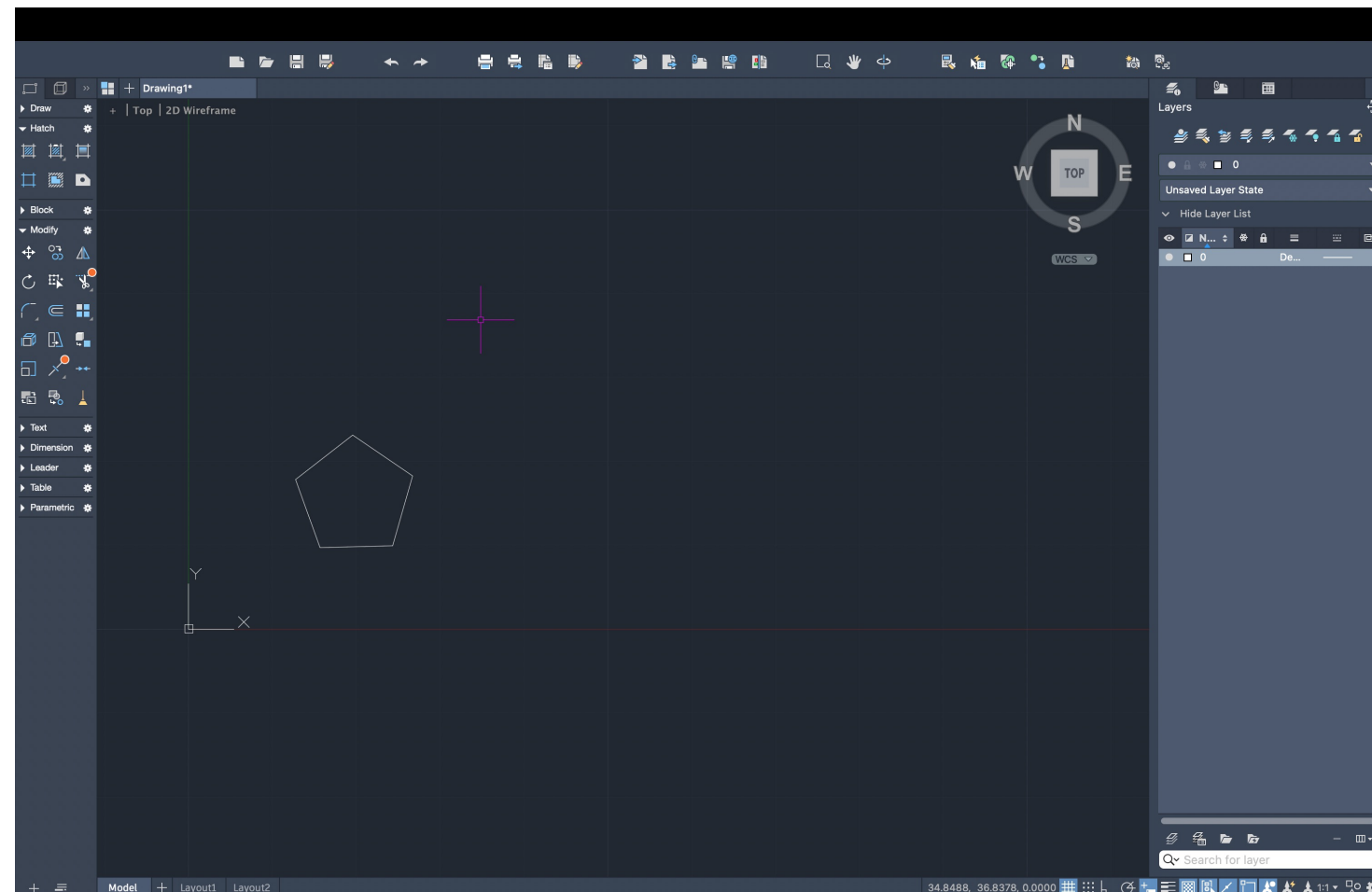
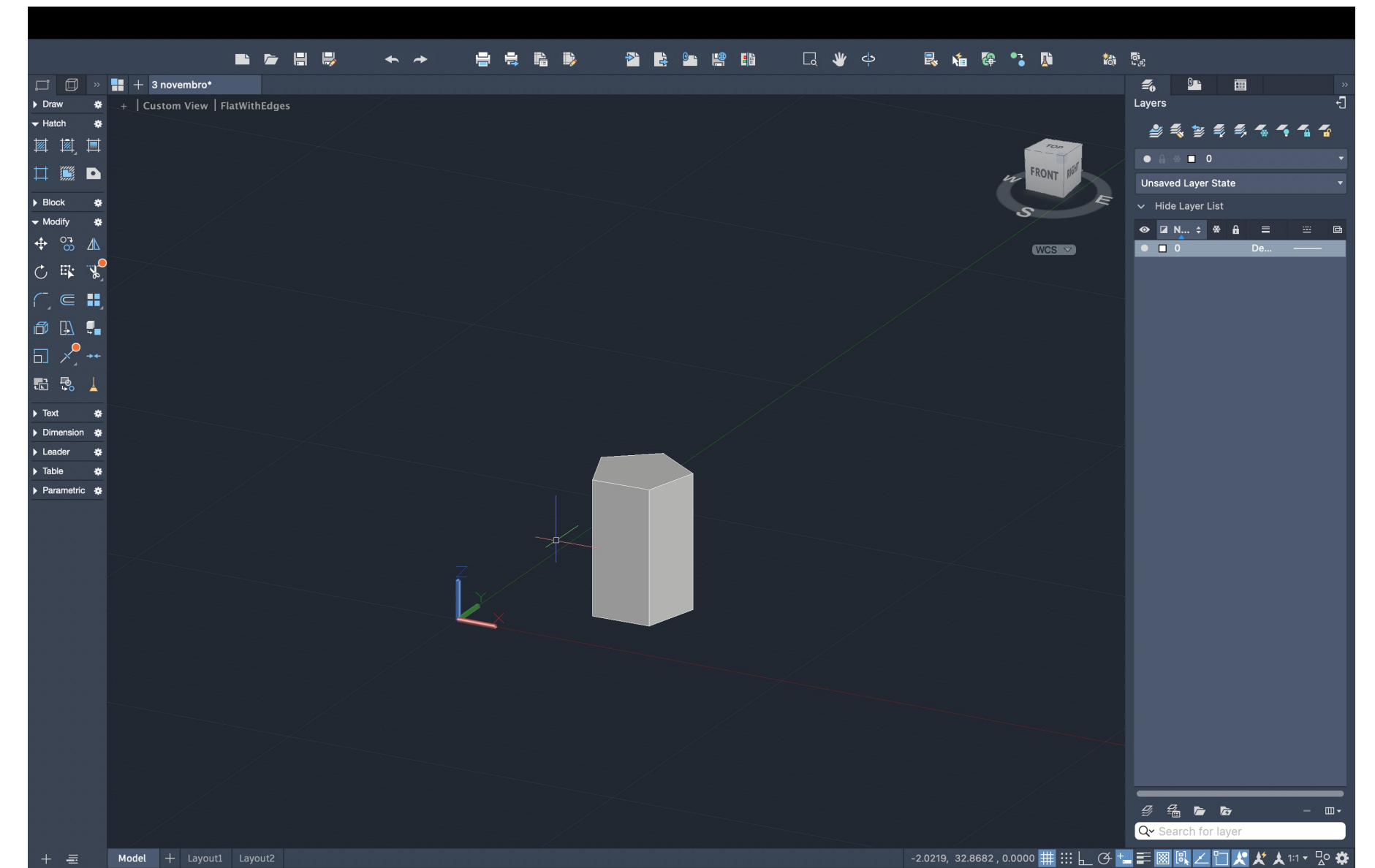
Exercício 2- 3D Autocad

Aula 13

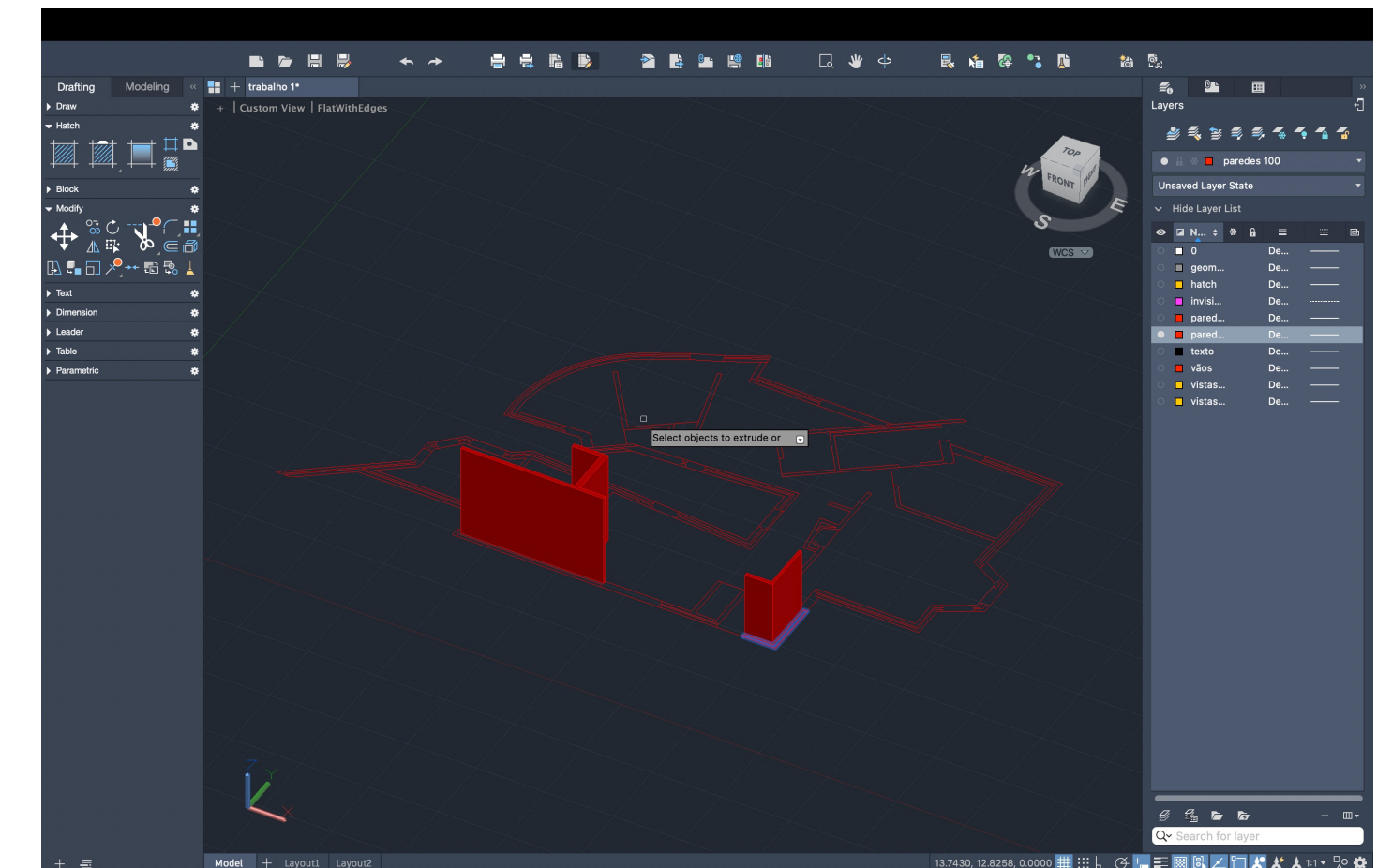
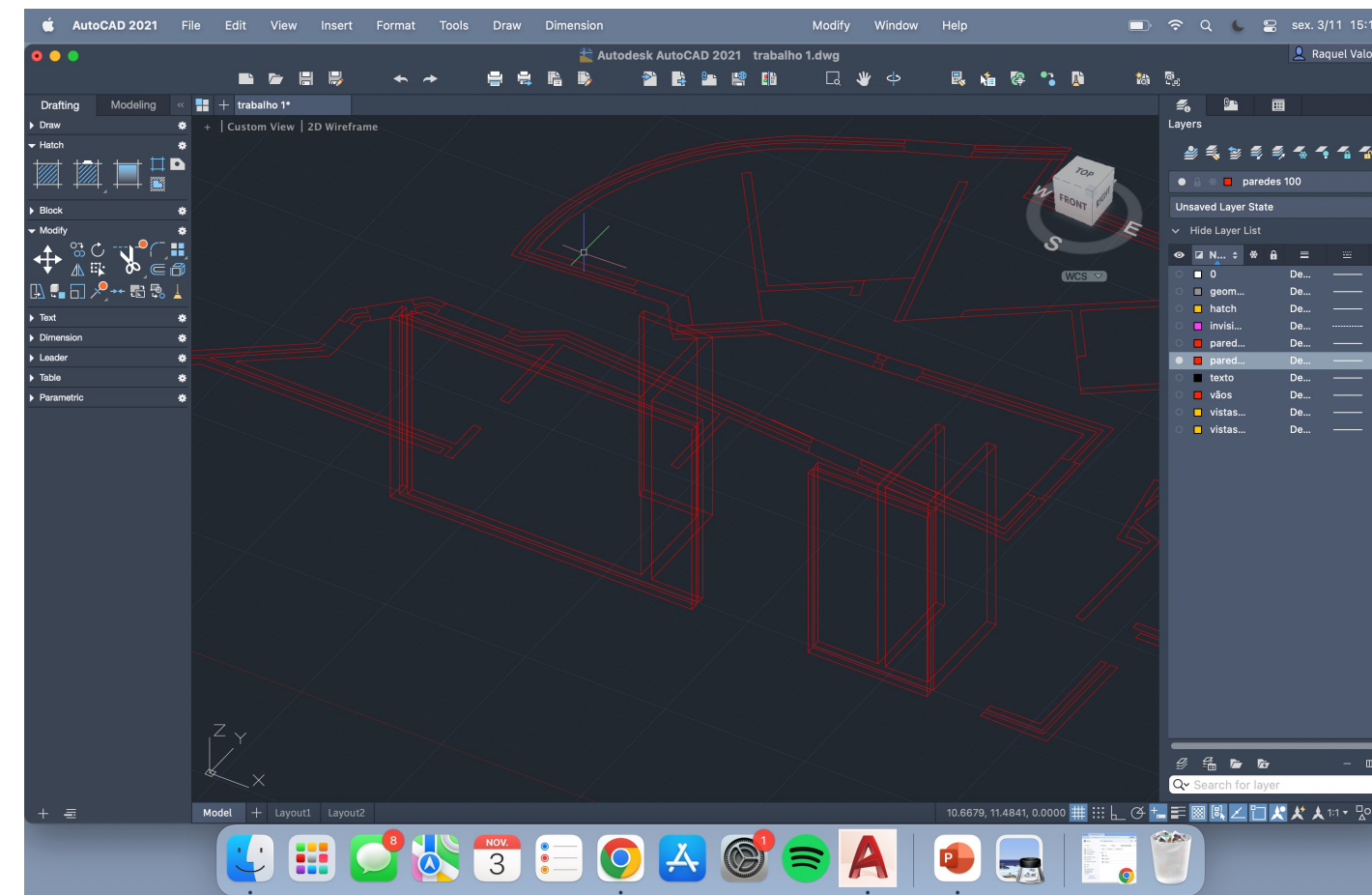
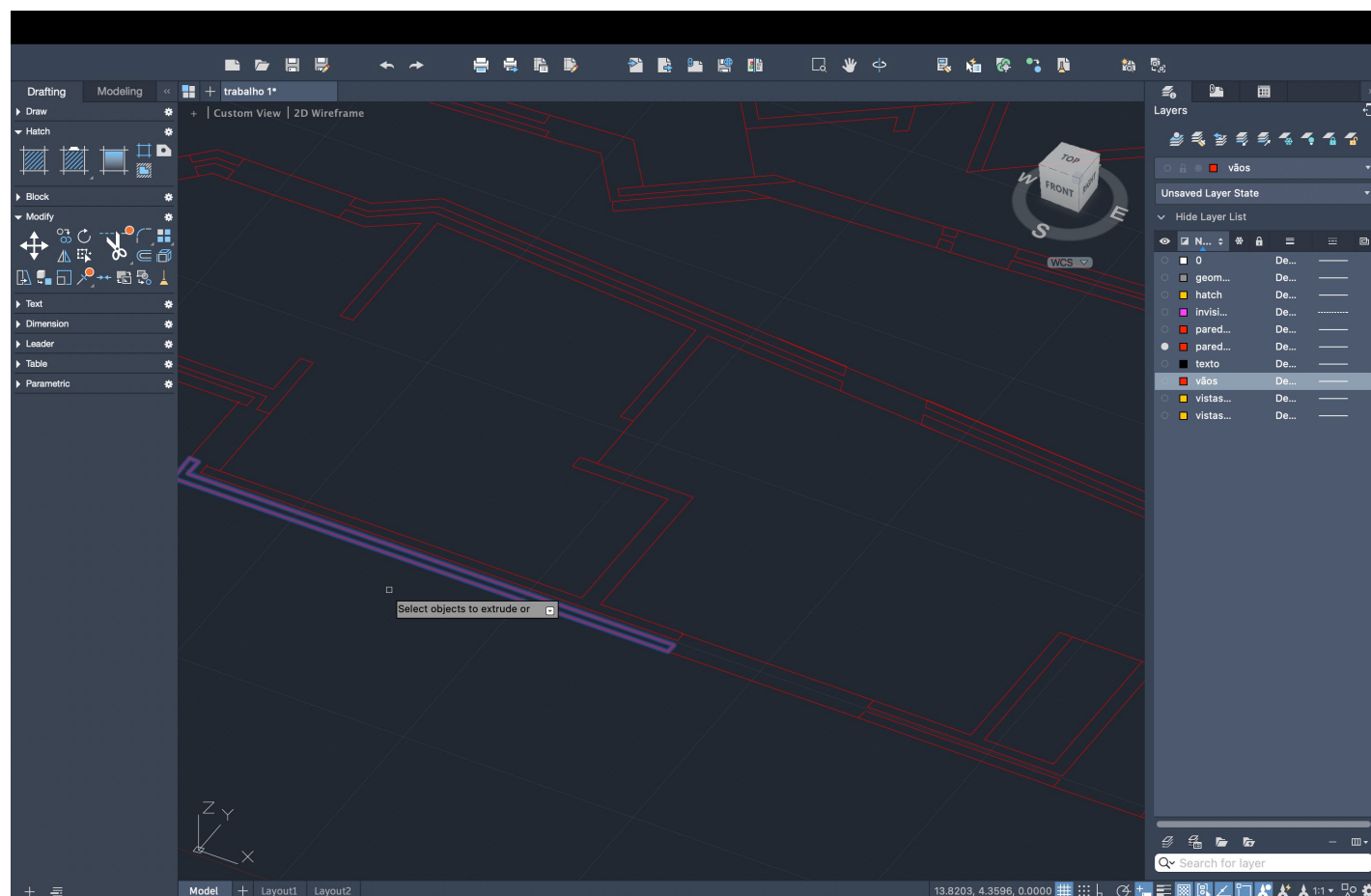
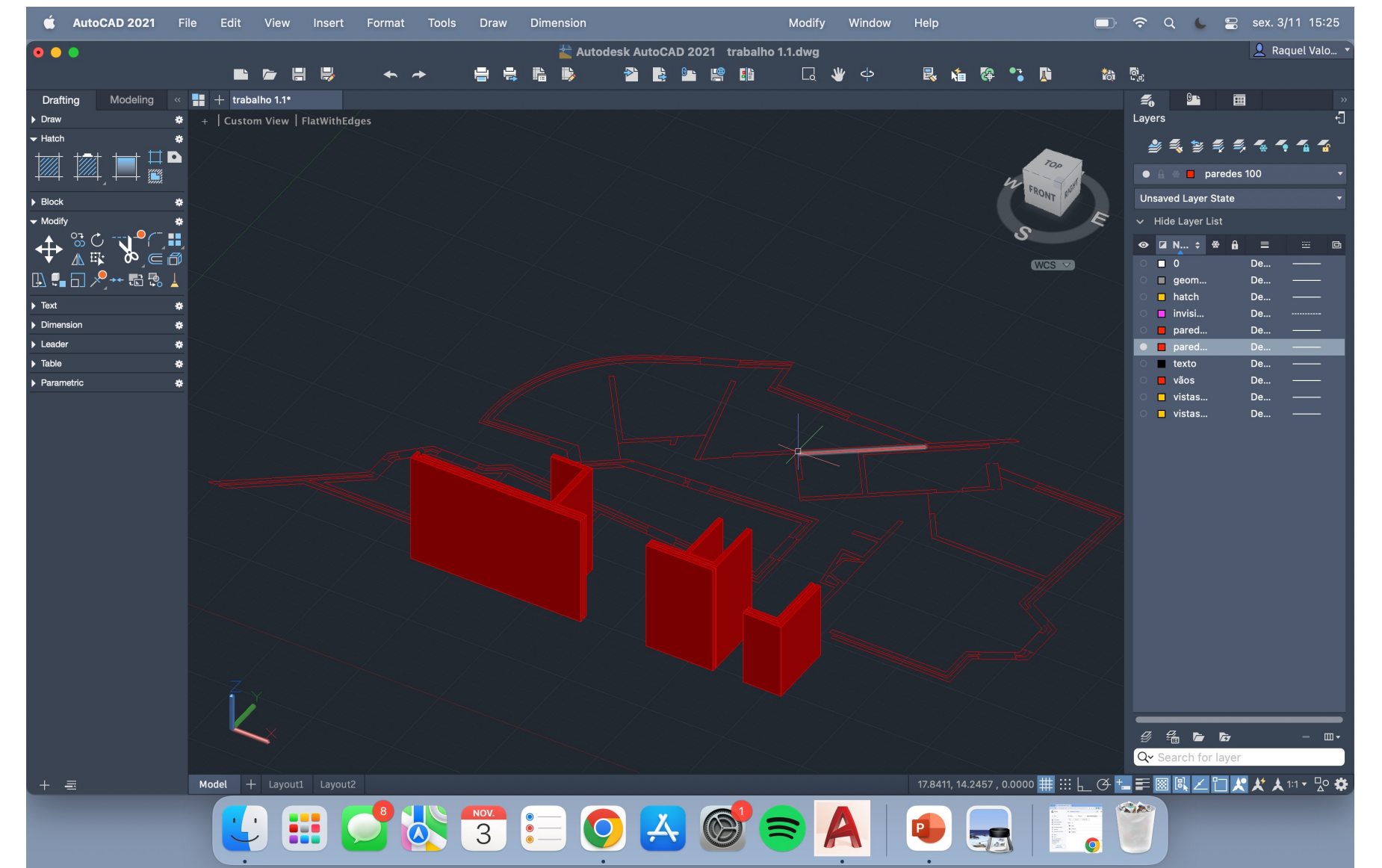
Sumário:

Extrusão de um polígono e da planta

1. POL – polygon – 5 lados
2. EXTRUDE – para tornar a figura 2D em 3D
3. HIDE- para esconder as linhas que não se vêem
4. SHADE



1. Tornar as paredes polyline
2. EXTRUDE para a altura correta
3. HIDE
4. SHADE
5. UNION- unir as paredes
(SUBTRACT – retirar uma parte de dois objetos)
(INTERSECT – resulta a parte da interseção de dois objetos)



ReDig

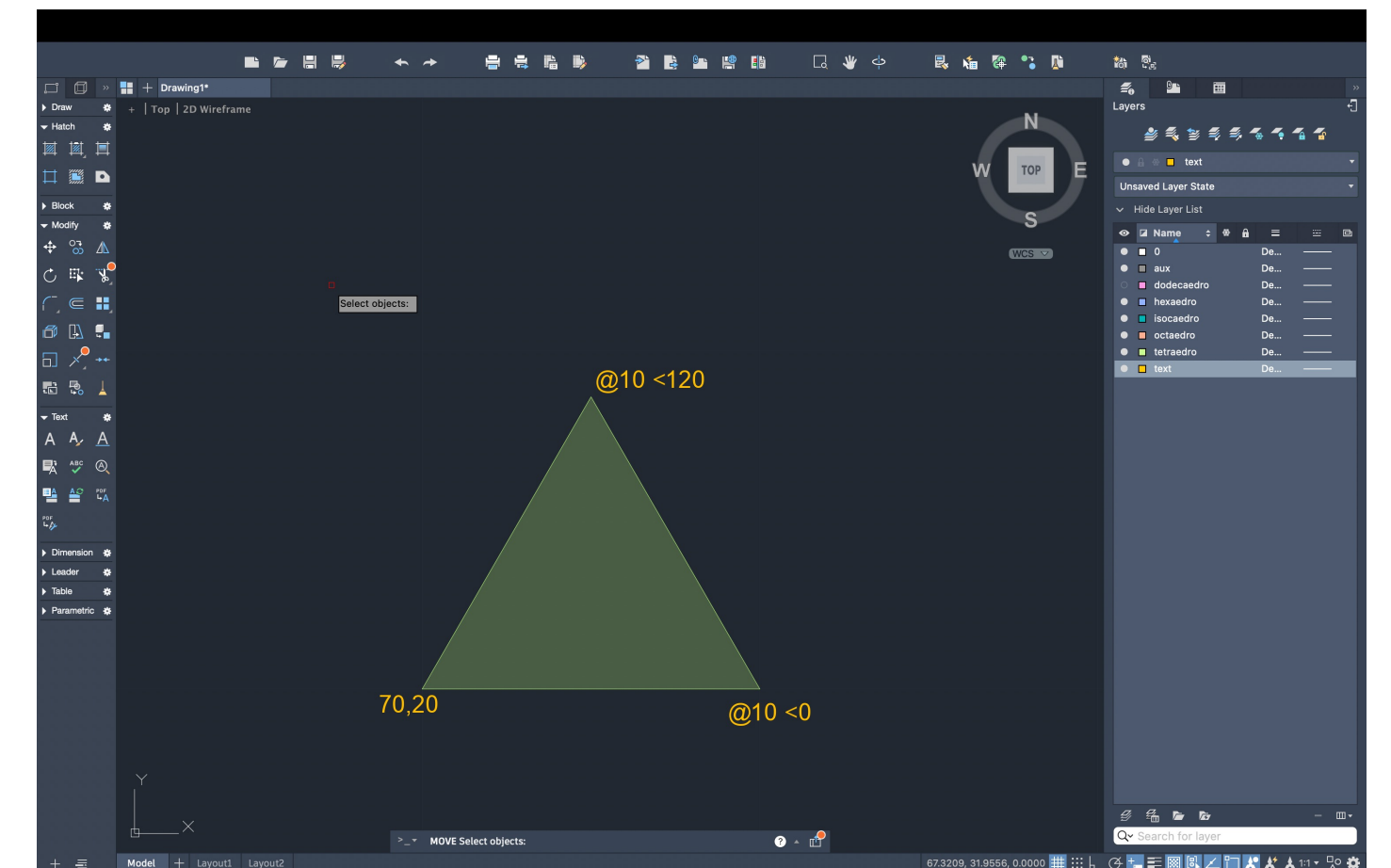
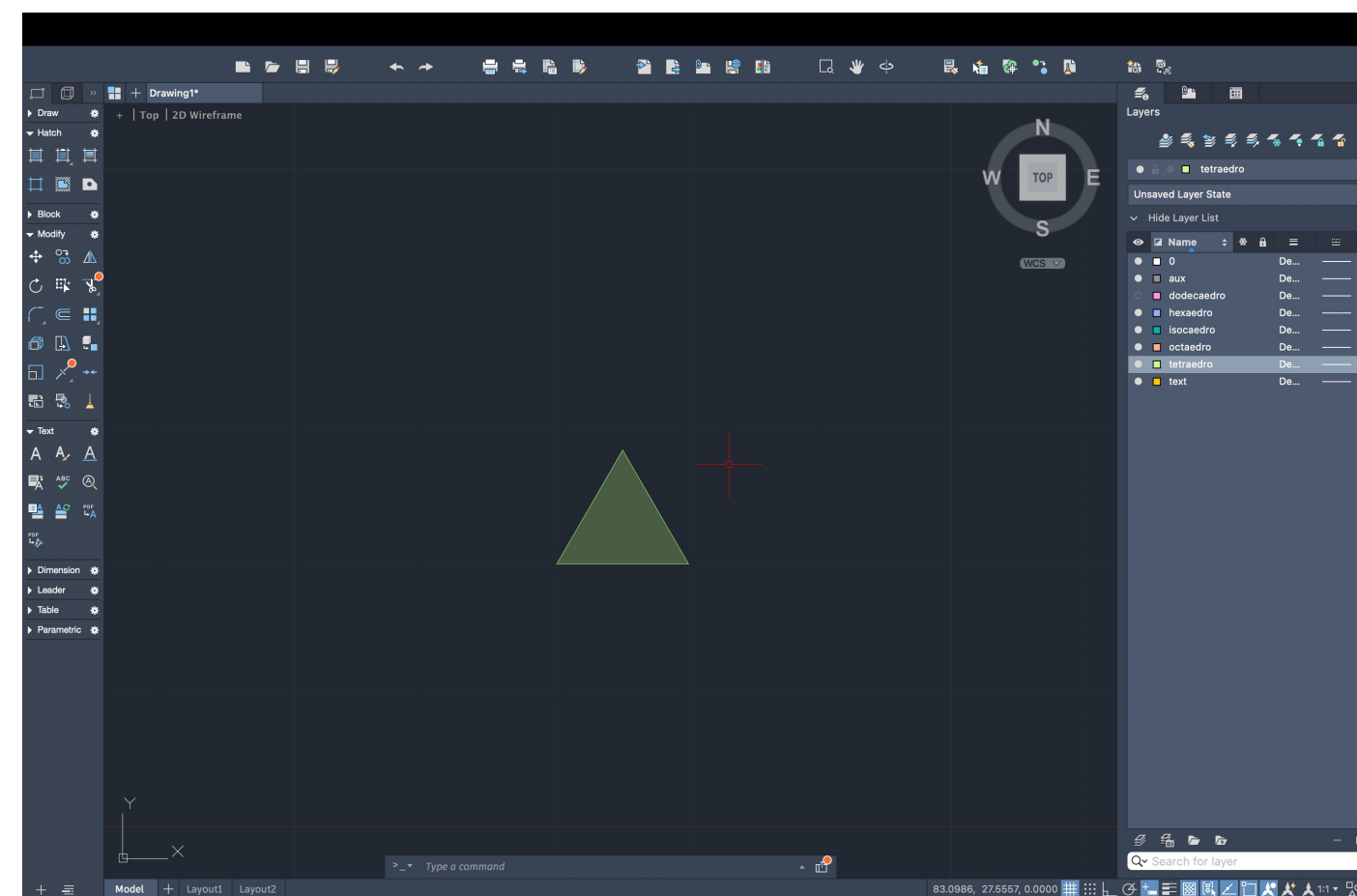
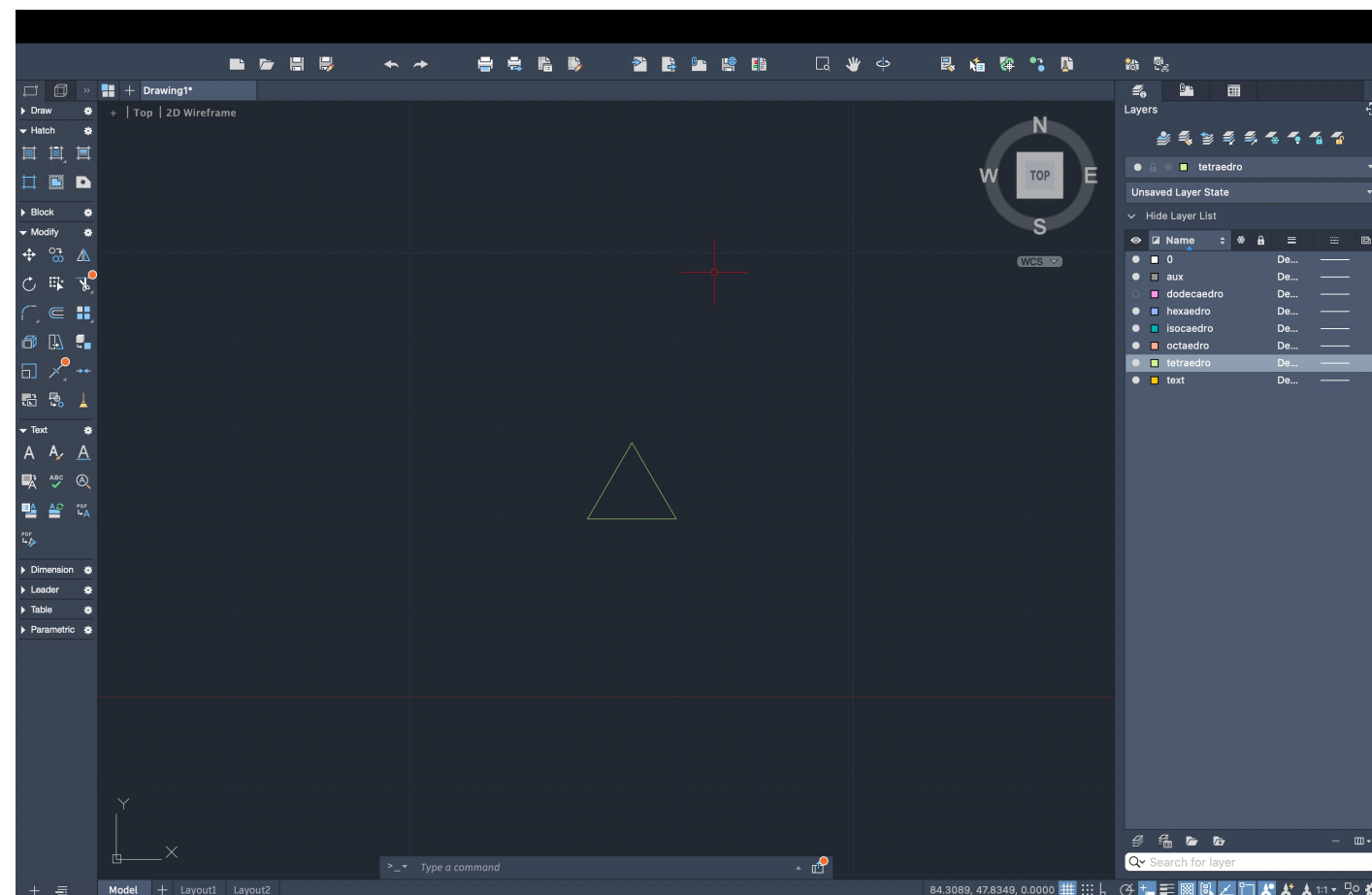
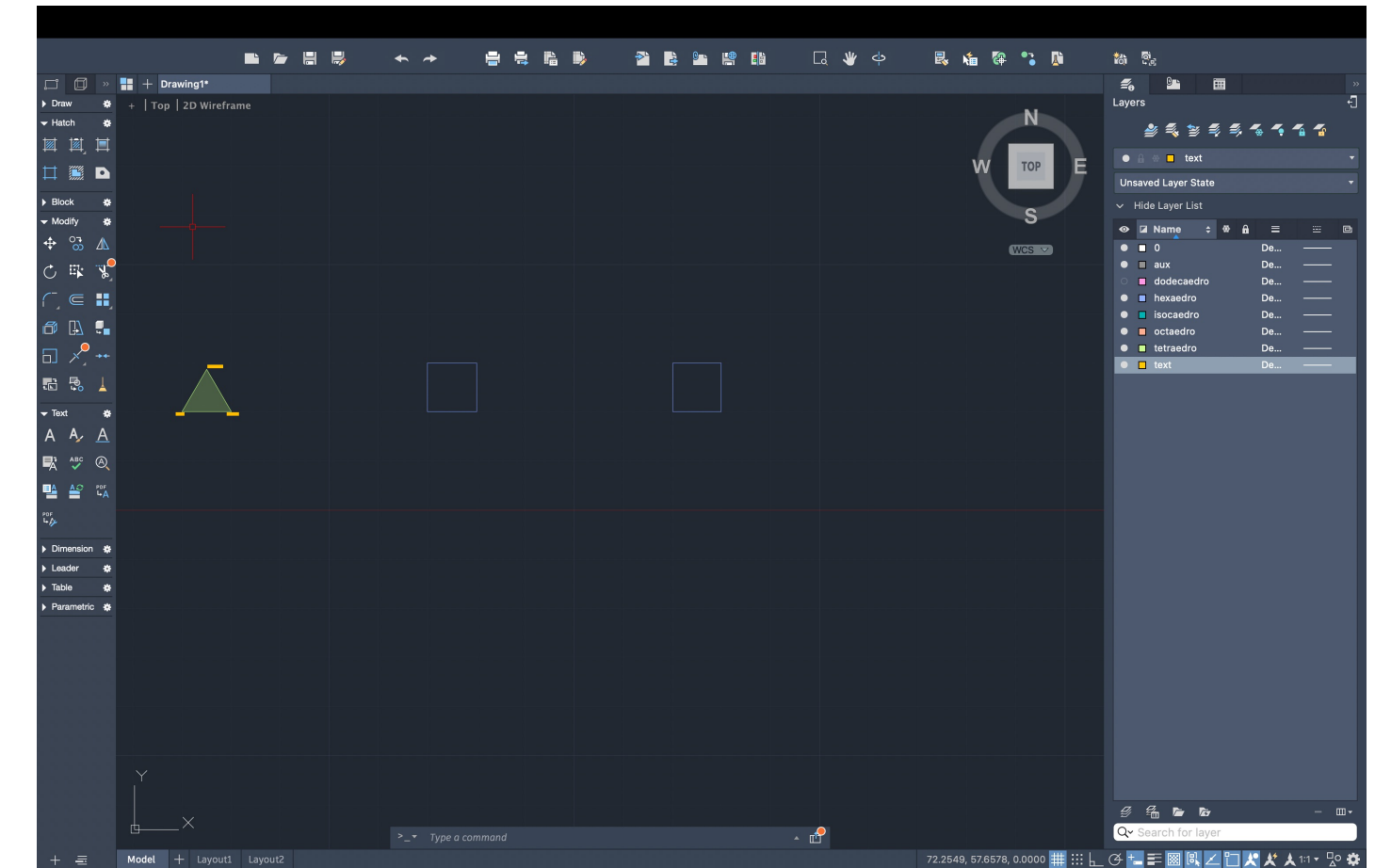
Semana 7

Aula 14

Sumário:

Íncio da realização do exercício 3 em Autocad 3D

1. Criar layers:
2. Desenhar triângulo com 10 de lado
3. Hatch e CHPROP – Transparency – 75
4. DTEXT- coordenadas dos pontos
5. Desenhar 2 quadrados e 2 pentágonos e repetir os mesmos passos



6. DTEXT para escrever o nome dos sólidos

7. Fazer o tetraedro: MIRROR para os outros triângulos

8. Linha vertical no centro geométrico

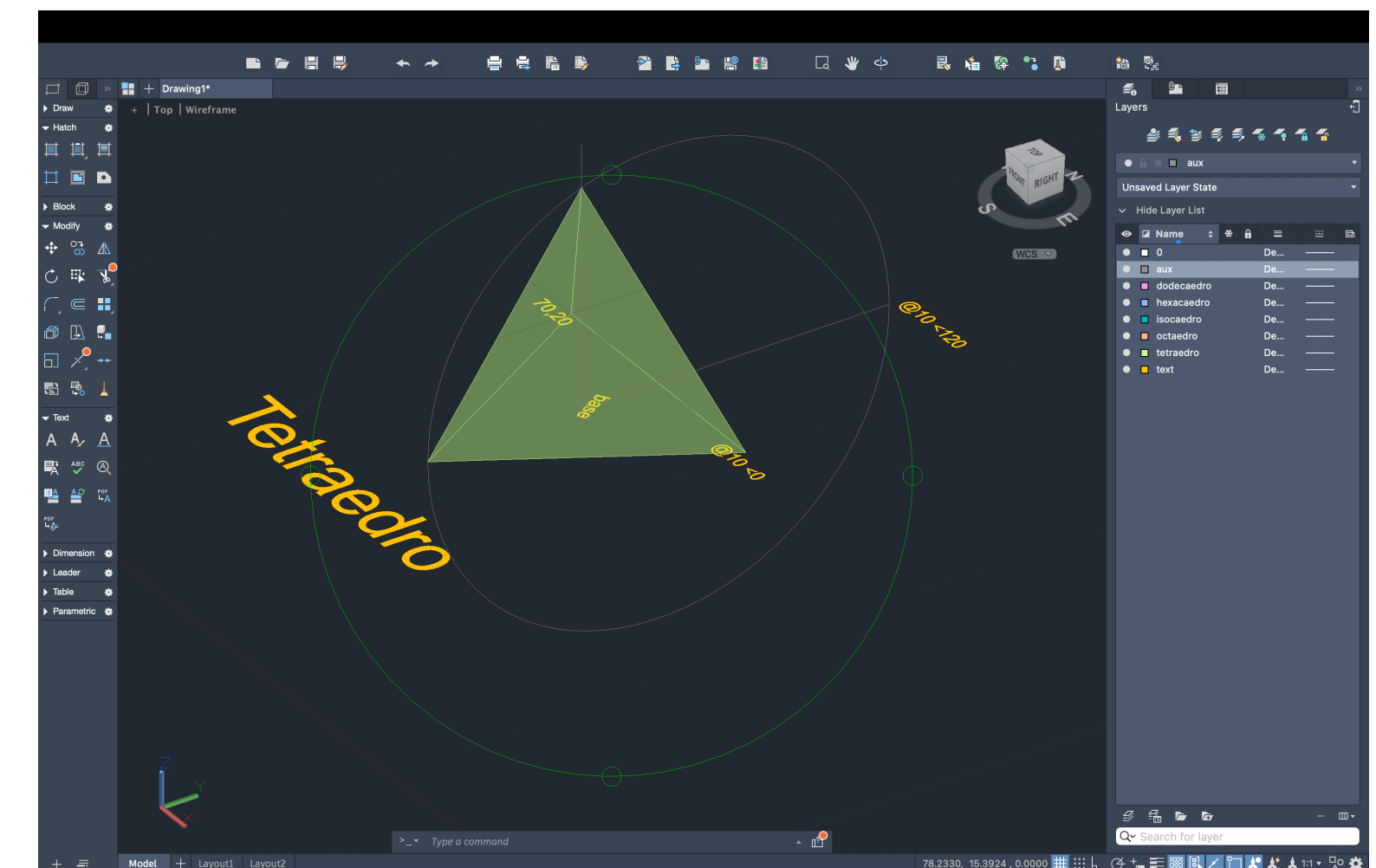
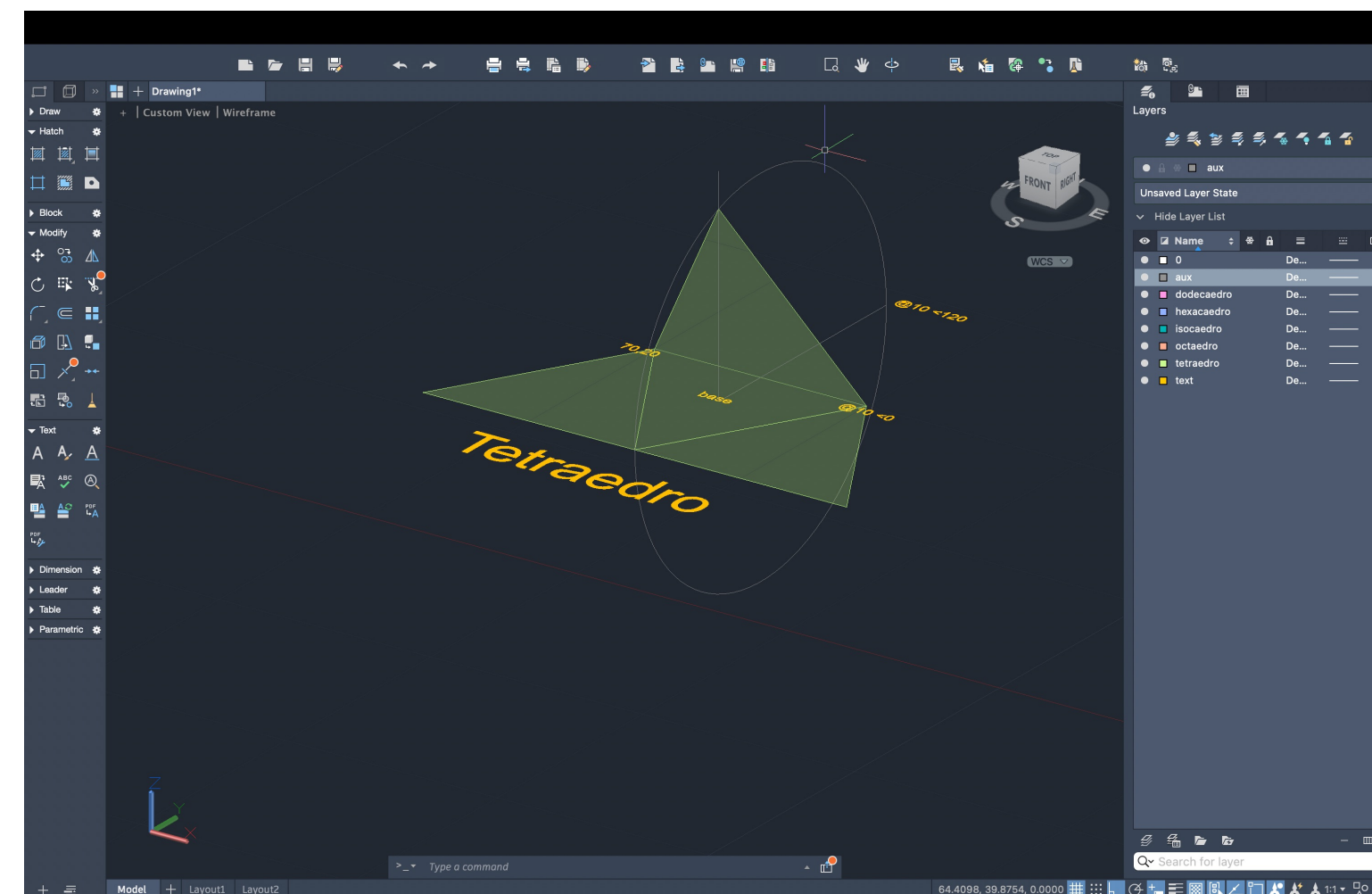
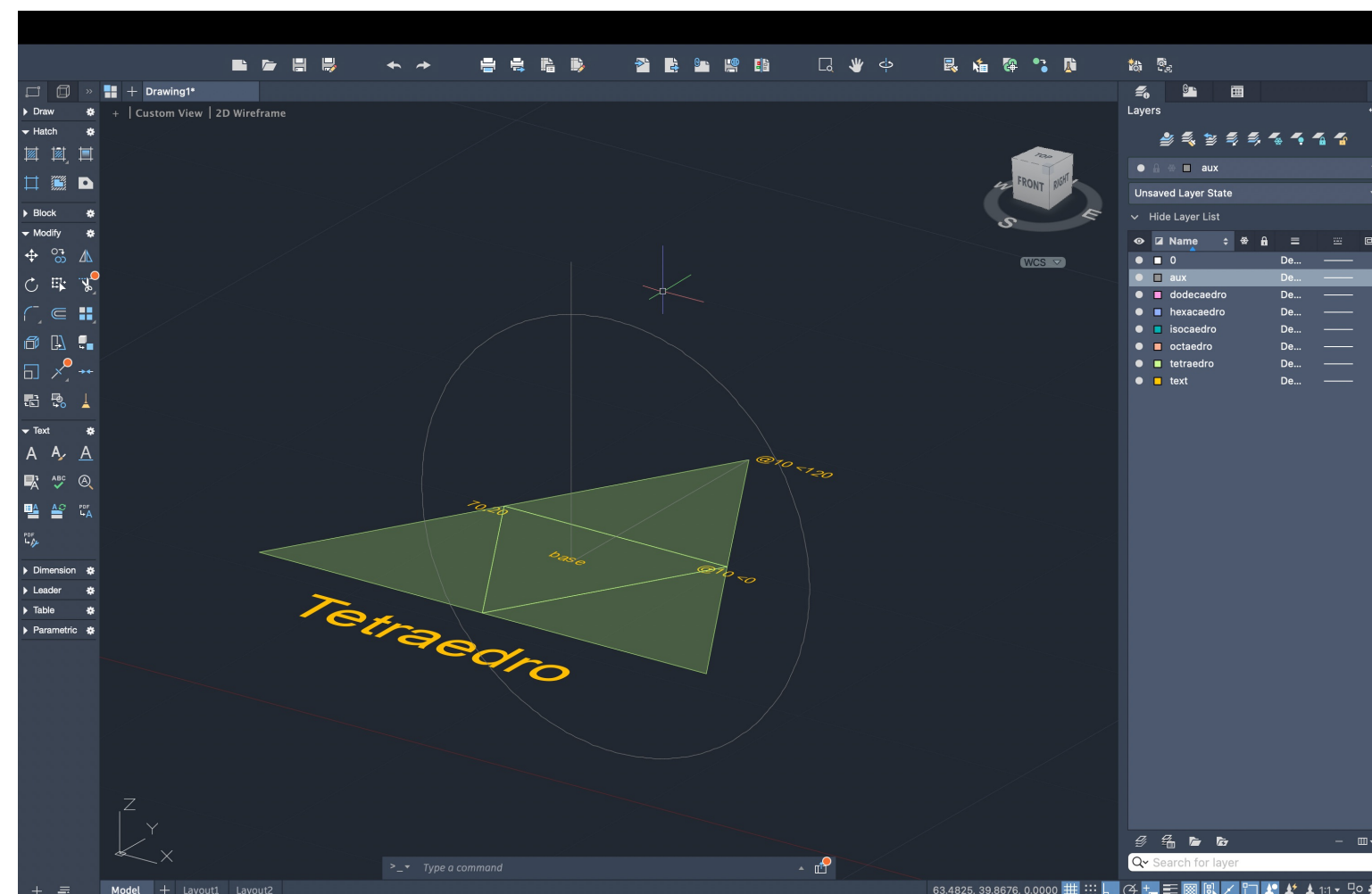
9. Comando C-circle do midpoint do lado do triângulo do meio até ao vértice deste

10. 3DROTATE- circunferência - centro da circunferência – eixo y- 90°

11. 3DROTATE- triângulo - centro do lado da base – eixo correspondente ao lado – rotate até ao ponto de interseção da circunferência e da vertical

11. ROTATE- figura toda – centro – 60°

12. Repetir para os restantes lados



ReDig

Semana 8

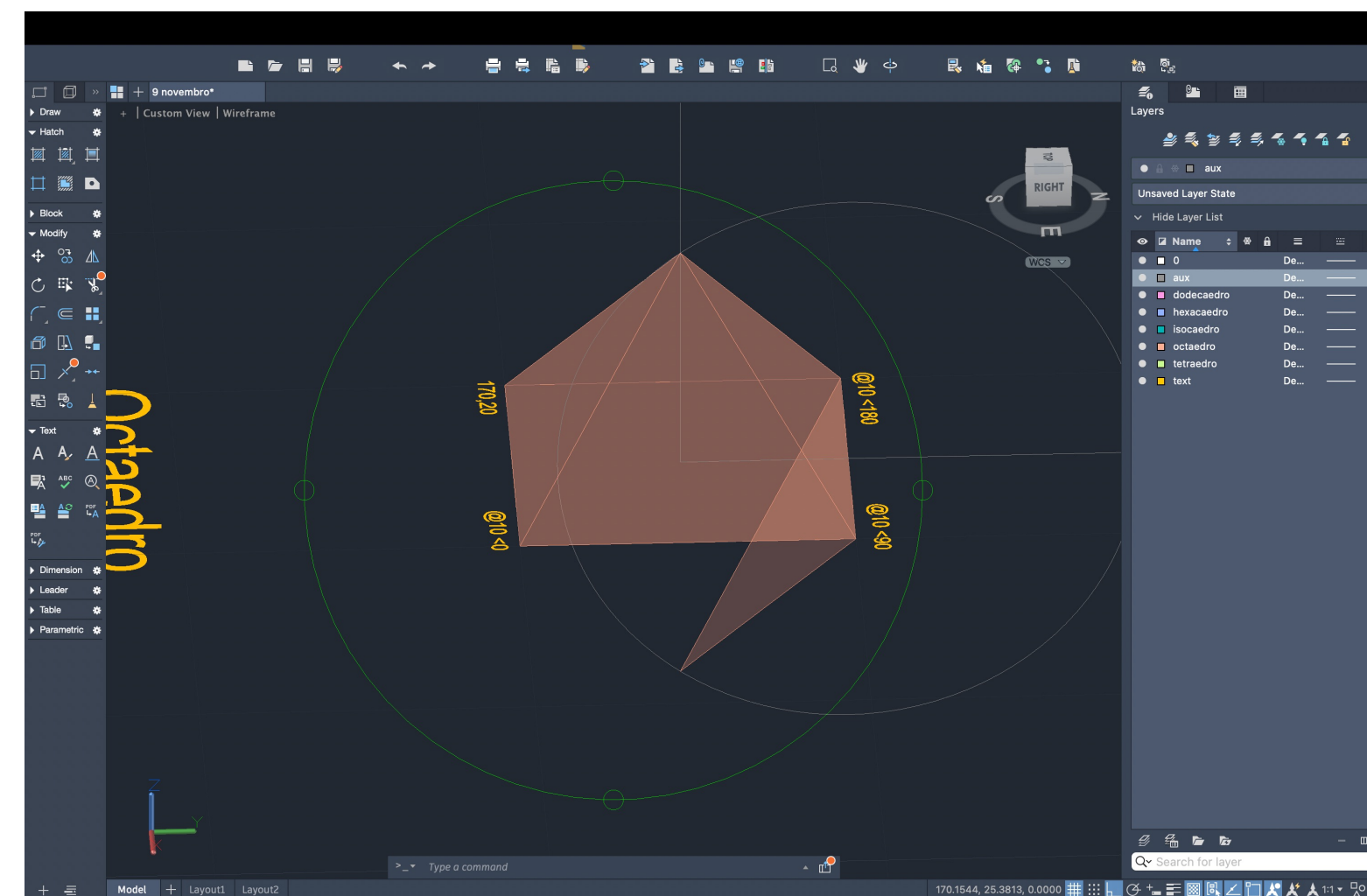
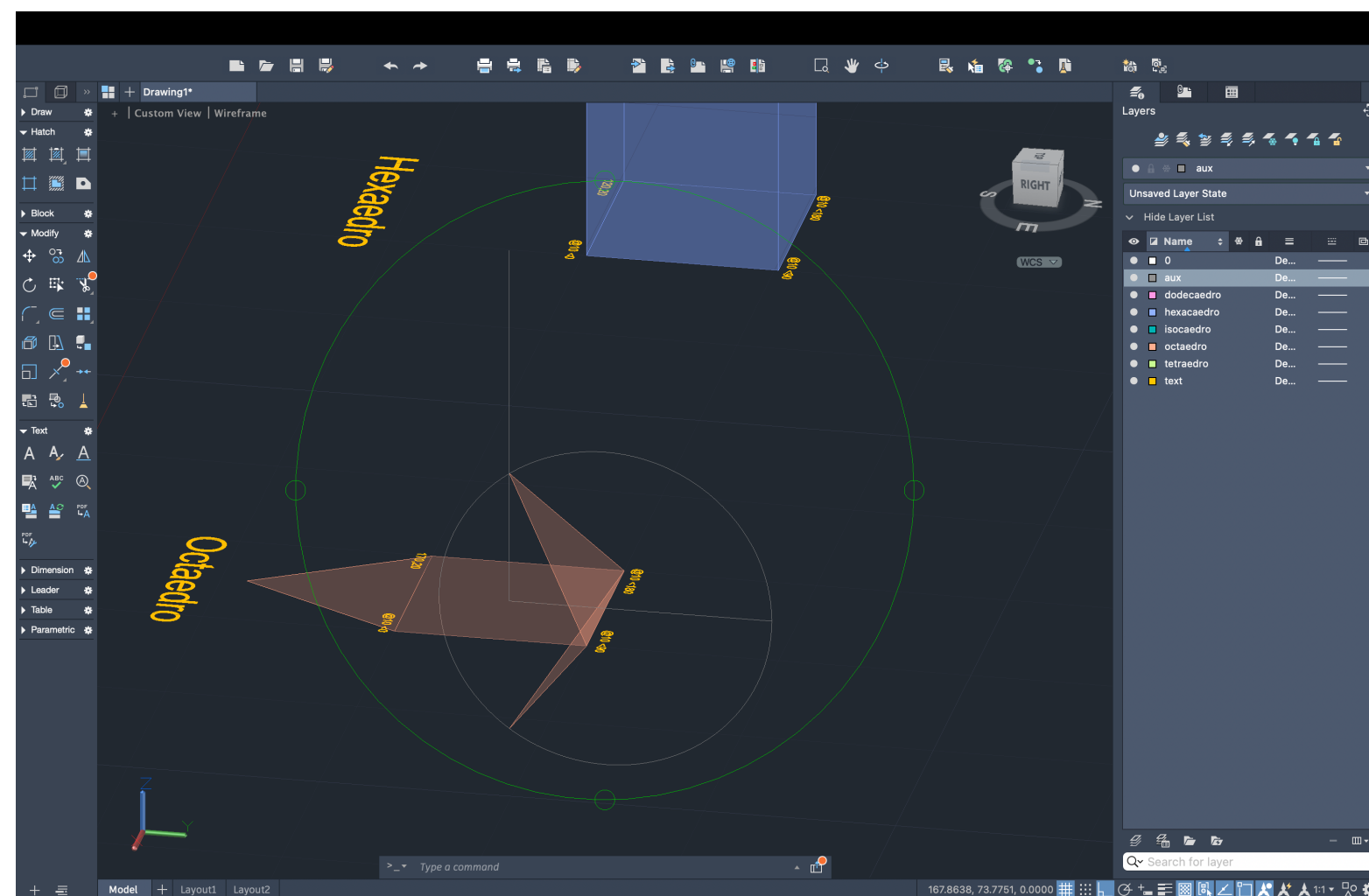
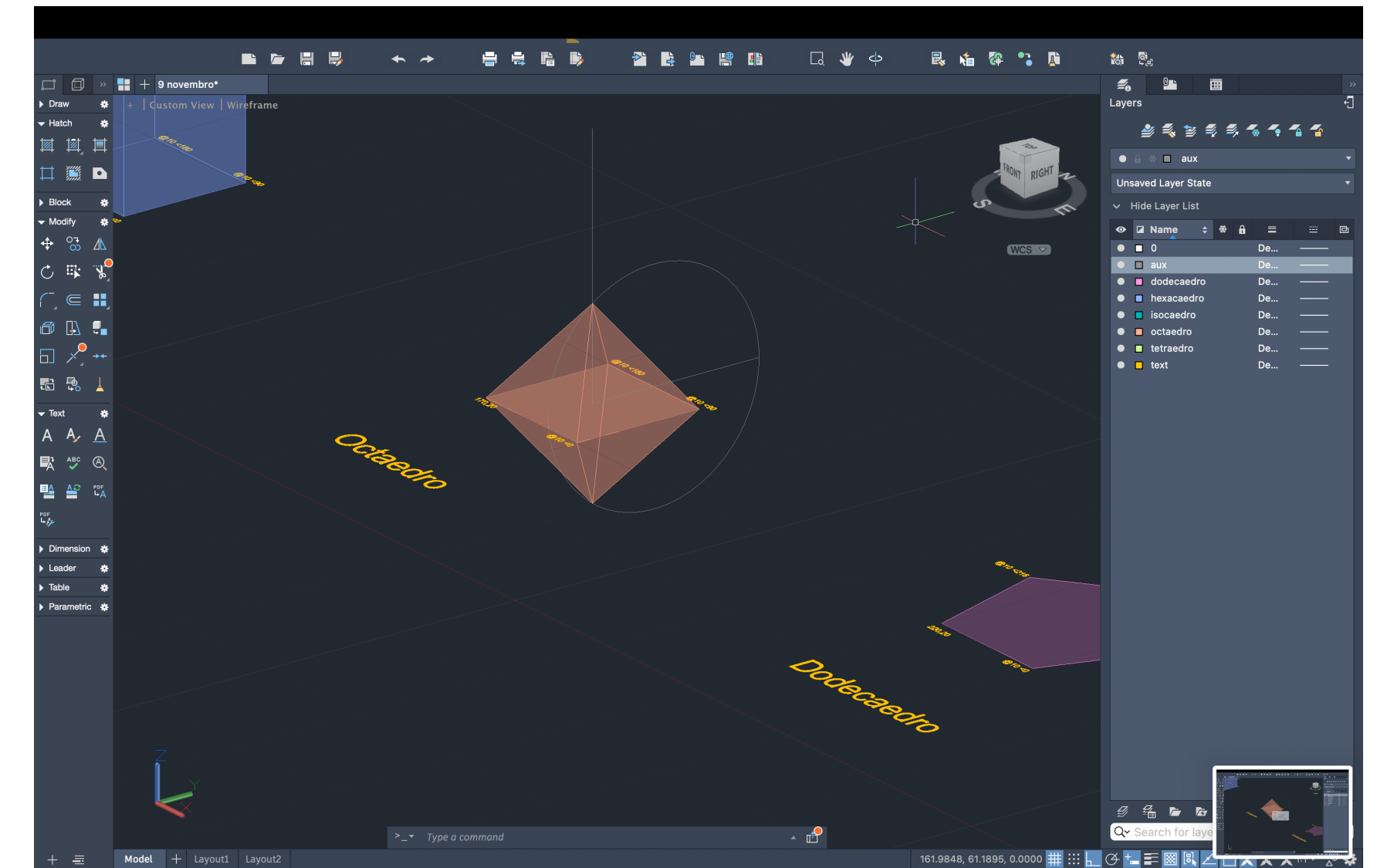
13. Fazer hexaedro: Copiar quadrado para fazer planificação do cubo

14. 3DROTATE – quadrados 90° ou -90°

15. Fazer octaedro: Repetir o processo da vertical e do círculo utilizado para o tetraedro

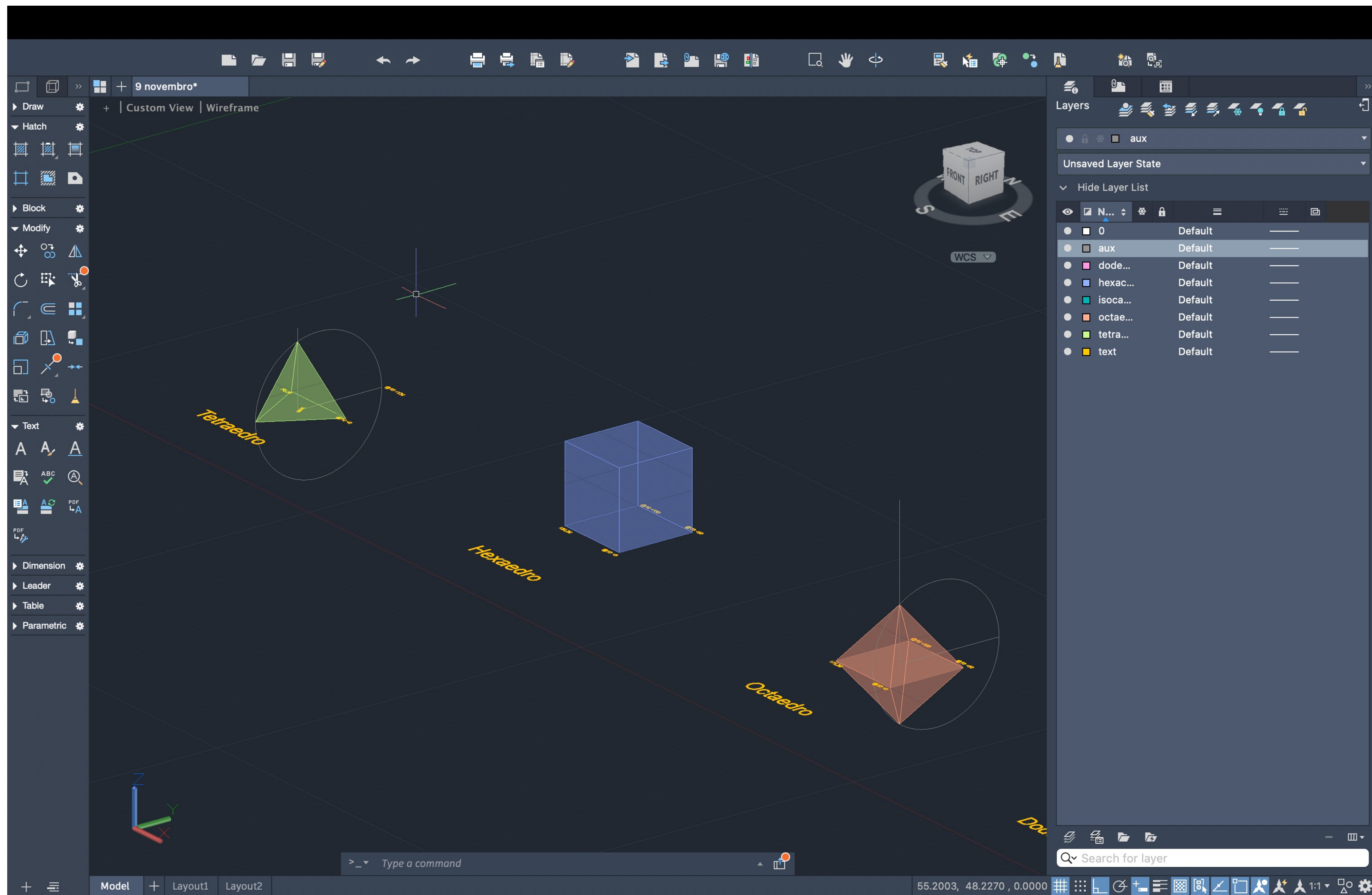
16. 3DARRAY- triângulo – polar – 4 – 360 – Y

17. 3DMIRROR – pirâmide para baixo



ReDig

Semana 8



ReDig

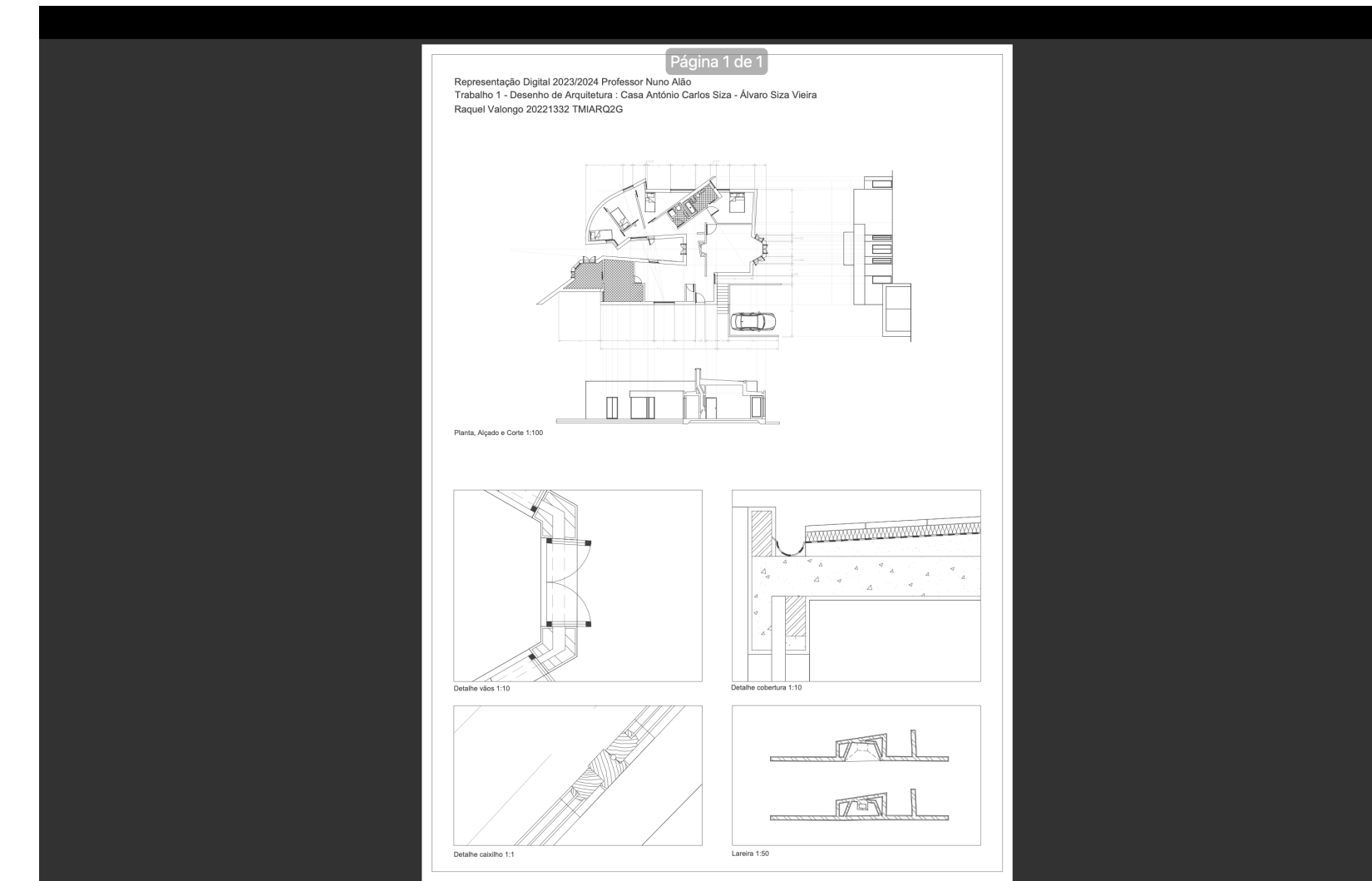
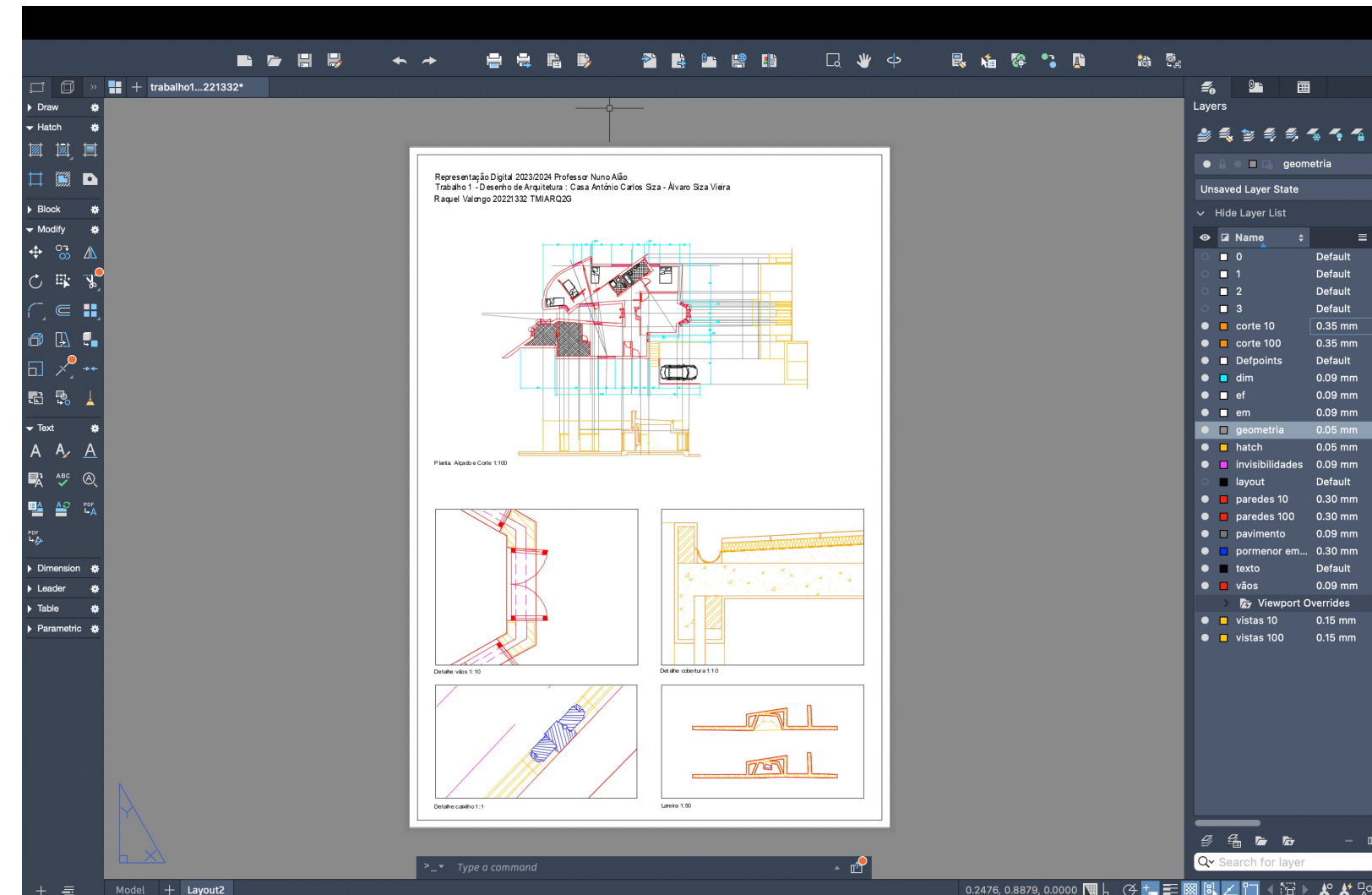
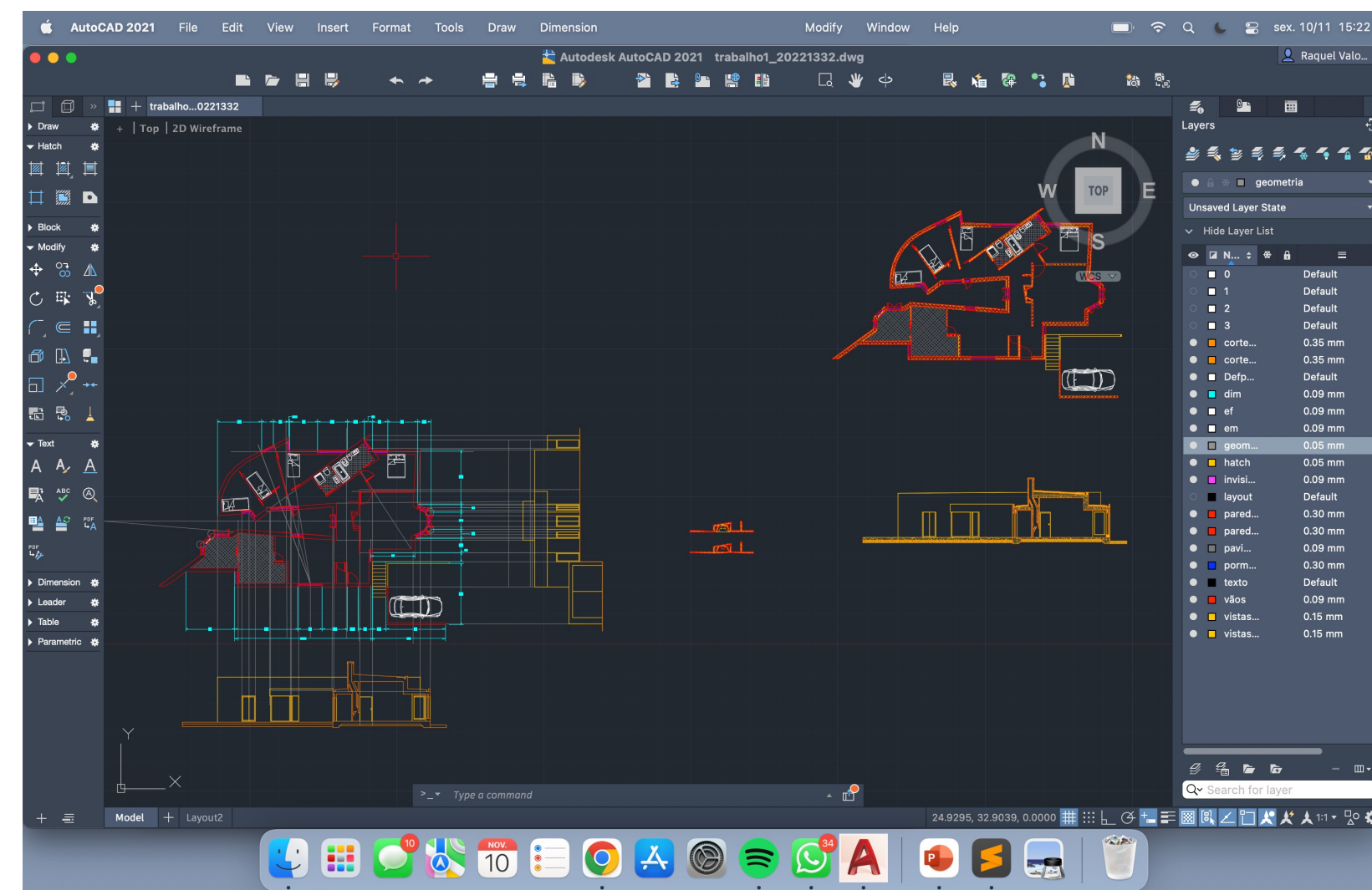
Exercício 3- 3D Autocad

Aula 15

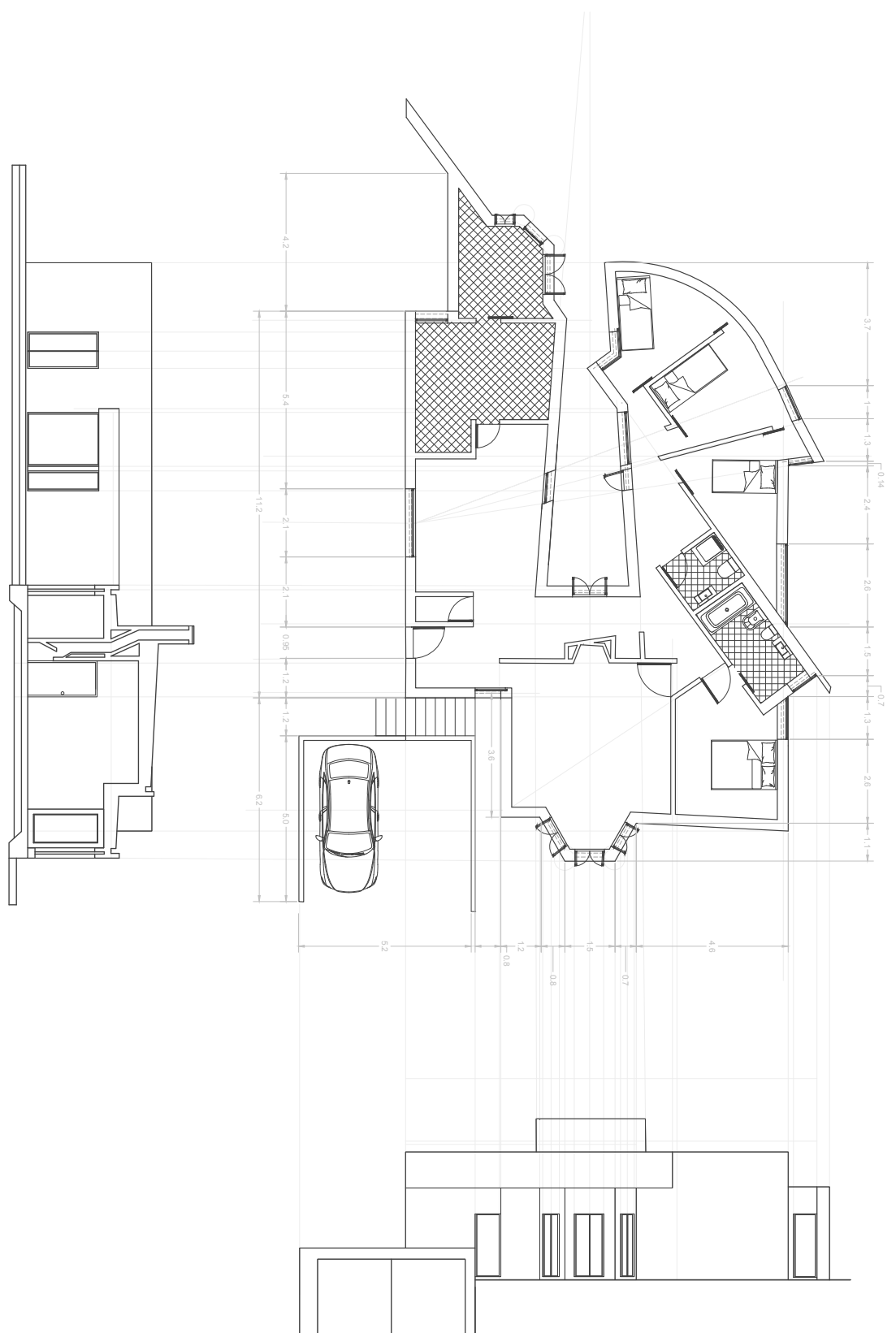
Sumário:

Fim da realização do Trabalho 1- Desenho de Arquitetura – Casa António Carlos Siza

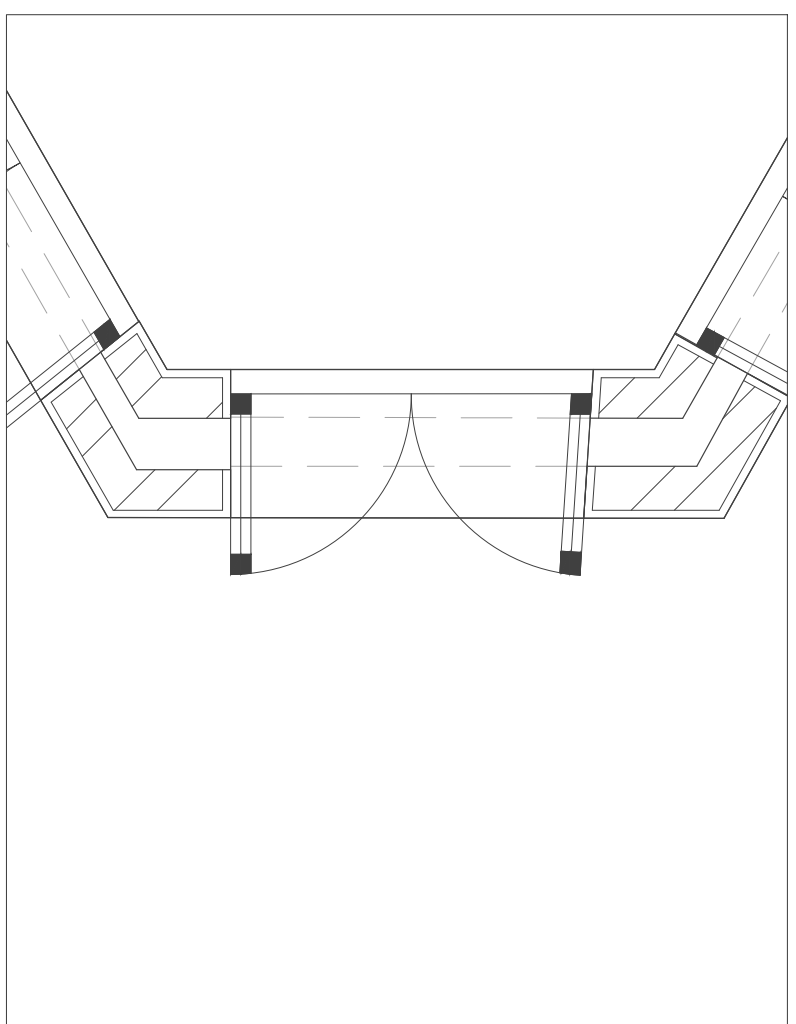
1. Organização do Layout
2. Mudança das definições do mesmo
3. Comando PRE – Preview do ficheiro final
4. Ajuste da espessura das linhas e de outros detalhes



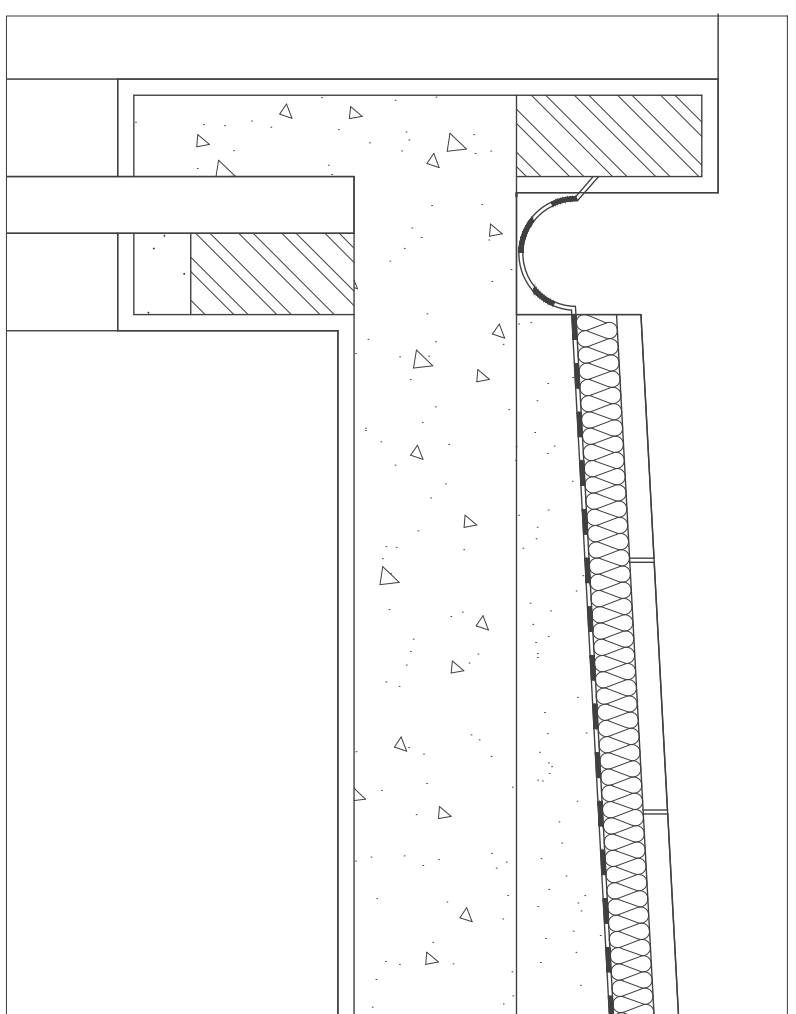
Representação Digital 2023/2024 Professor Nuno Alão
Trabalho 1 - Desenho de Arquitetura : Casa António Carlos Siza - Álvaro Siza Vieira
Raquel Valongo 20221332 TMIARQ2G



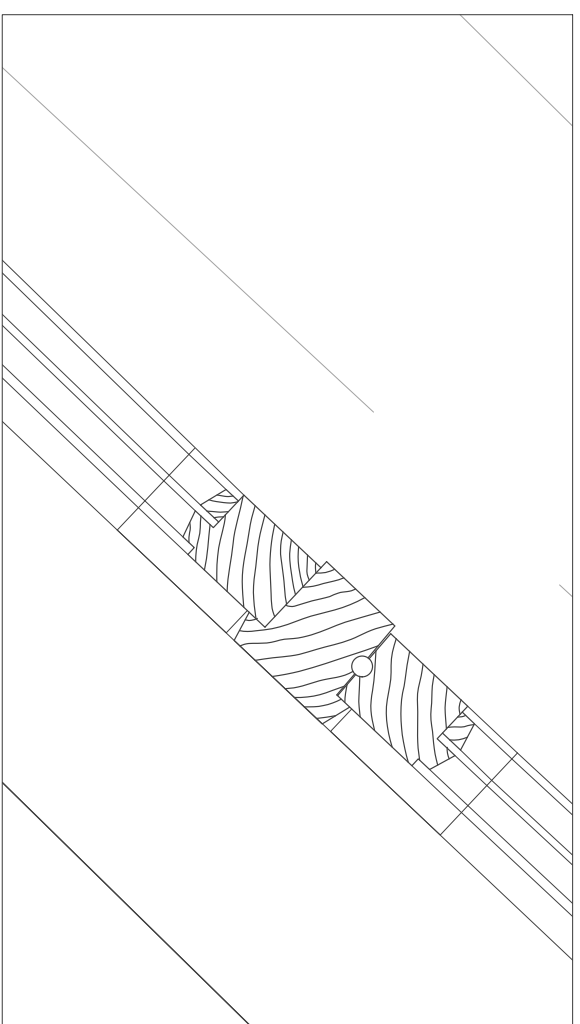
Planta, Alçado e Corte 1:100



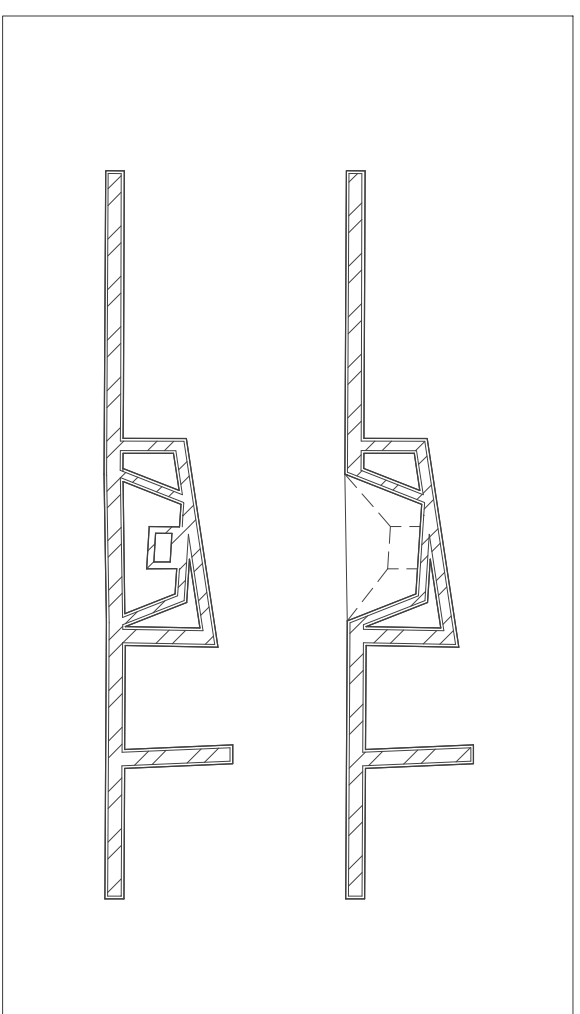
Detalhe vãos 1:10



Detalhe cobertura 1:10



Detalhe caixilho 1:1

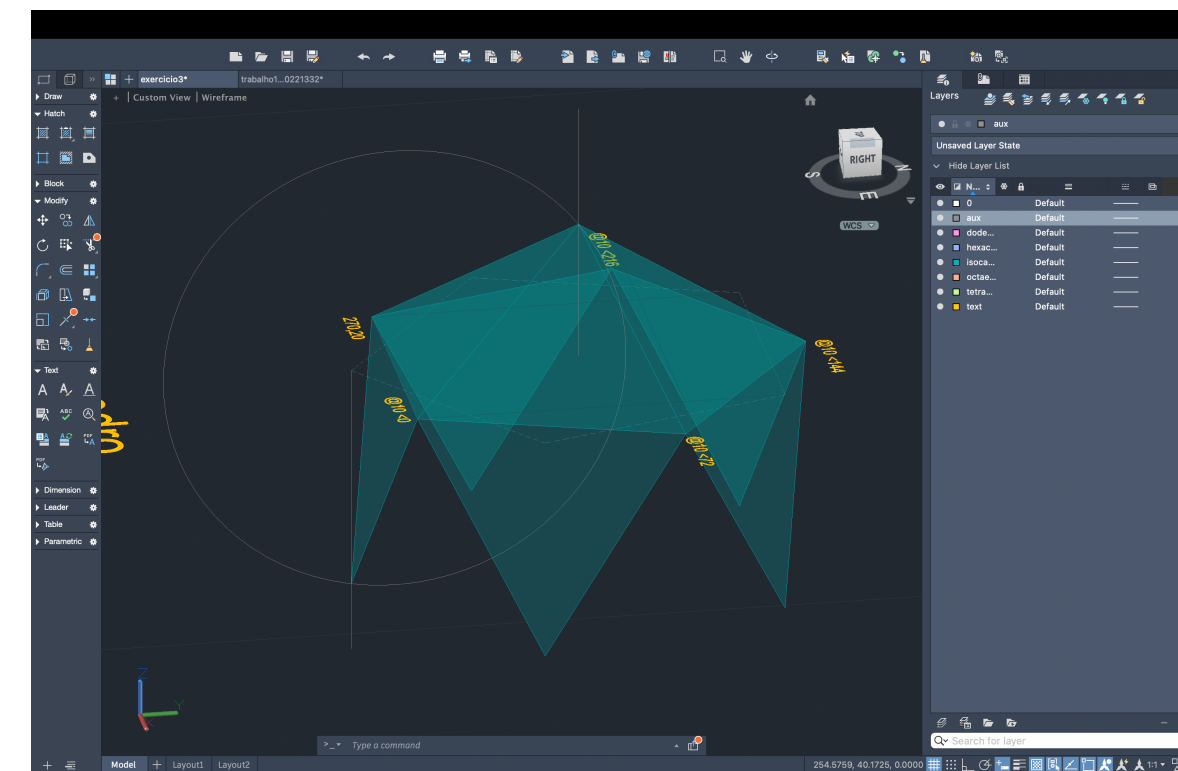
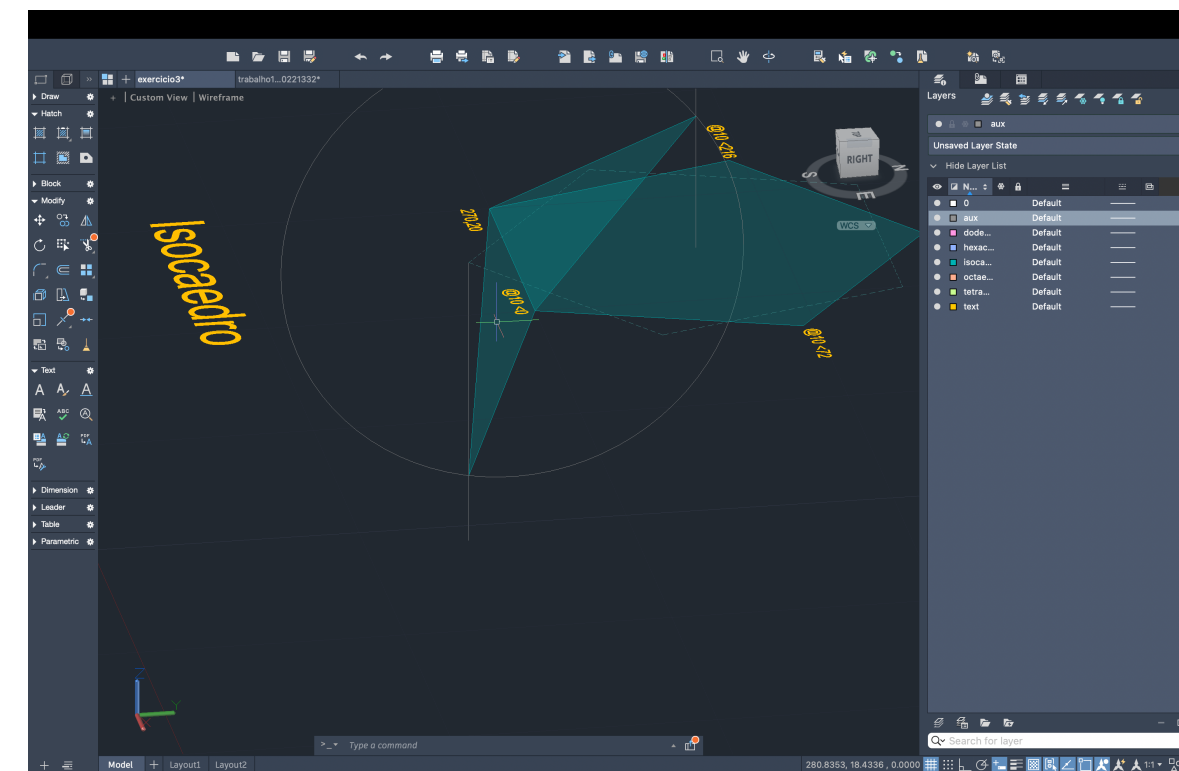
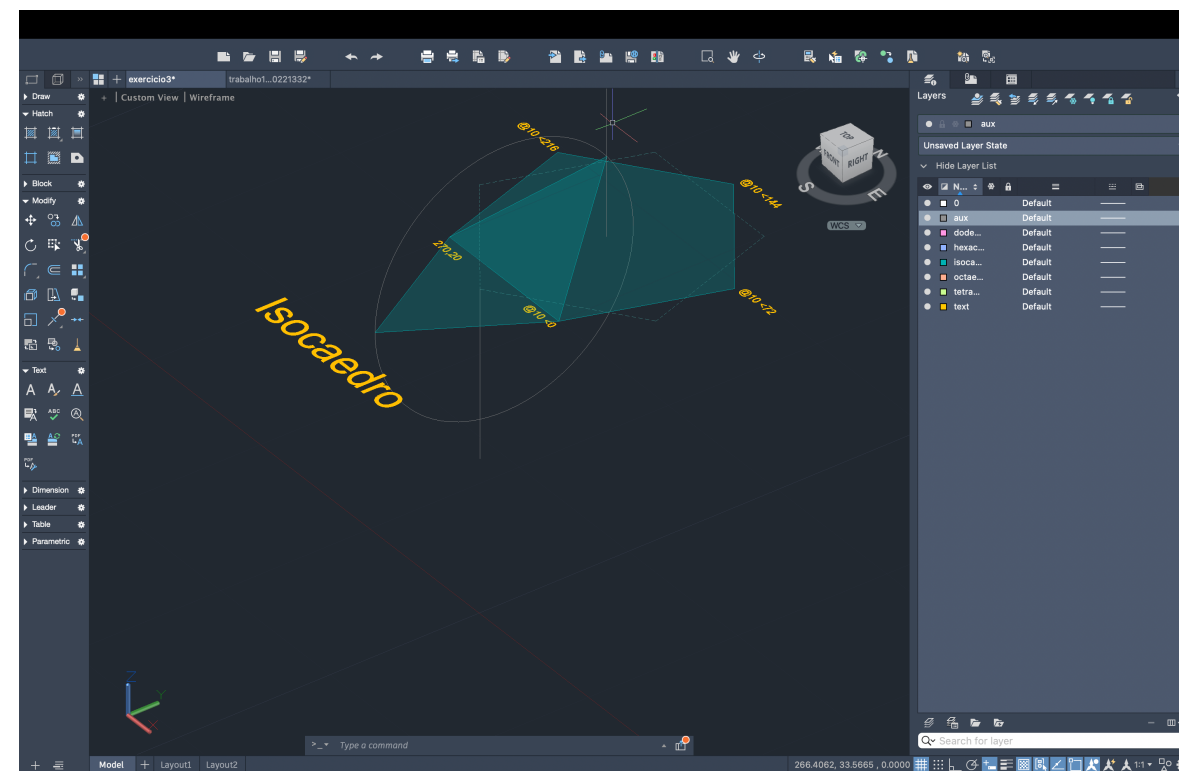
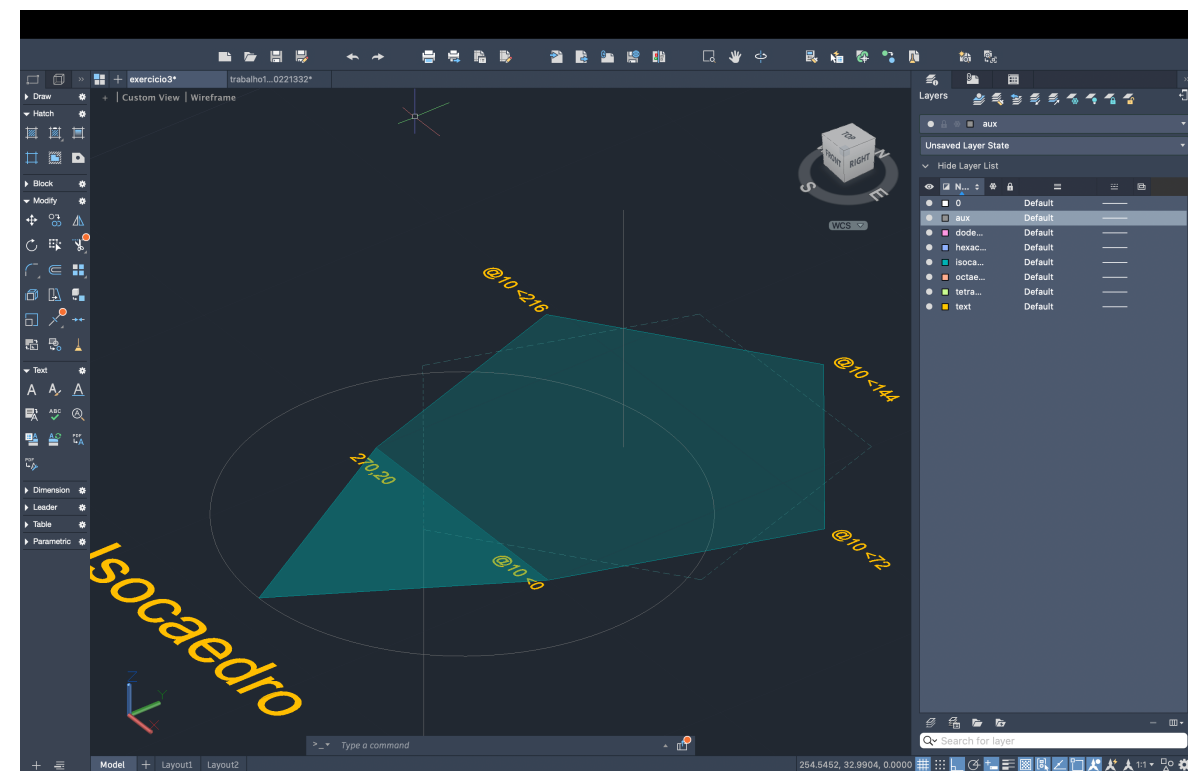


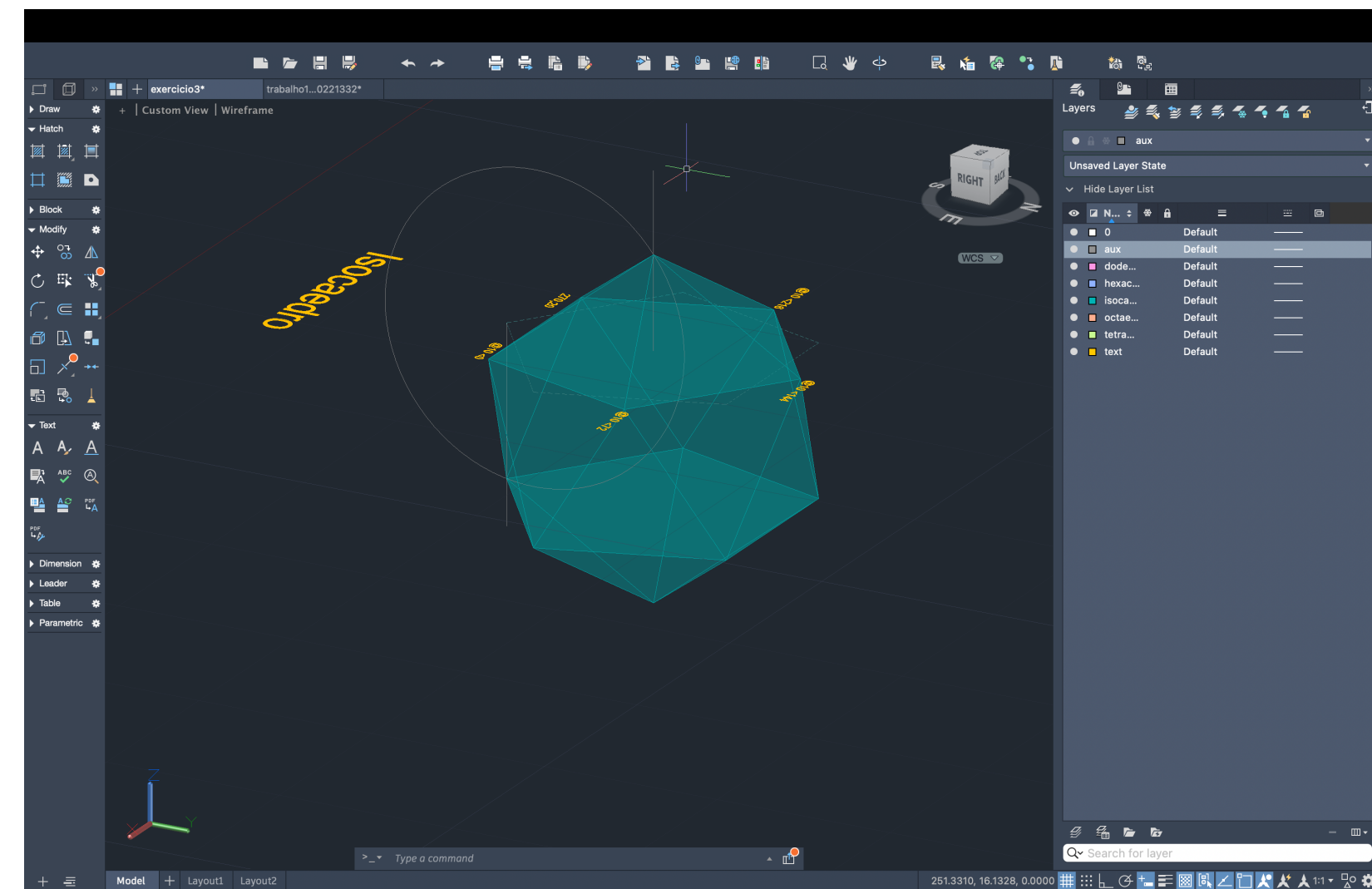
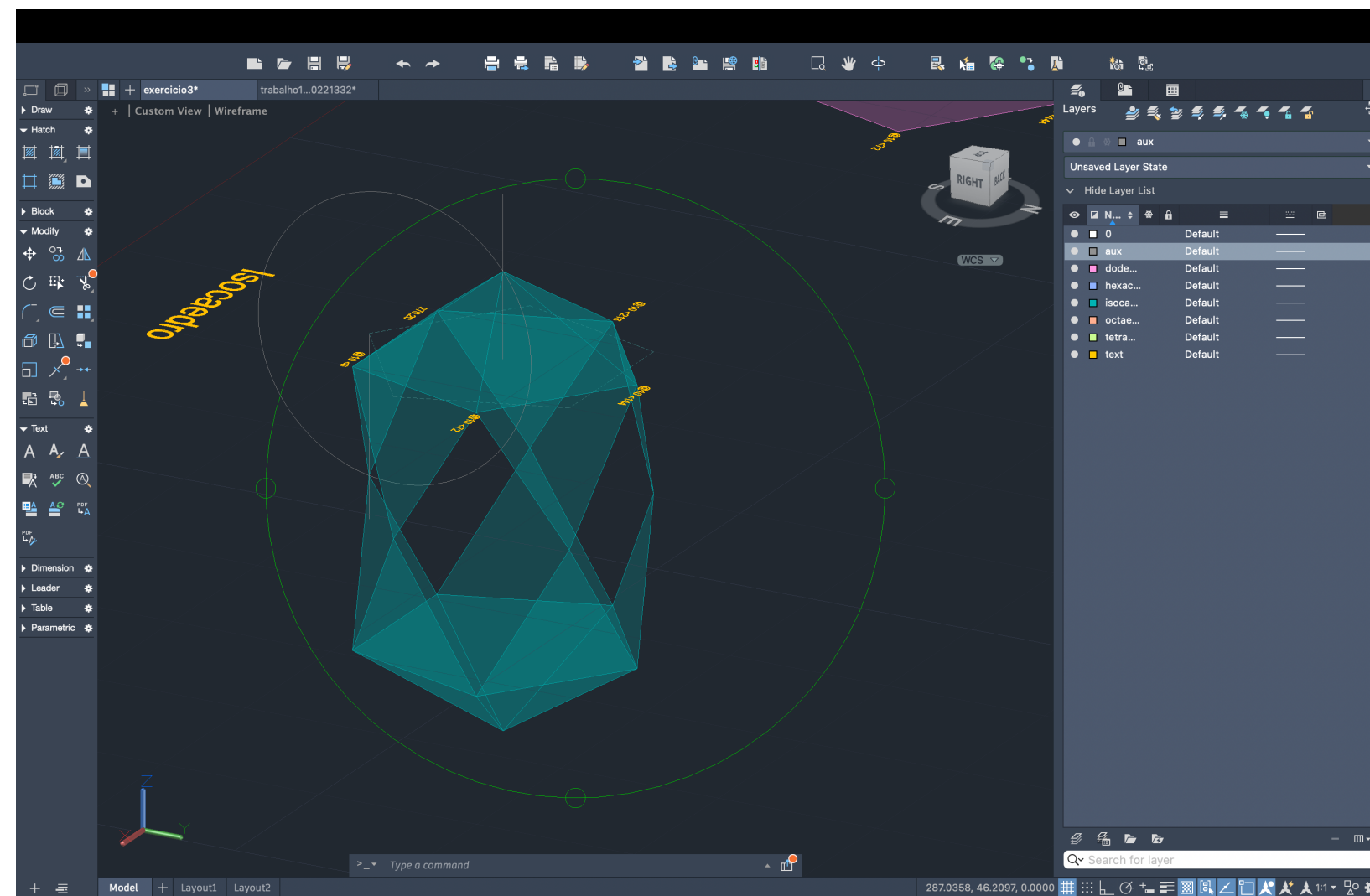
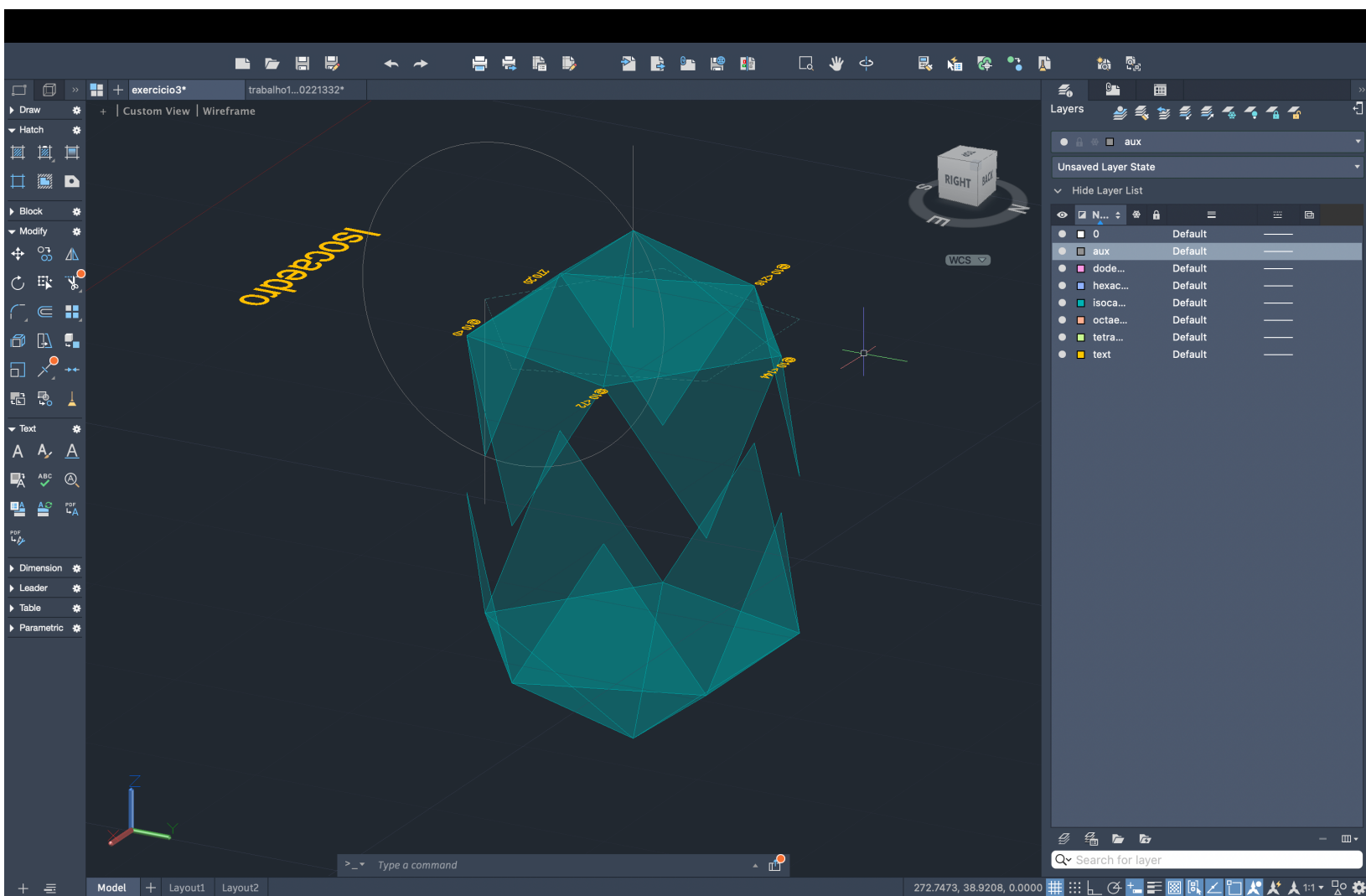
Lareira 1:50

Aula 16

Sumário:

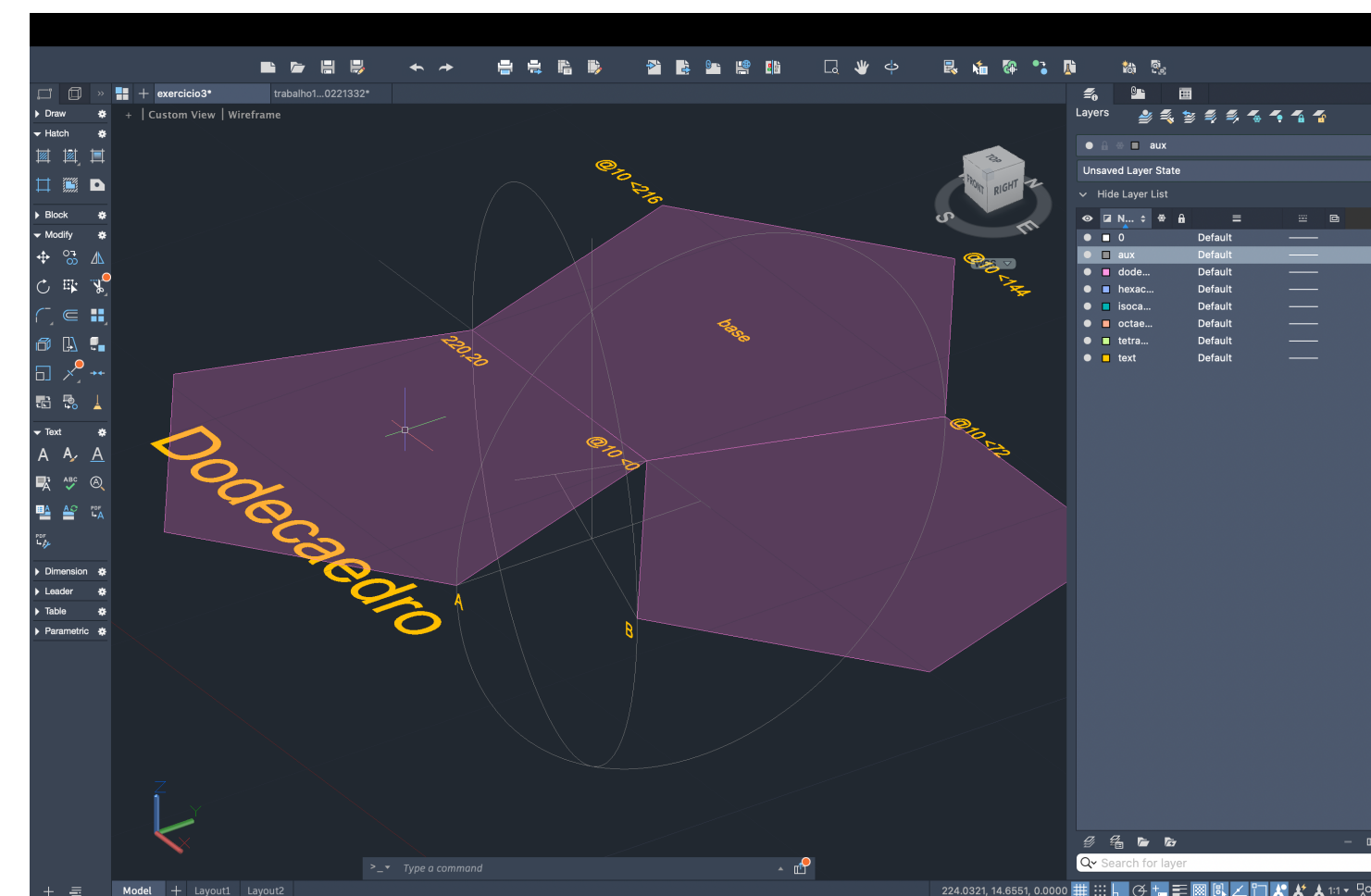
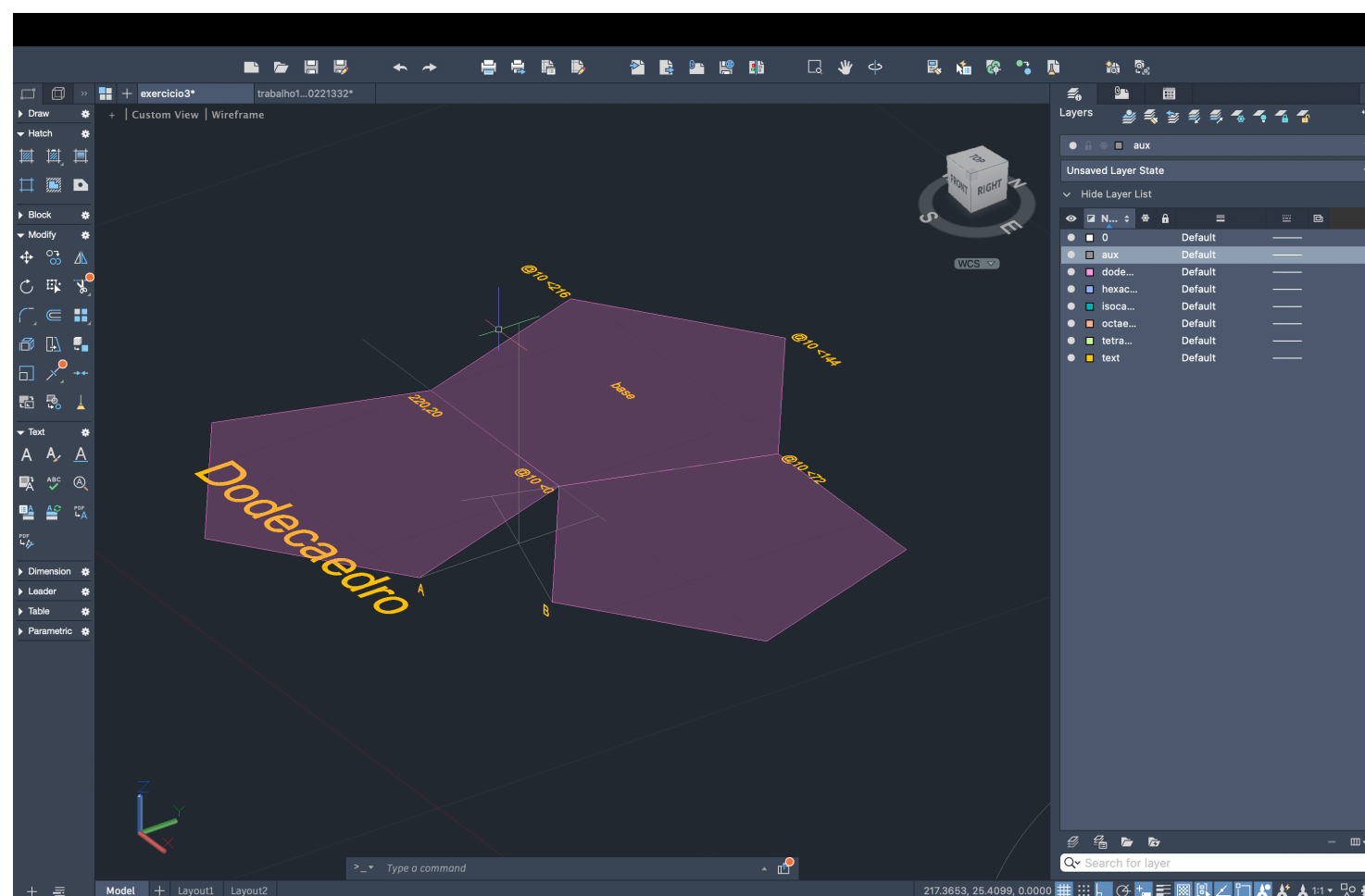
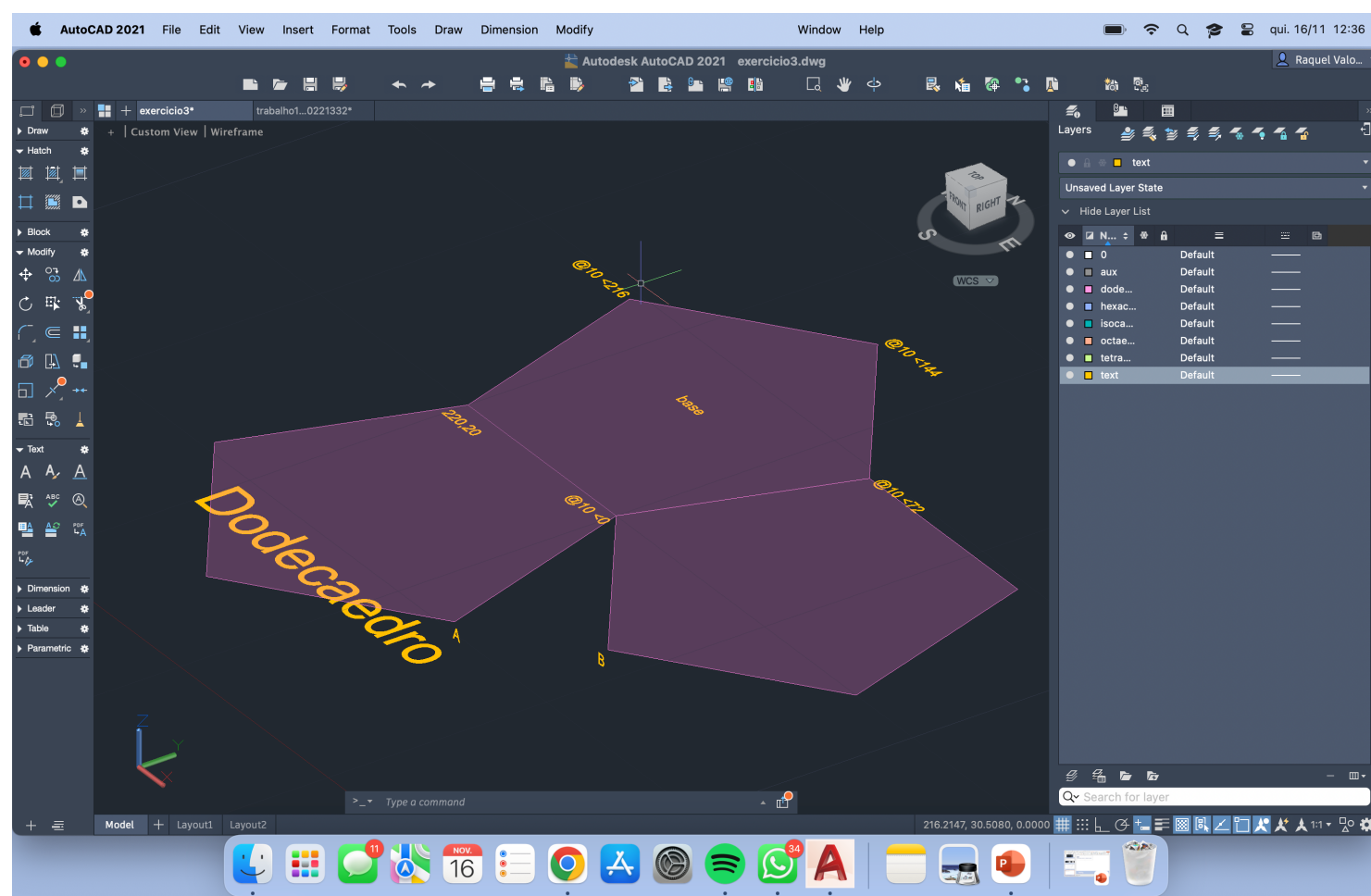
Fim da resolução do exercício 3 – Dodecaedro e Icosaedro





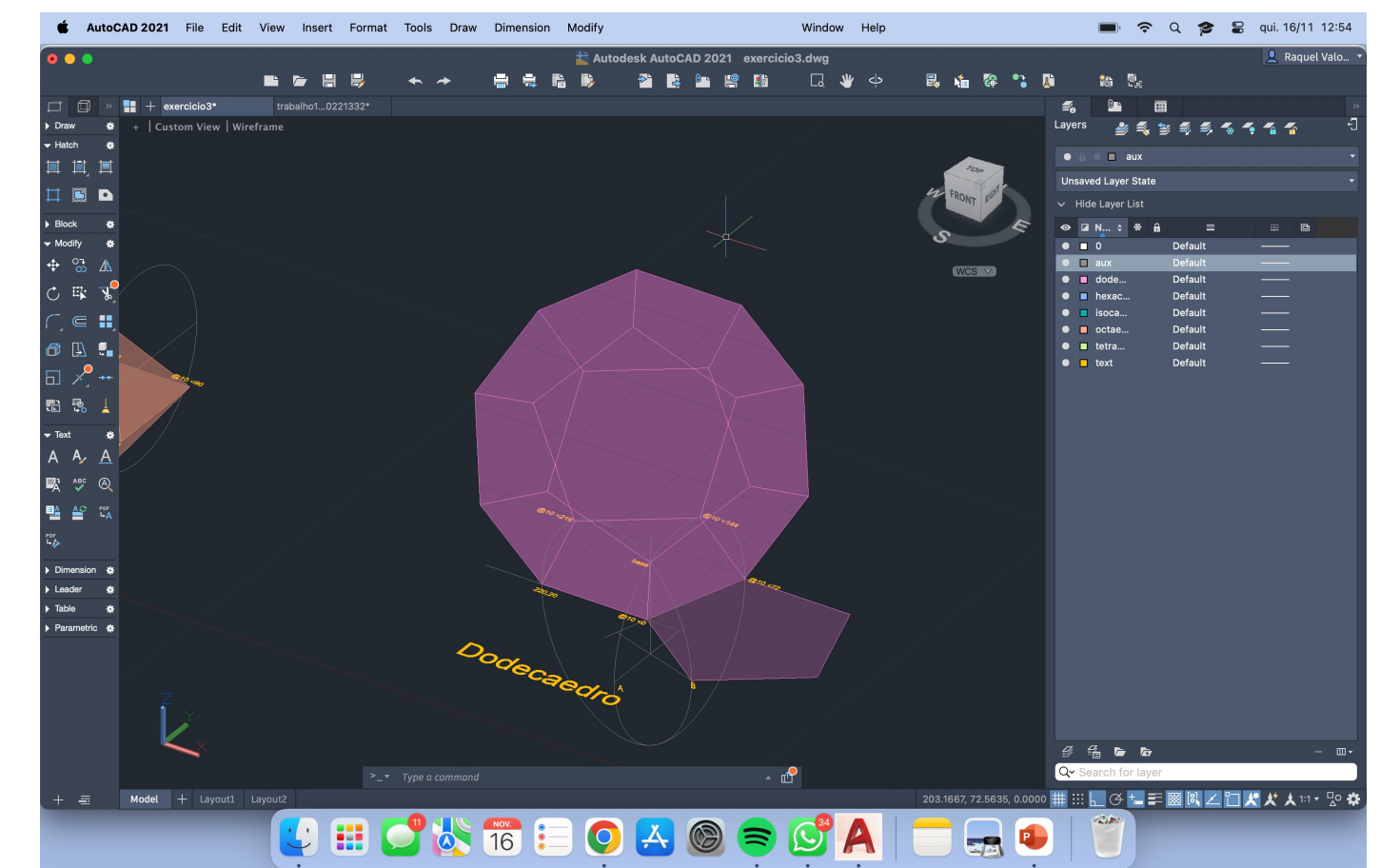
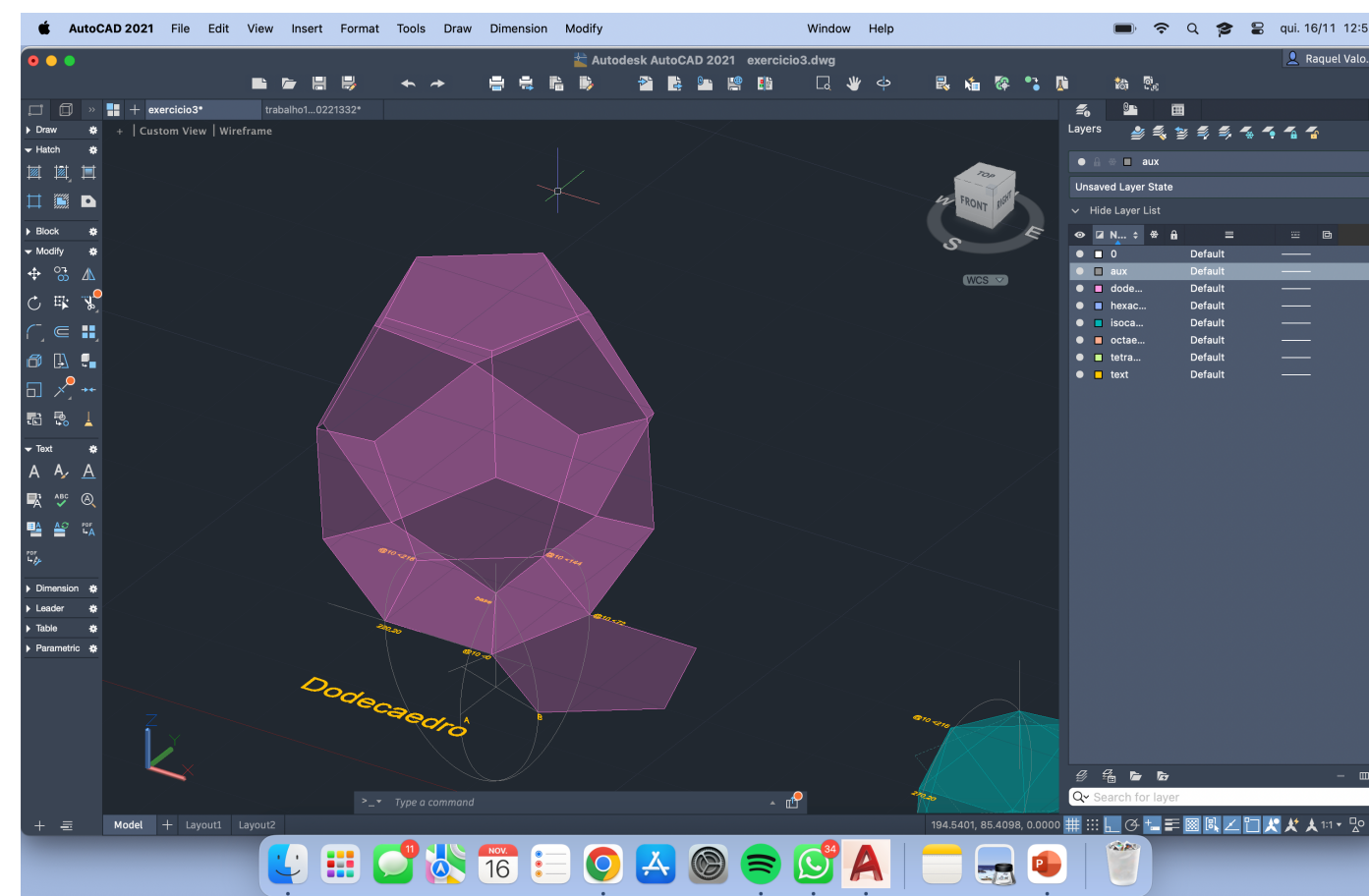
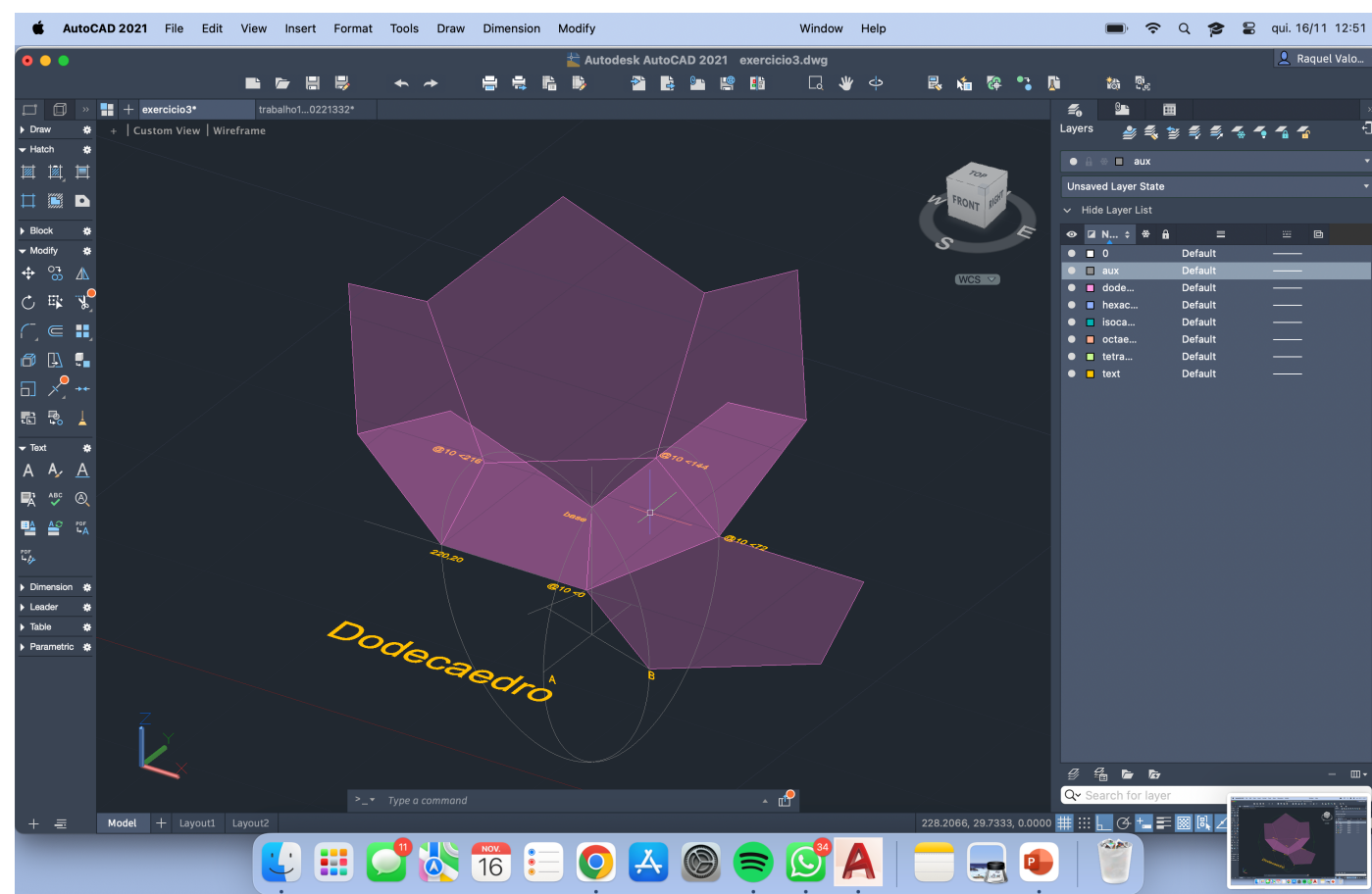
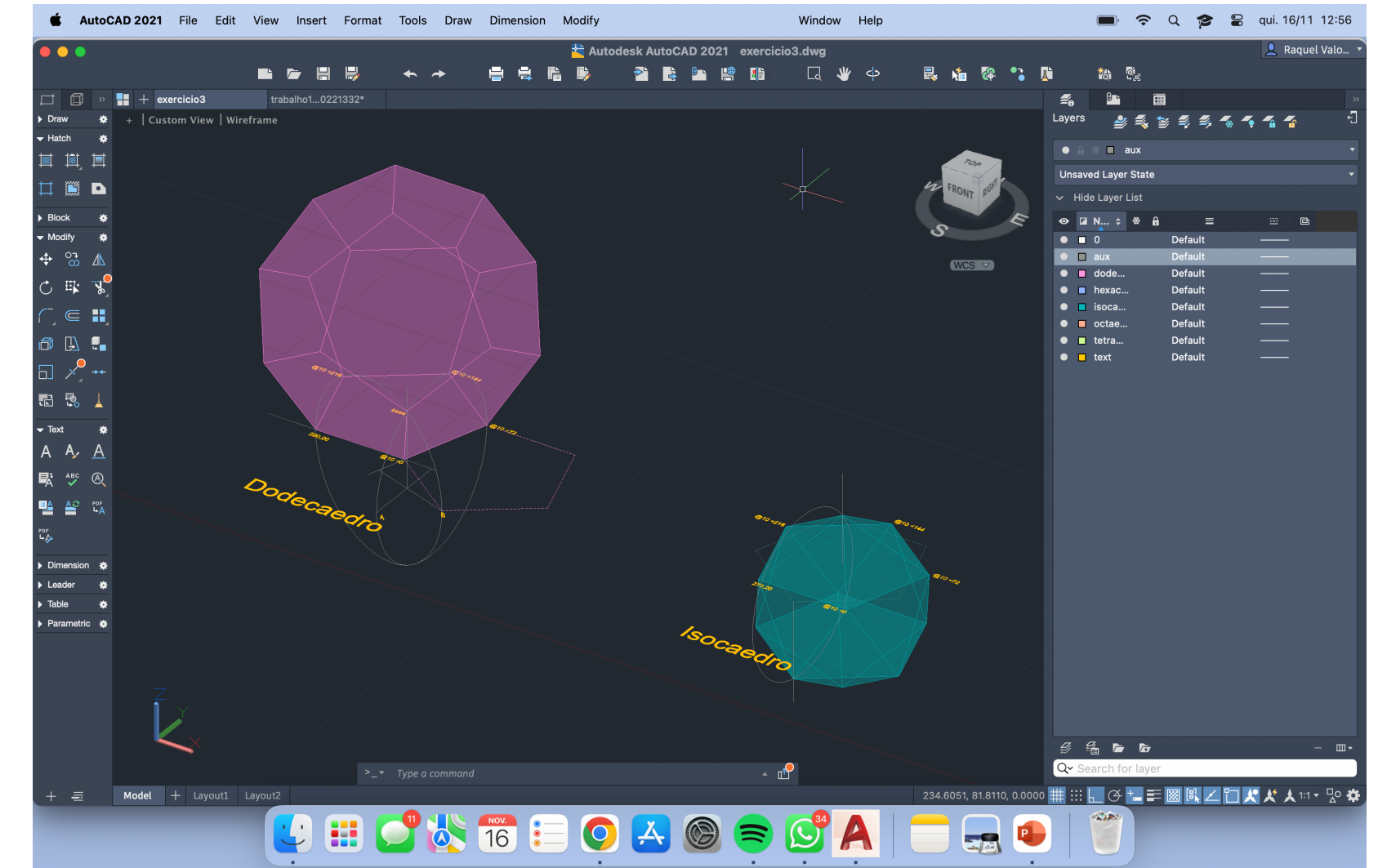
ReDig

Semana 9



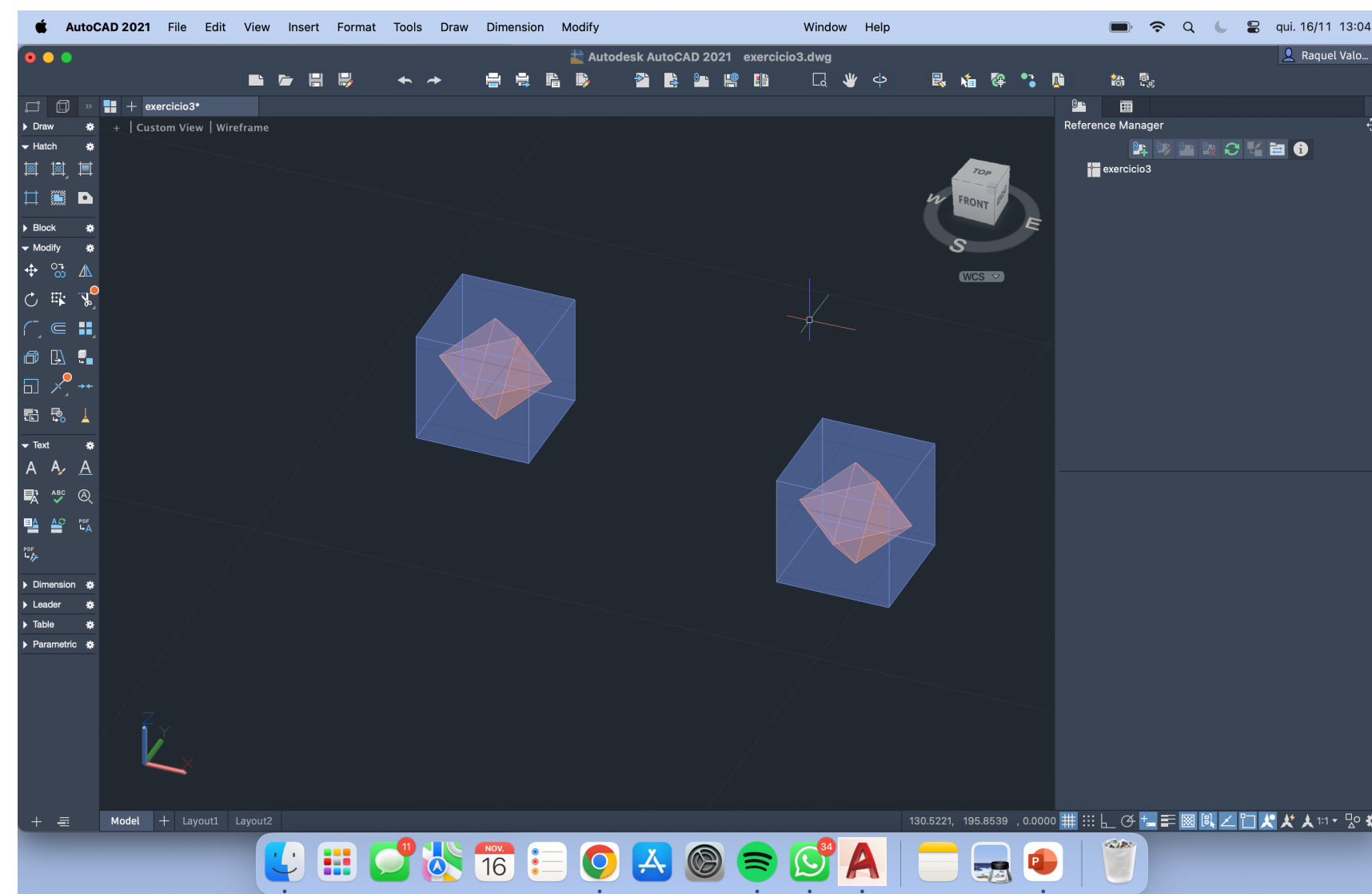
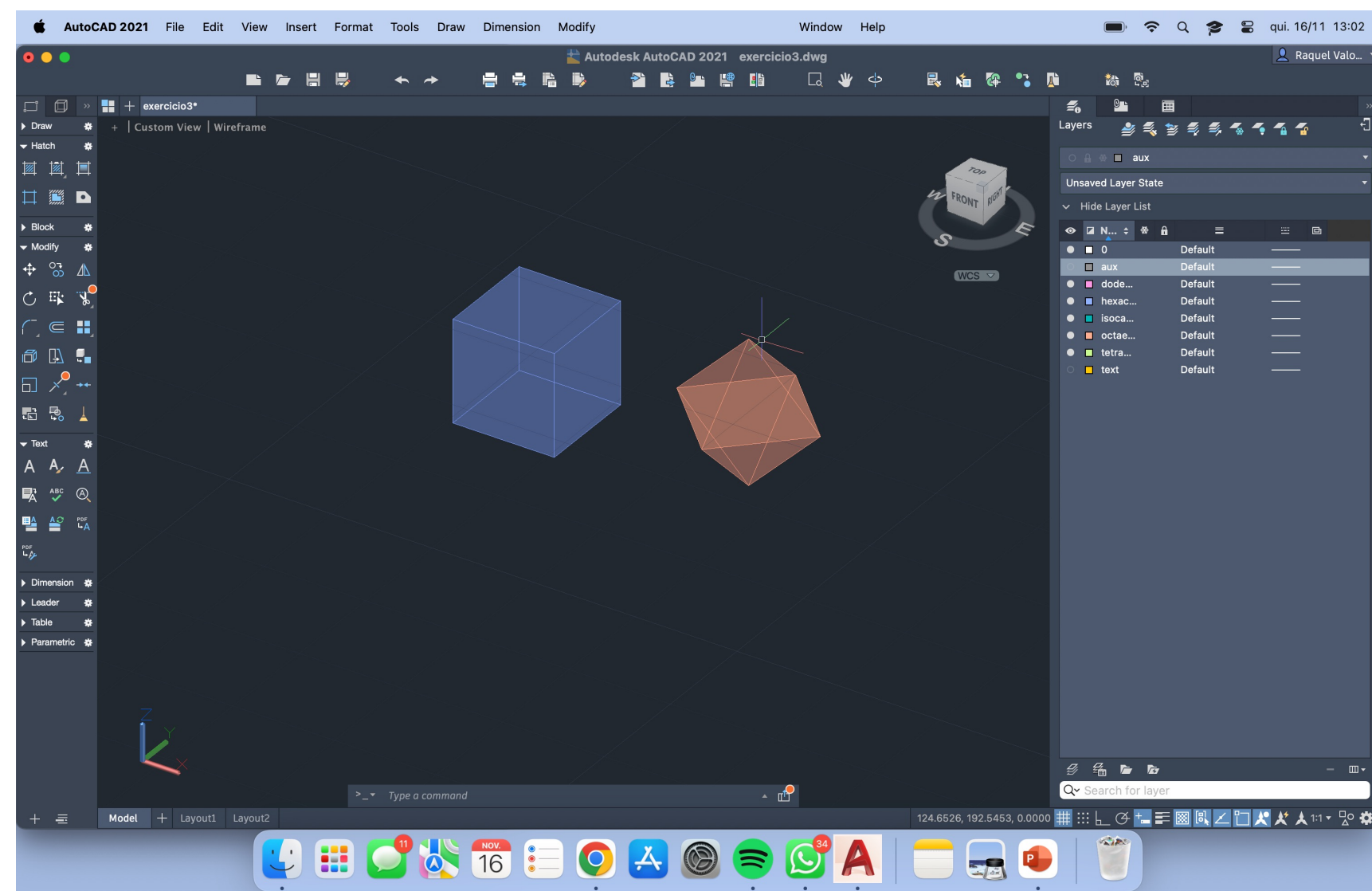
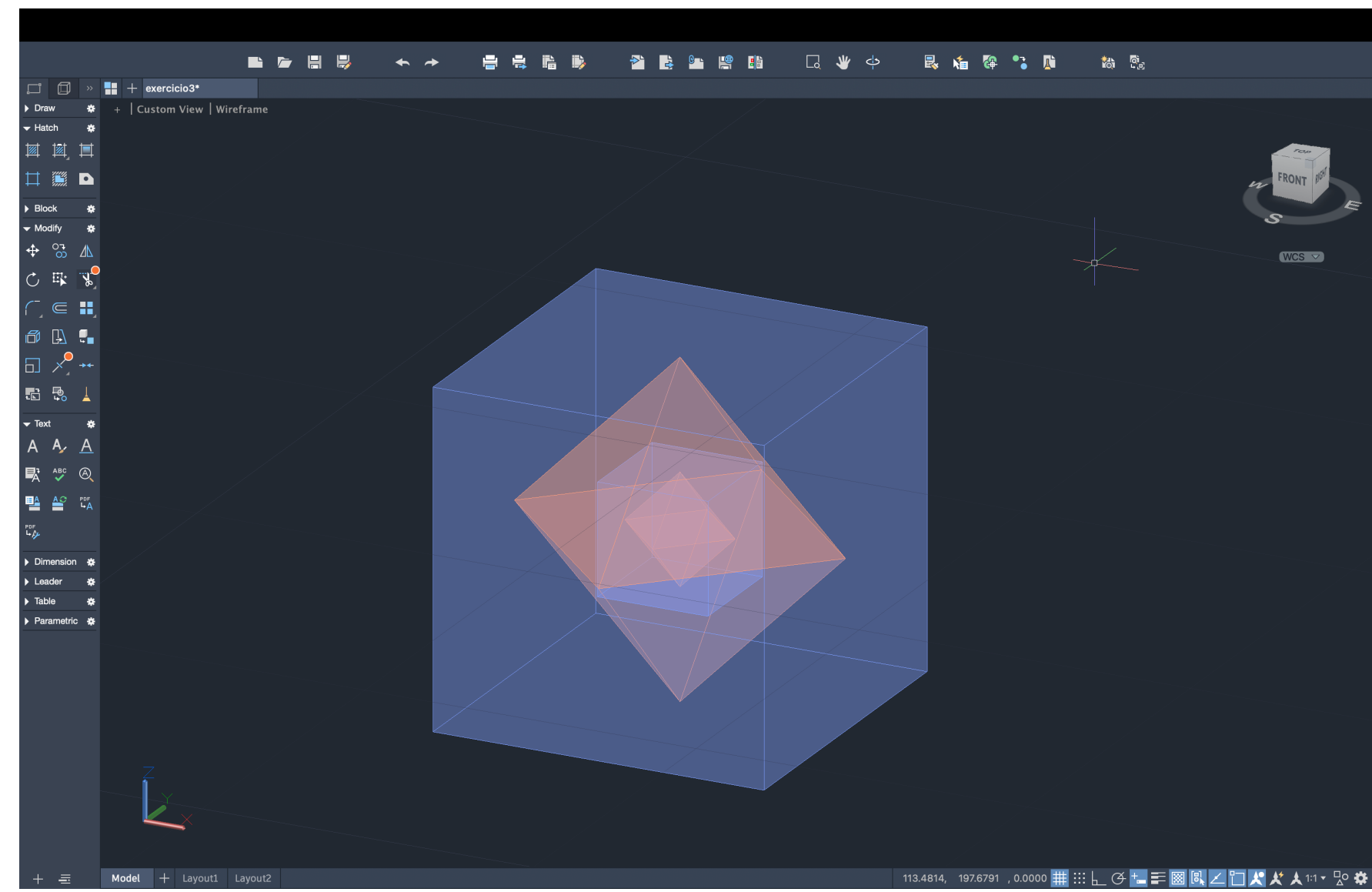
ReDig

Semana 9



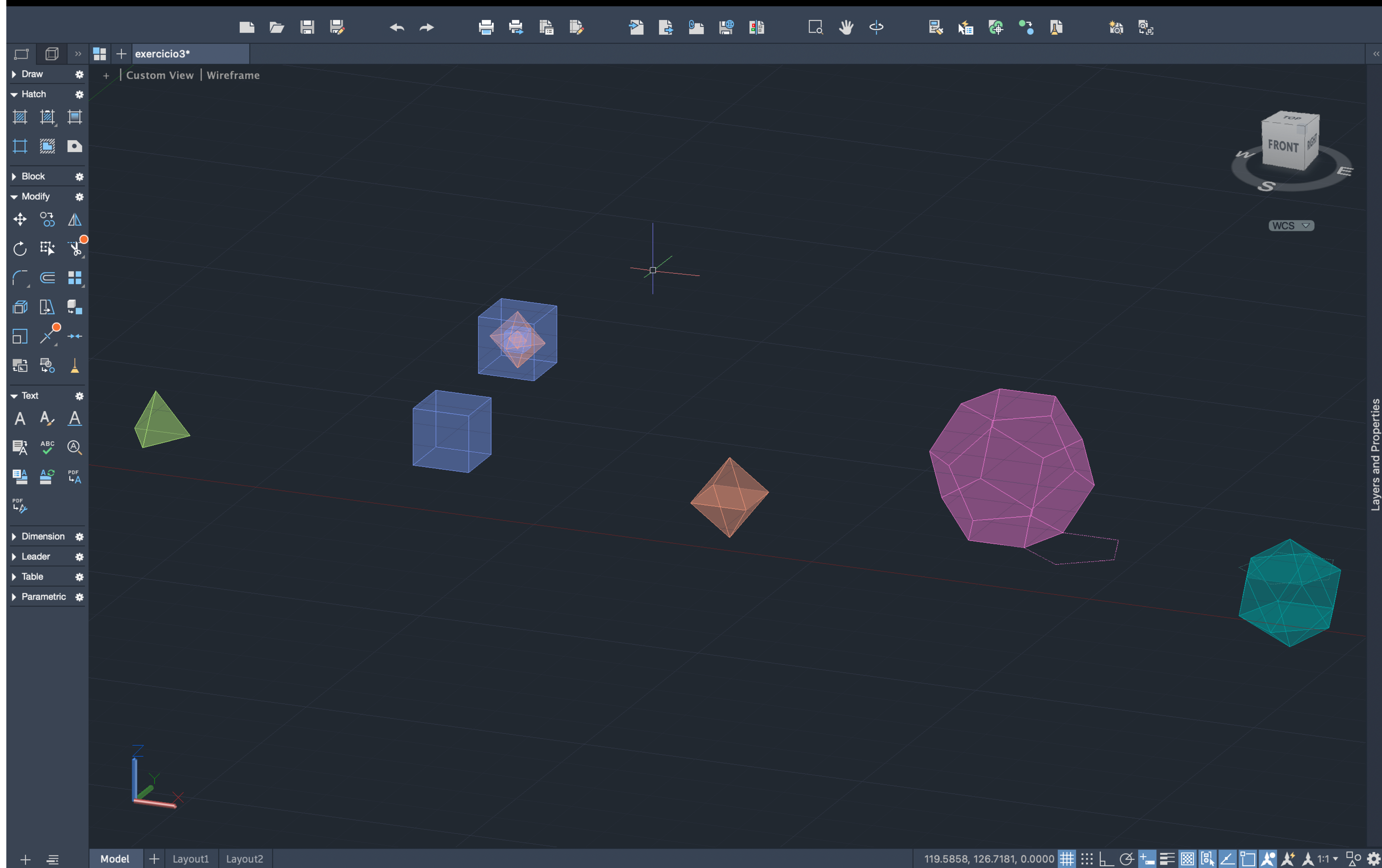
ReDig

Semana 9



ReDig

Semana 9



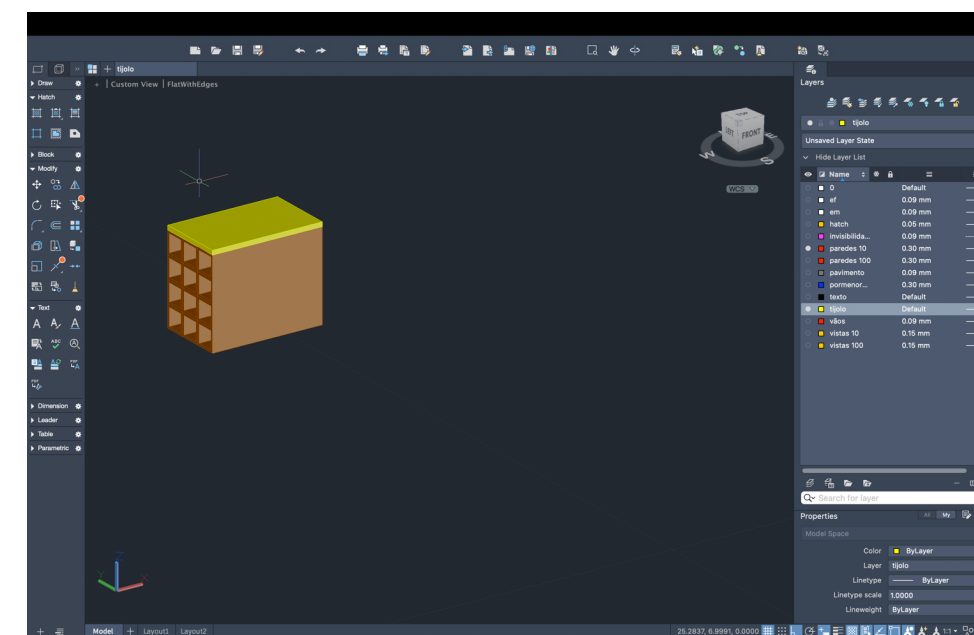
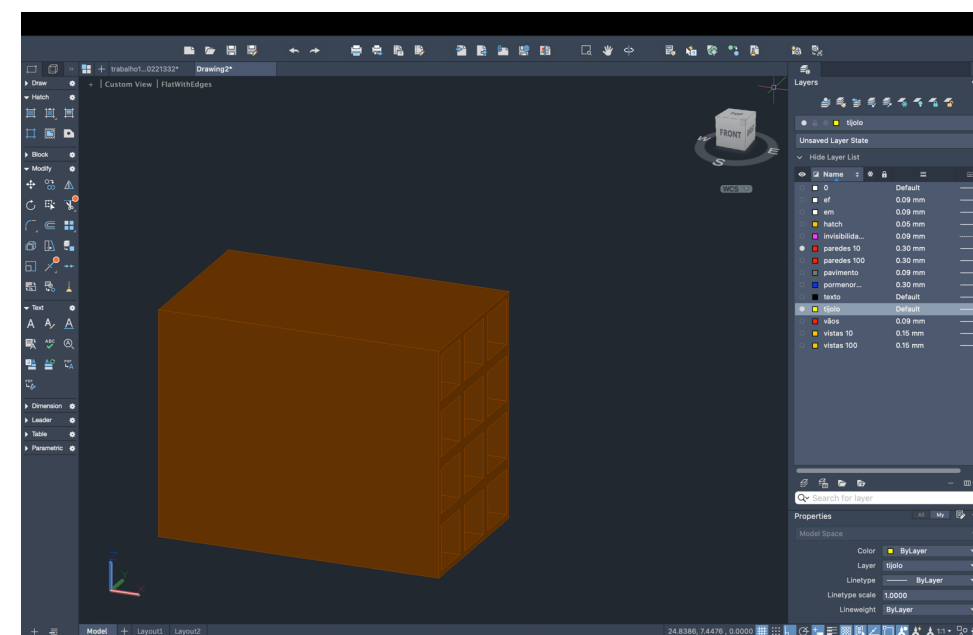
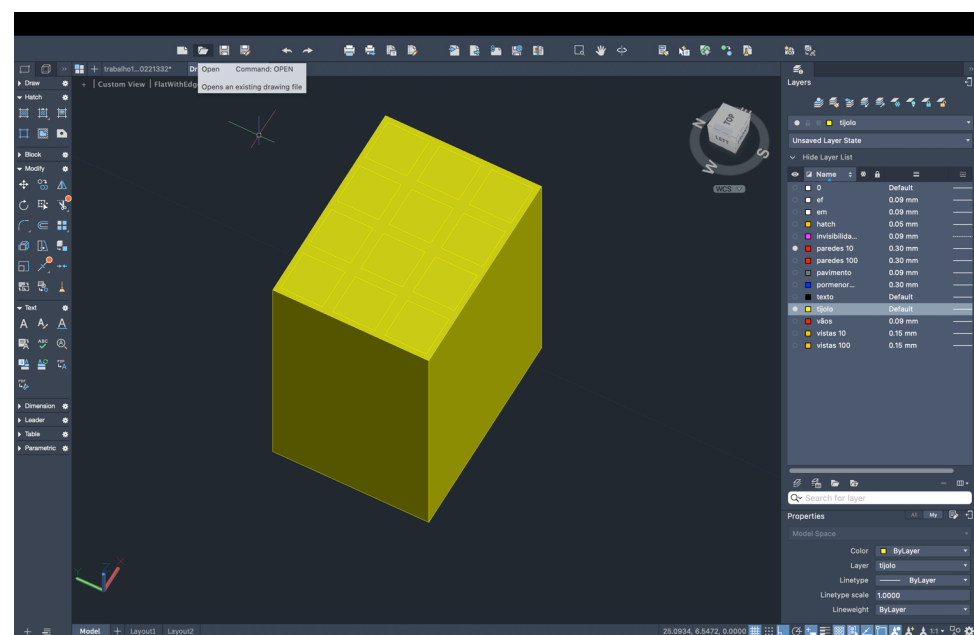
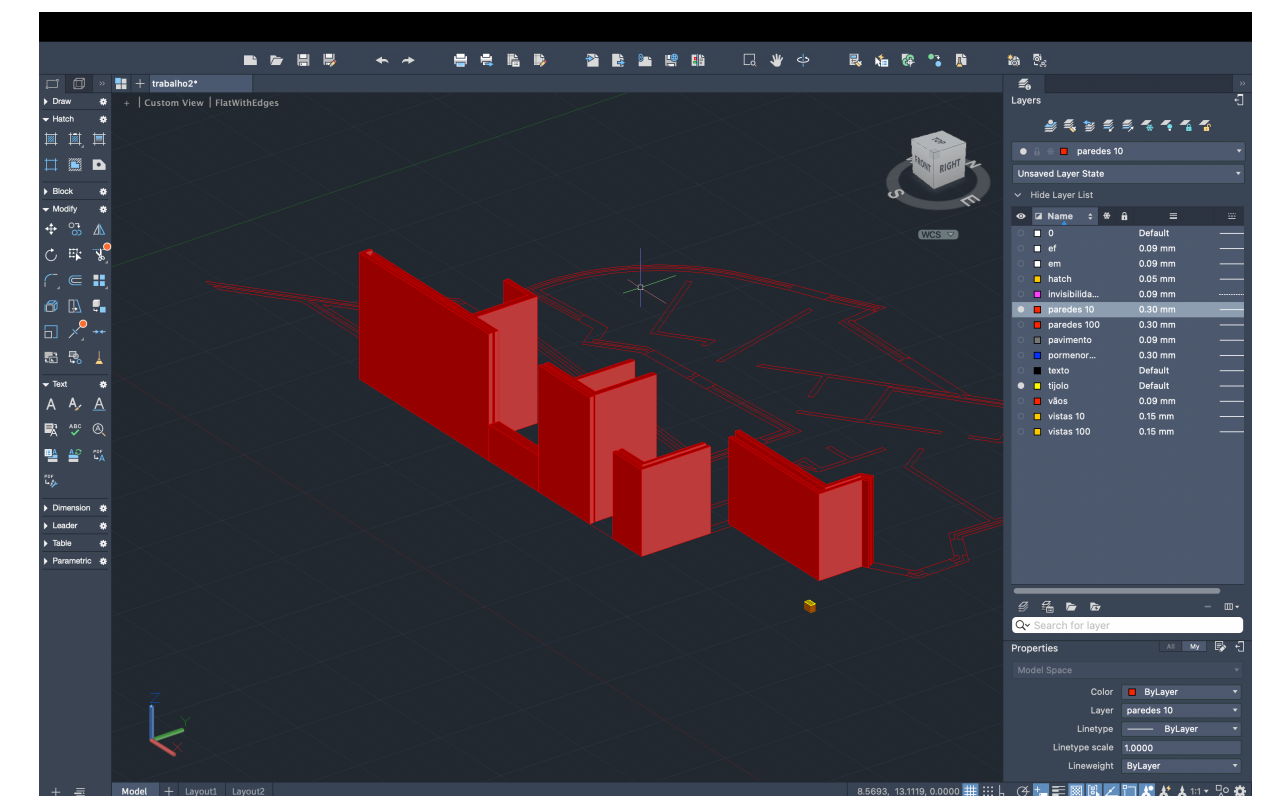
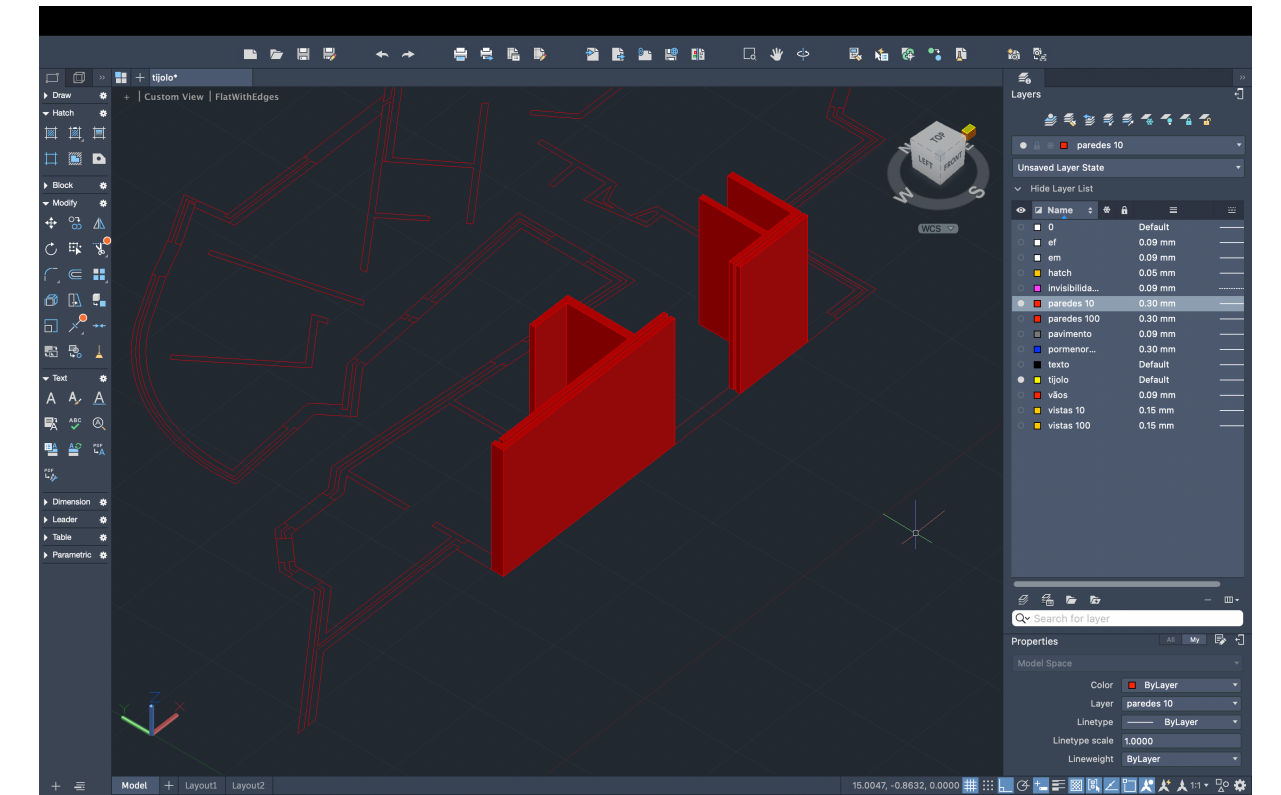
ReDig

Exercício 3- 3D Autocad

Aula 17

Sumário:

Continuação da resolução da planta 3D da Casa António Siza



ReDig

Semana 9

Poliedros Regulares: São aqueles cujas faces são regiões poligonais regulares

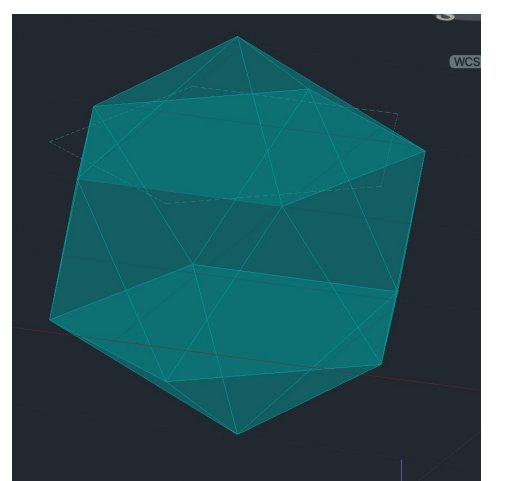
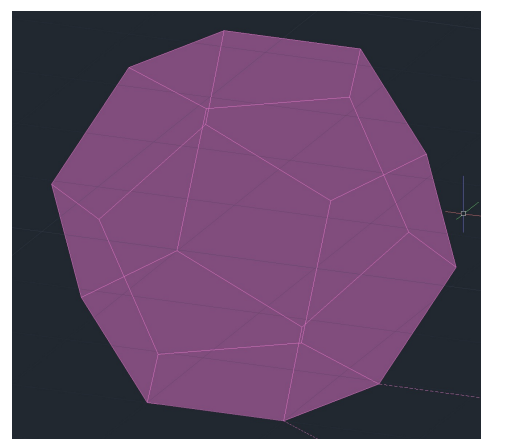
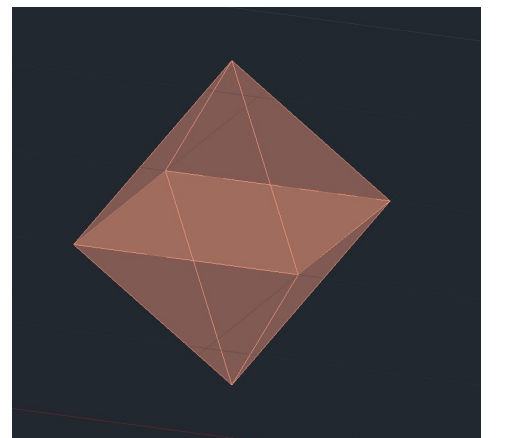
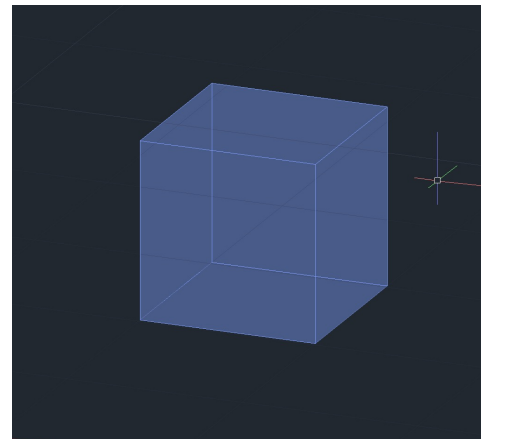
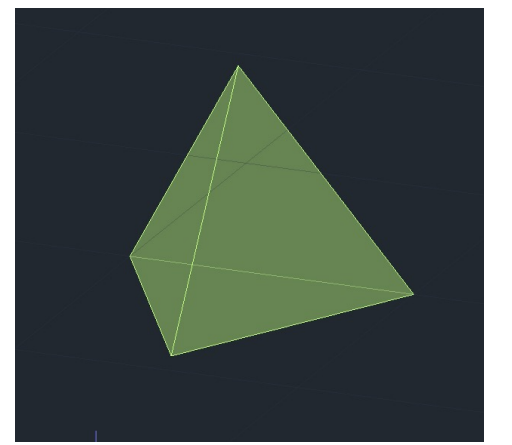
O número de faces, o número de vértices e o número de arestas do poliedros regulares relacionam-se através de uma das relações de Euler: $F+V = A + 2$. Assim pode-se organizar a seguinte tabela:

Poliedros	Vértices	Faces	Arestas
Tetraedro	4	4	6
Hexaedro	8	6	12
Octaedro	6	8	12
Dodecaedro	20	12	30
Icosaedro	12	20	30

O que são relações duais:

Em geometria, os poliedros estão associados aos pares – os seus duais – onde, os vértices de um se inscrevem nas faces do outro.

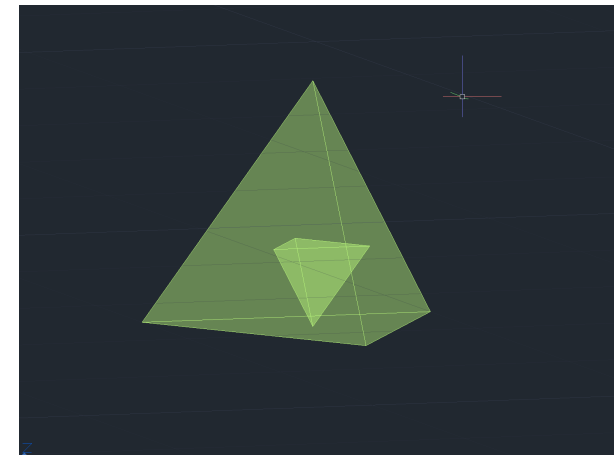
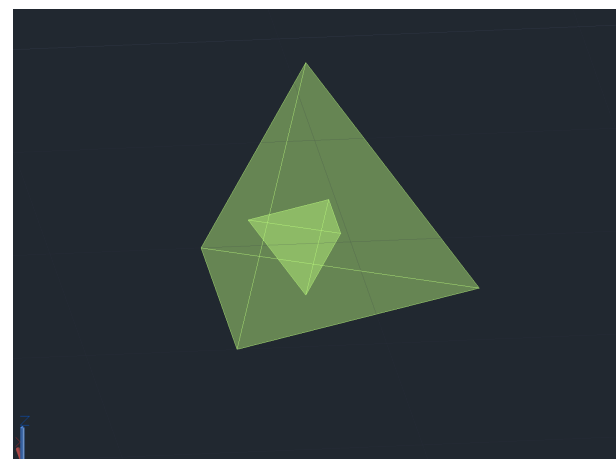
Esta relação existe quando o número de vértices de um é equivalente ao número de faces do outro e o número de arestas dos dois poliedros é igual.



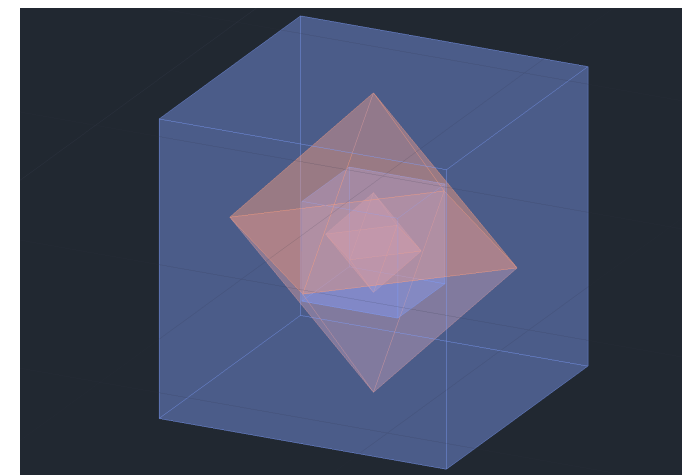
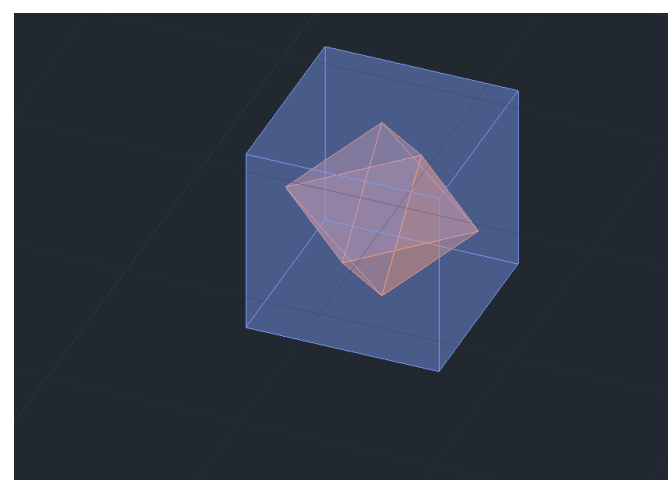
Analisando os poliedros e observando as informações que se encontram organizadas na tabela podemos concluir que:

1. O tetraedro é o seu próprio dual

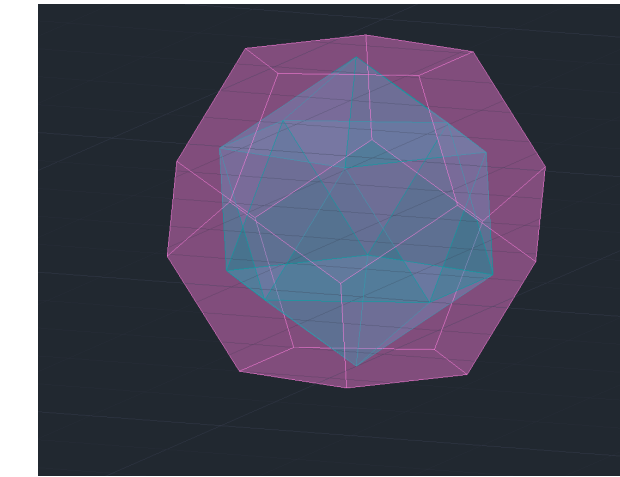
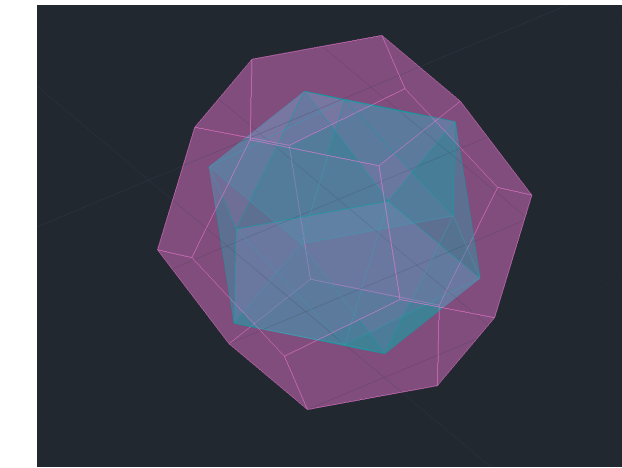
Poliedros	Vértices	Faces	Arestas
Tetraedro 1	4	4	<u>6</u>
Tetraedro 2	4	4	6



2. O hexaedro e o octaedro são duais



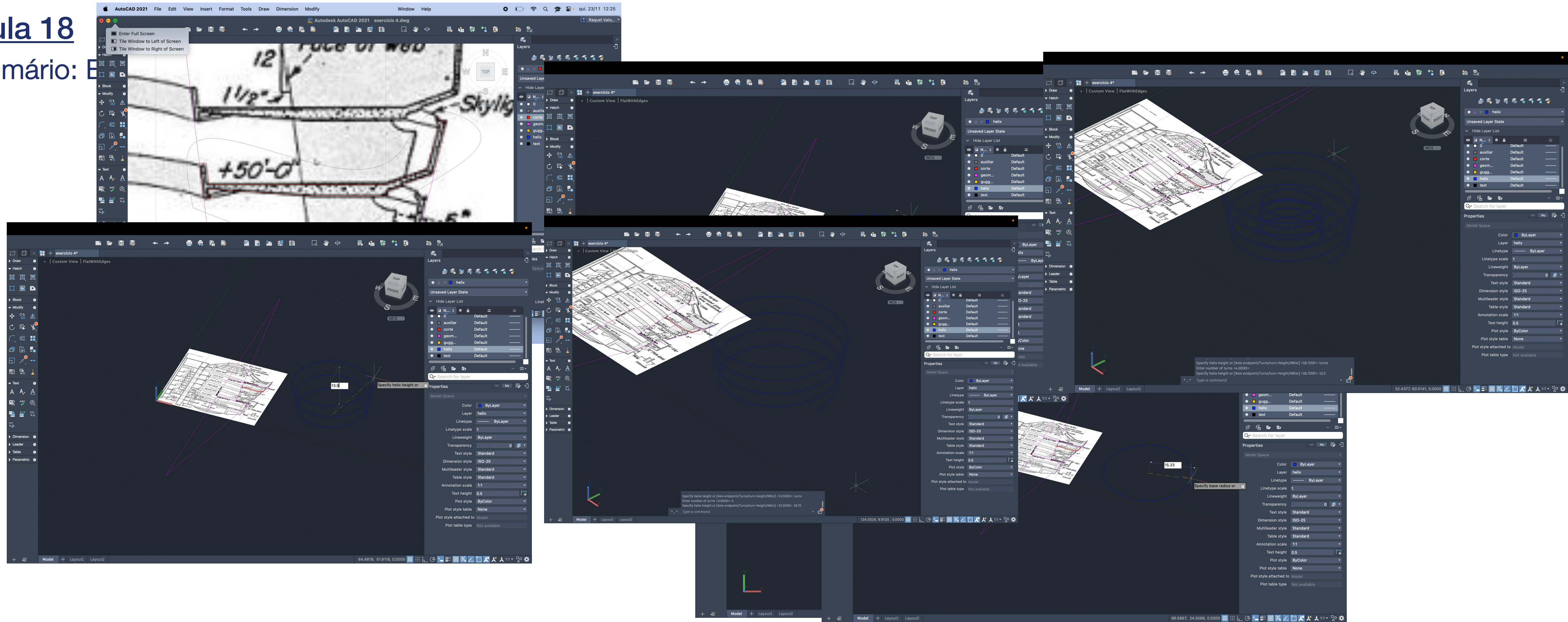
3. O dodecaedro e o icosaedro são duais



Para confirmar estas relações podemos inserir os poliedros, realizados em Autocad, nos seus duais, utilizando o comando `ALIGN`, seleccionando o poliedro que vai ser inserido no outro e escolhendo os vértices para alinhar com as faces correspondentes

Aula 18

Sumário: E



Aula 19

Sumário: Introdução ao programa 3DSMAX

Aula 19

Sumário: Introdução ao programa 3DSMAX

Aula 20

Sumário: Continuação do exercício em 3DSMax

Aula 21

Sumário:

Continuação do trabalho 2: Passagem da casa do Siza para o 3DSMax

Aula 22

Sumário:

Continuação do trabalho 2: Passagem da casa do Siza para o 3DSMax