Departamento do Núcleo de Ciências Exatas e Tecnológicas
Área Engenharias

Material Instrucional Técnico de Apoio às Disciplinas de Desenho Técnico e correlacionadas Nível Tecnólogos e Engenharias

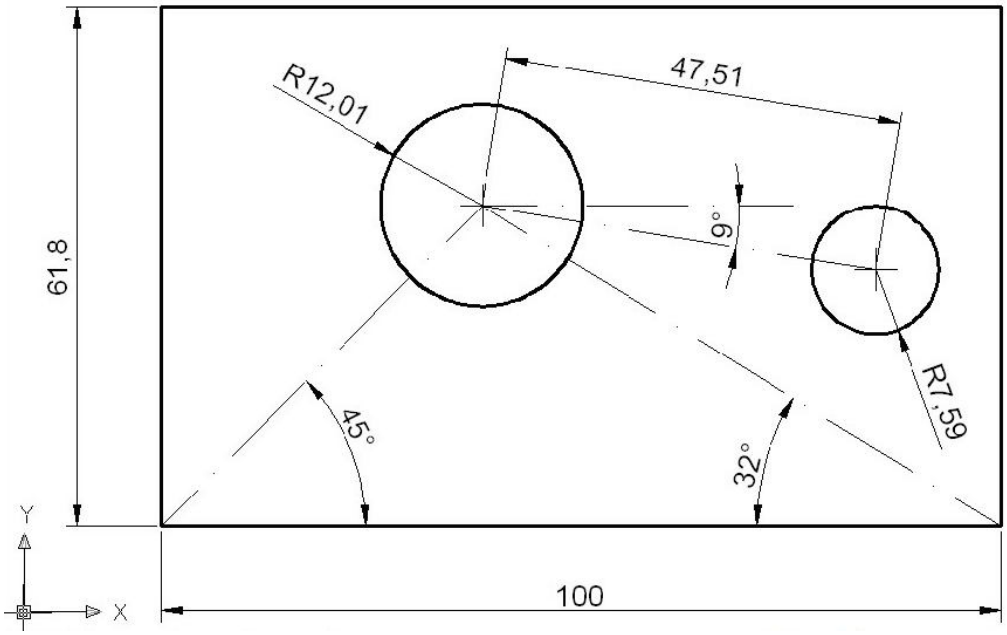
Marcelo Murga

DESENHO TÉCNICO
CAPÍTULO 10 CAD

CAD – CADERNO DE EXERCÍCIOS

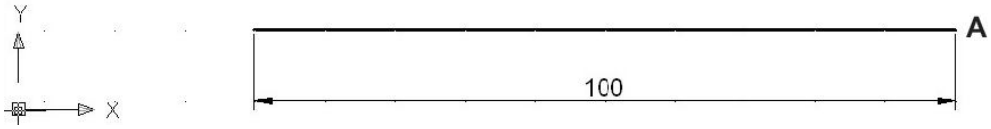
EXERCÍCIO Nº1:

Redesenhe esta figura

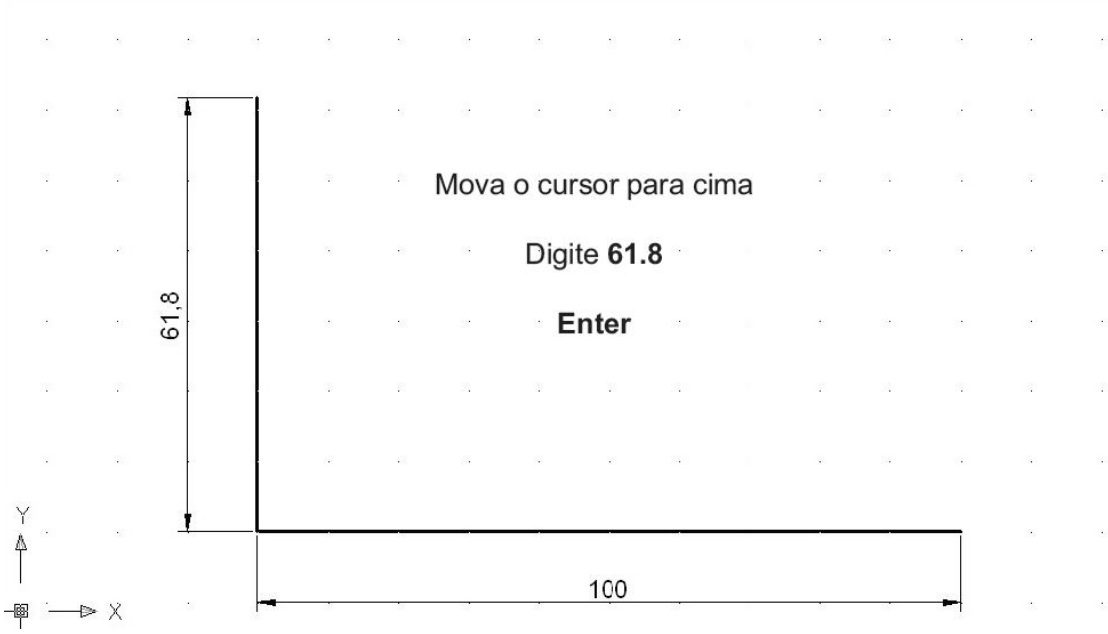


Etapa 1:

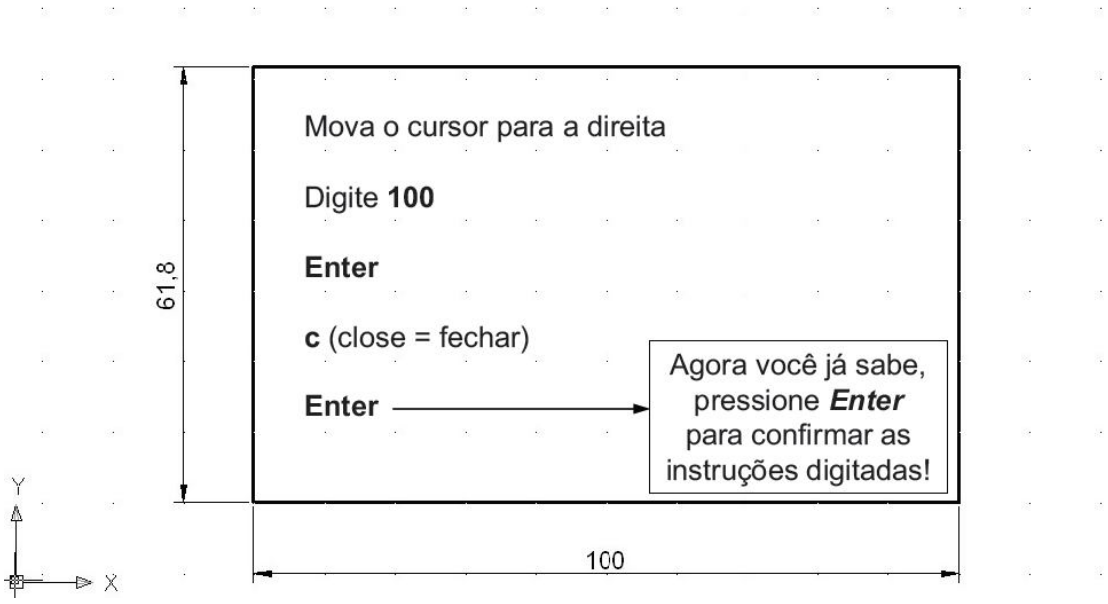
Digite **L**
Pressione **Enter**
Clique num ponto **A** da tela
Ative **Ortho** (tecla F8)
Arraste o cursor para a esquerda
Digite **100**



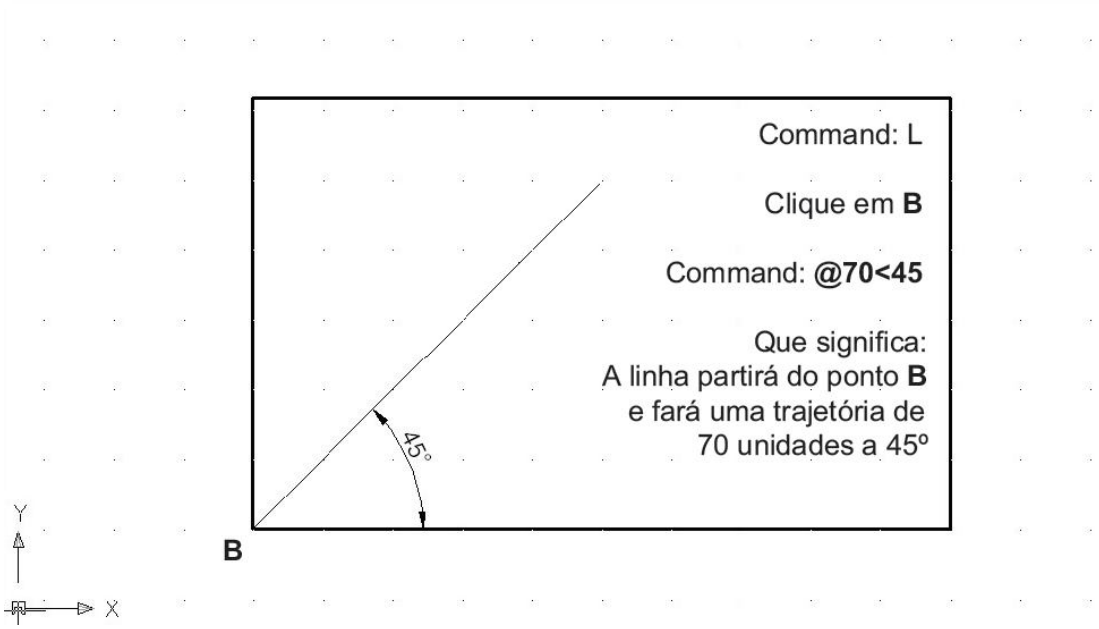
Etapa 2:



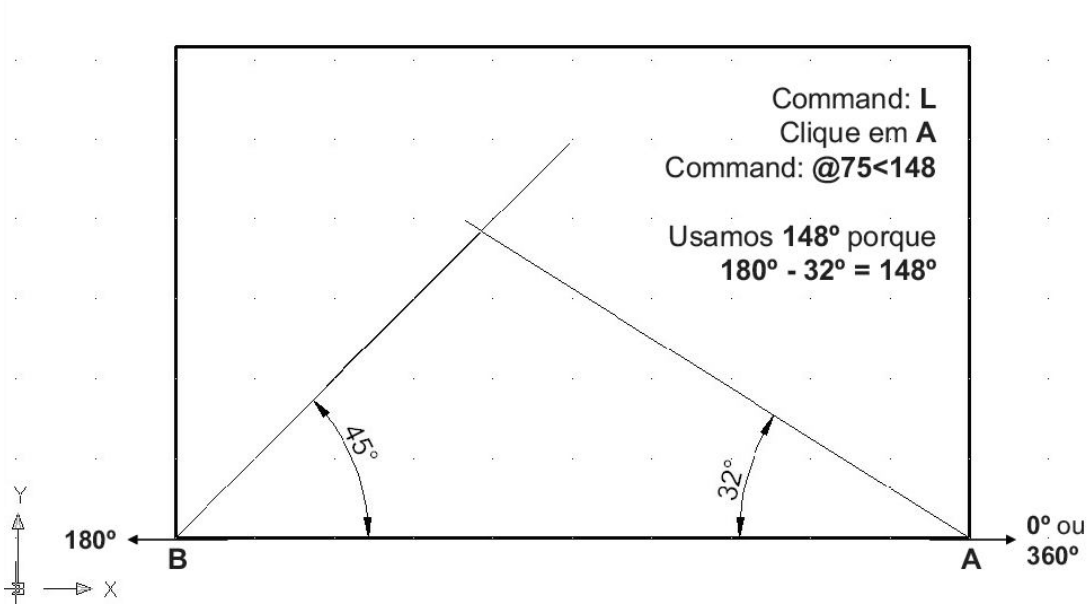
Etapa 3:



Etapa 4:



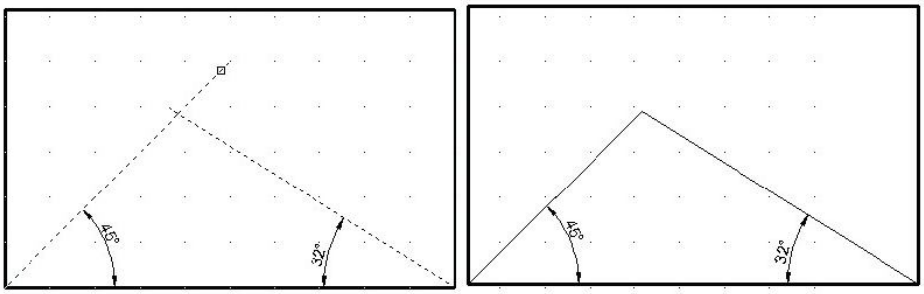
Etapa 5:



Etapa 6:

Para tirar o excedente das linhas use o comando **Trim** (tr)

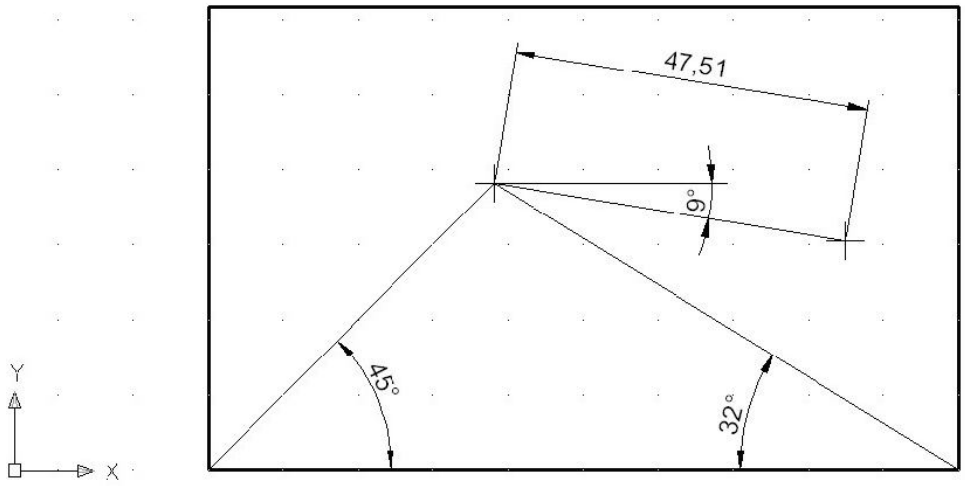
Tr > Enter > Selecione as linhas >
Enter > clique nas partes a serem apagadas.



Etapa 7:

Command: **line**
Command: **@47.51<351**

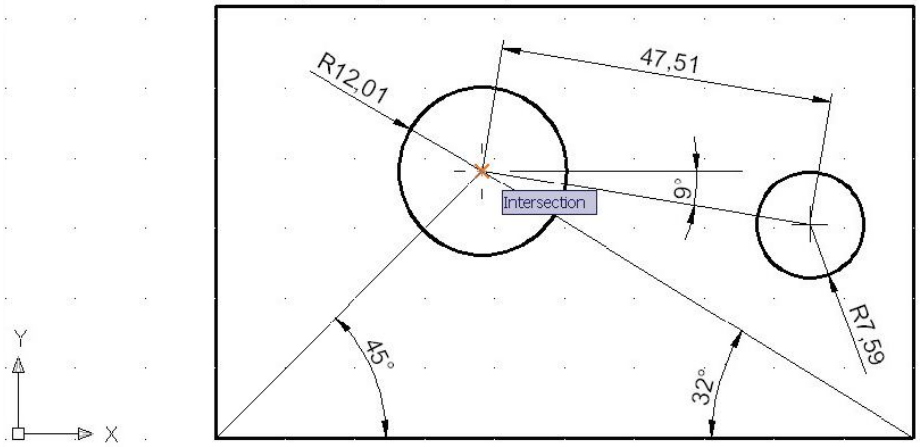
Onde **360º - 9º = 351º**



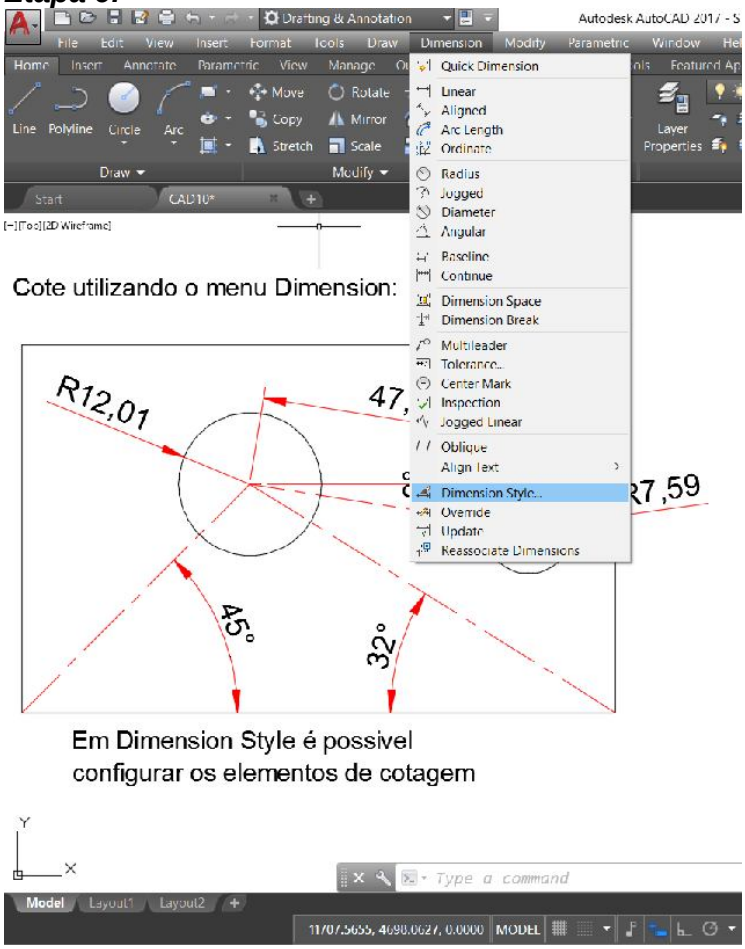
Etapa 8:

Command: **circle**
Clique no ponto de interseção
Specify radius (...): **12.01**

Repita o processo para a outra circunferência.



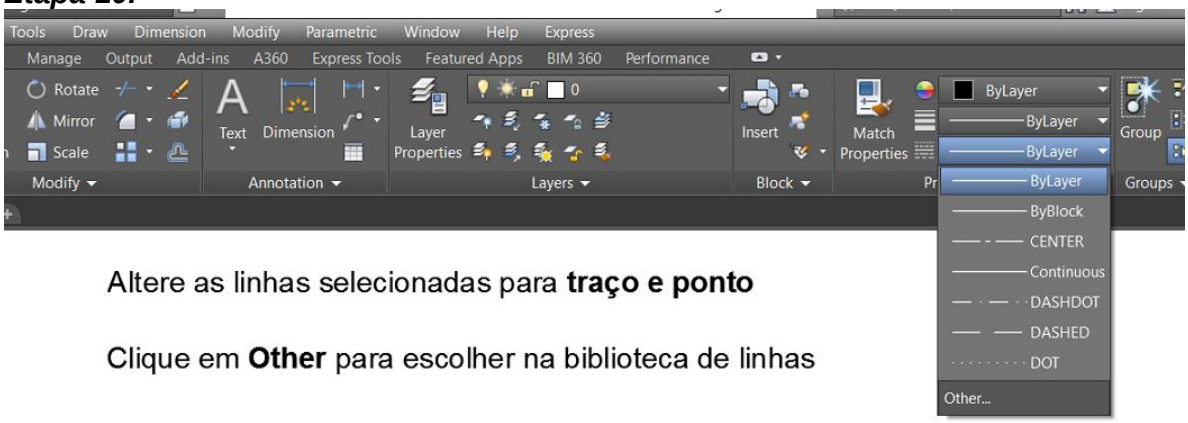
Etapa 9:



Cote utilizando o menu Dimension:

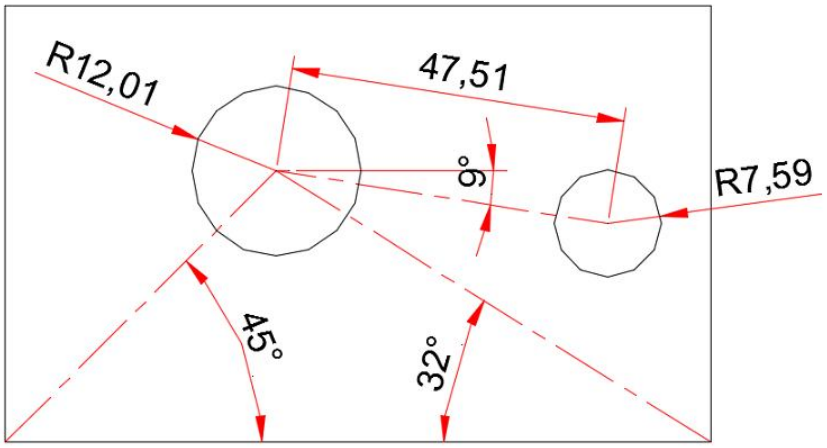
Em Dimension Style é possivel configurar os elementos de cotagem

Etapa 10:

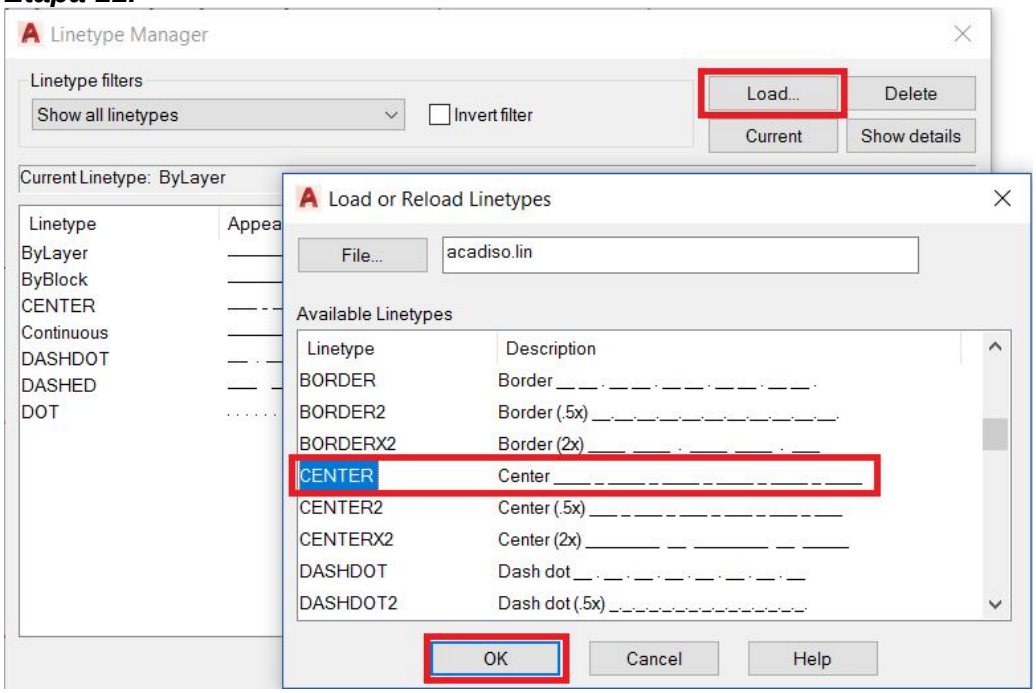


Altere as linhas selecionadas para **traço e ponto**

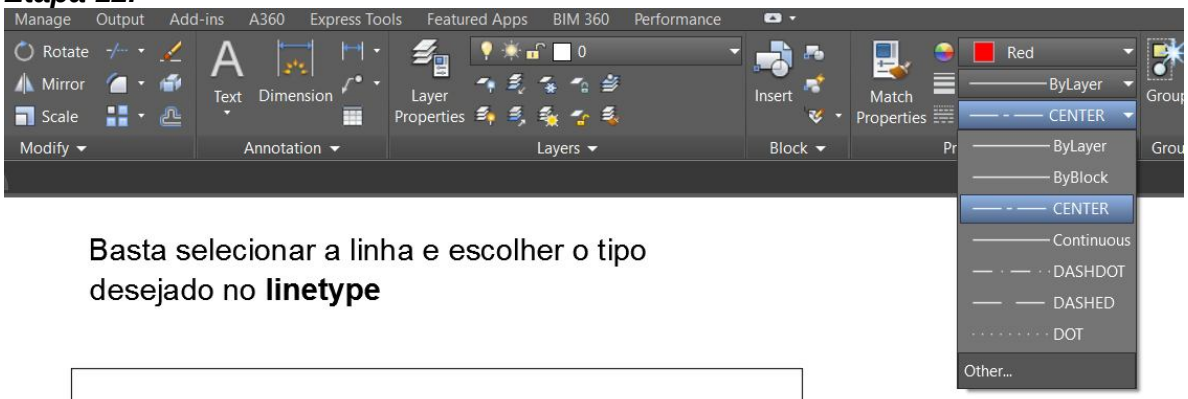
Clique em **Other** para escolher na biblioteca de linhas



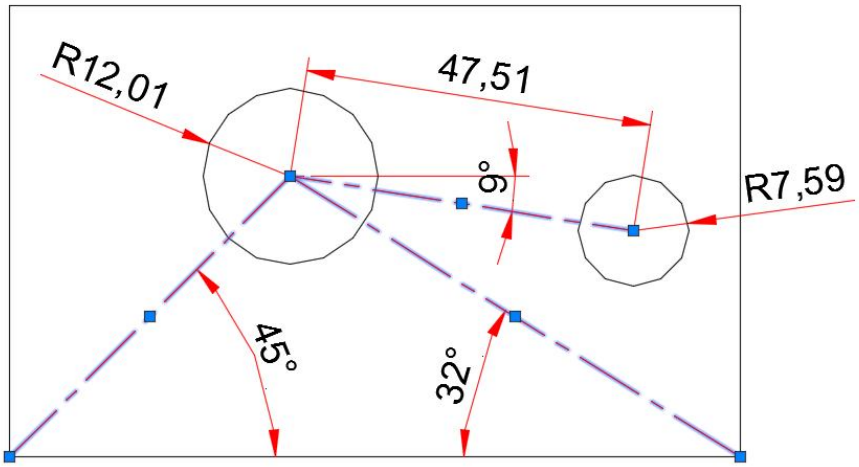
Etapa 11:



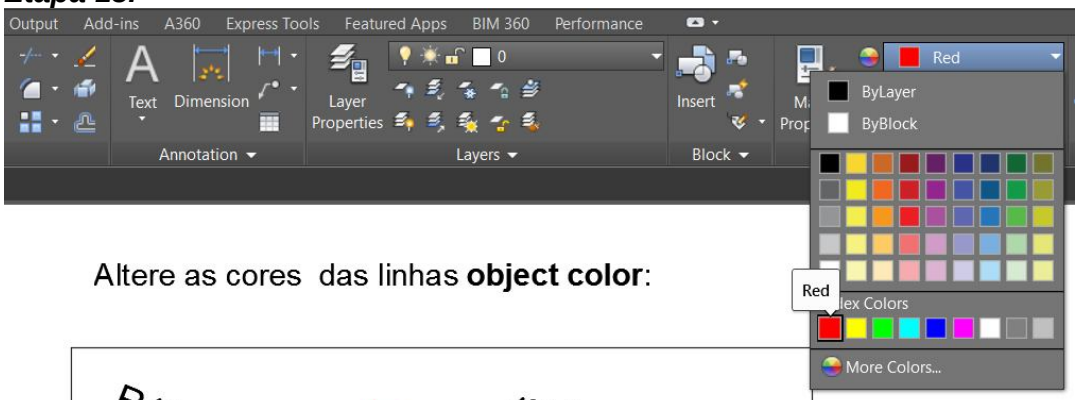
Etapa 12:



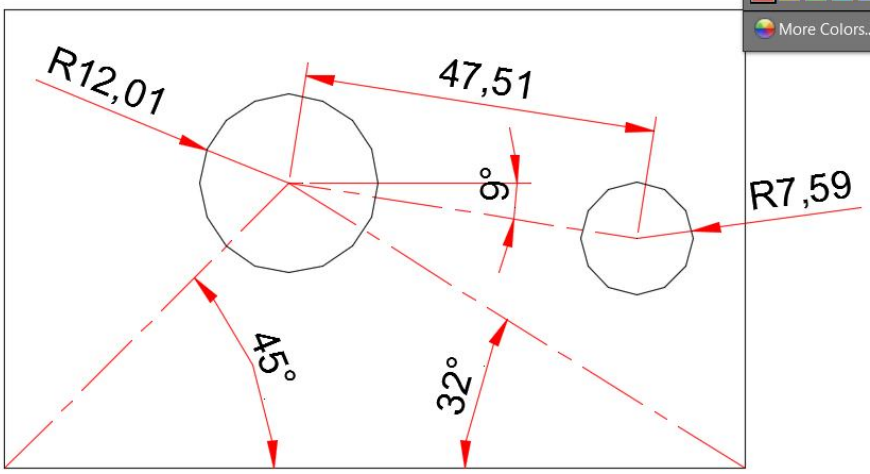
Basta selecionar a linha e escolher o tipo desejado no **linetype**



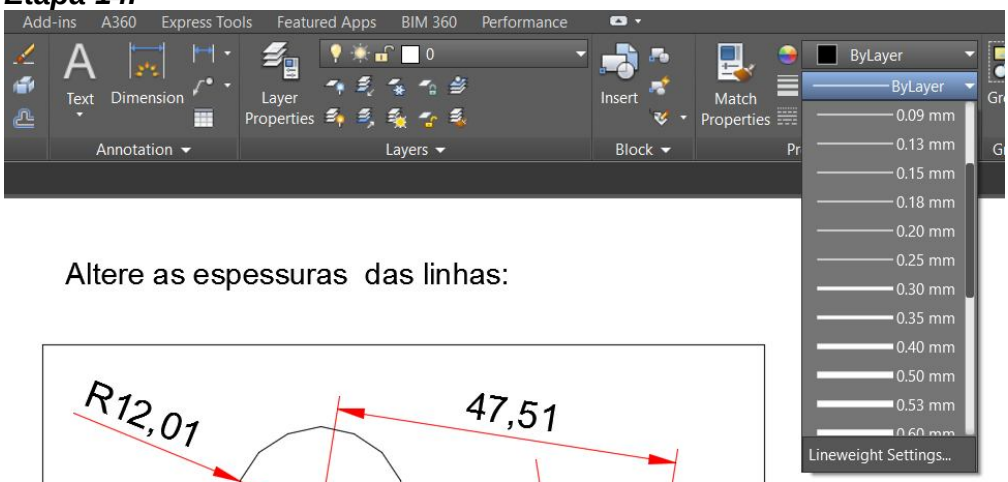
Etapa 13:



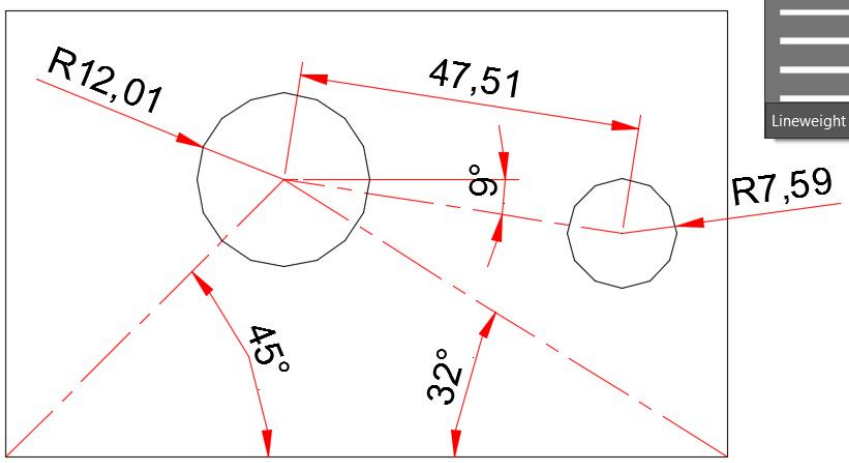
Altere as cores das linhas **object color**:



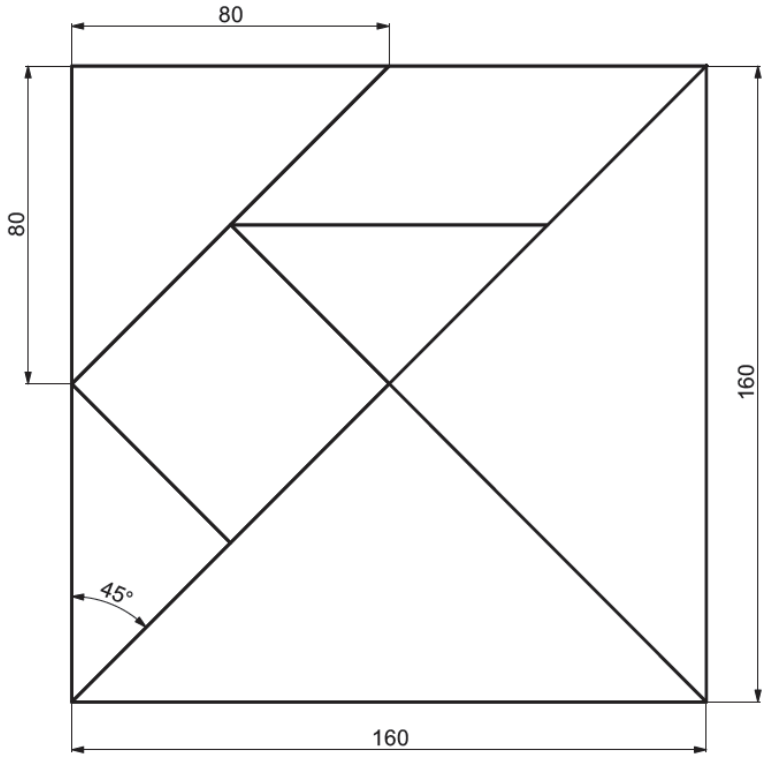
Etapa 14:



Altere as espessuras das linhas:

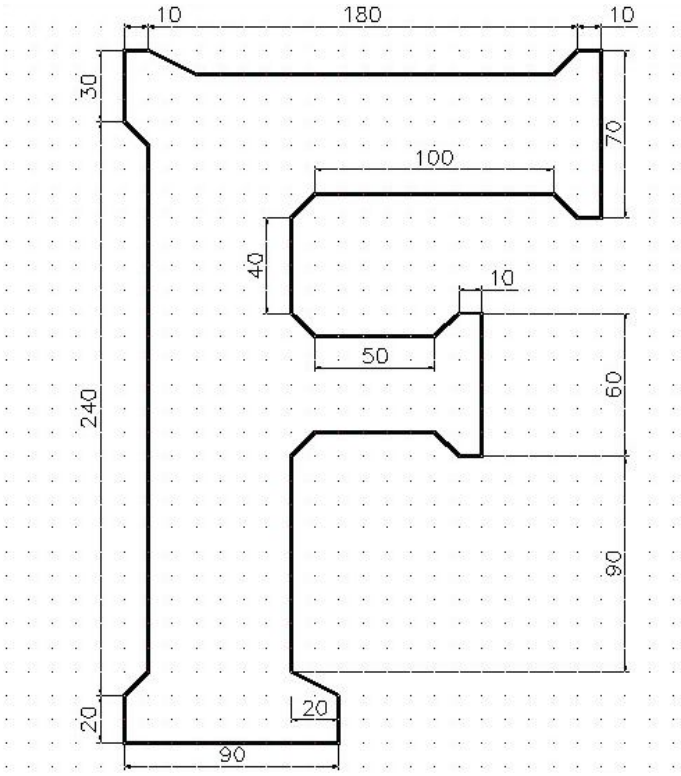


EXERCÍCIO Nº 2:

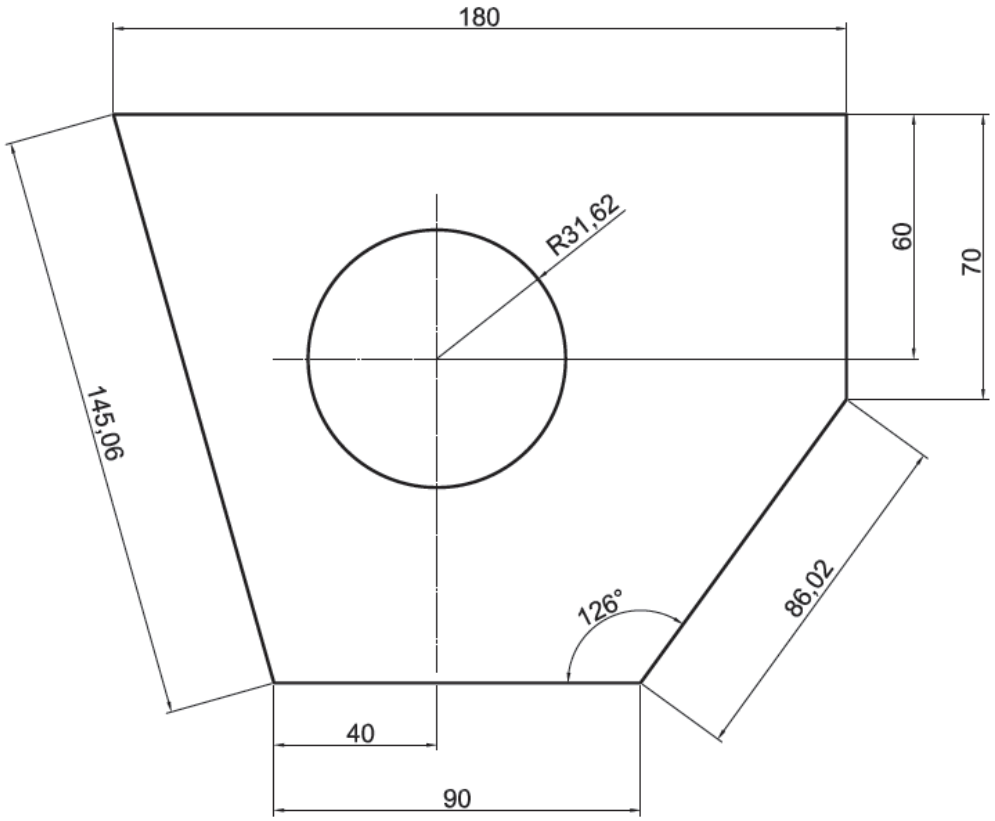


1. Redesenhe o Tangram.
2. Crie um novo modelo e apresente-o cotado.

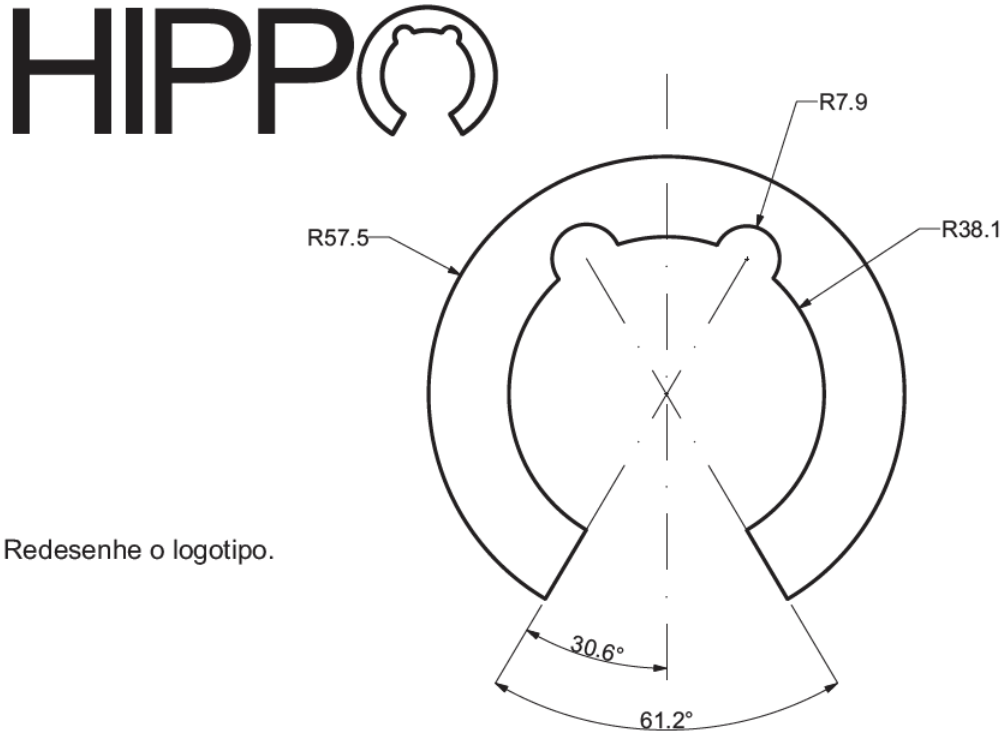
EXERCÍCIO Nº 3:



EXERCÍCIO Nº 4:

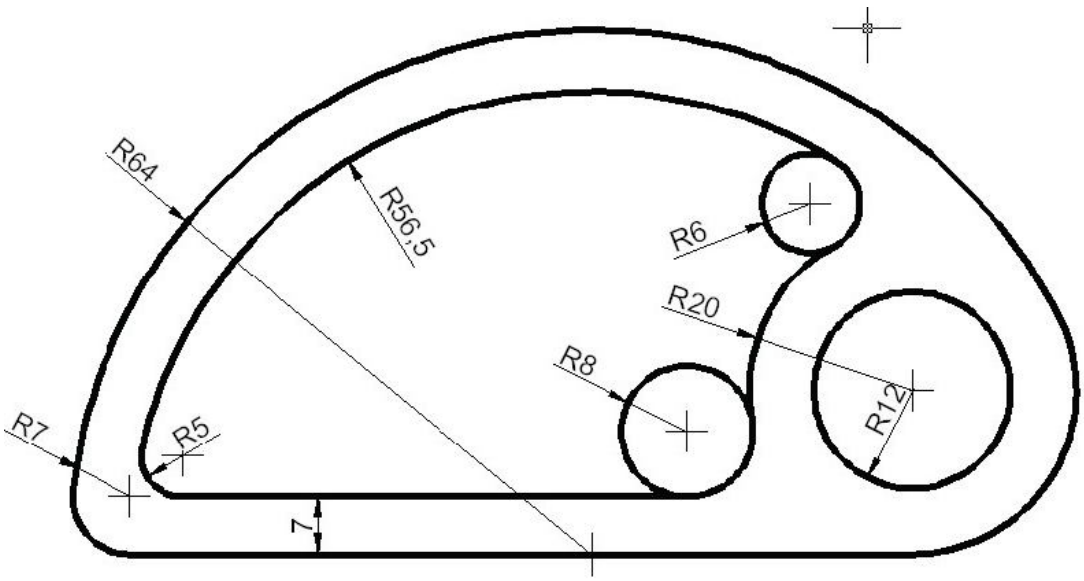


EXERCÍCIO Nº 5:

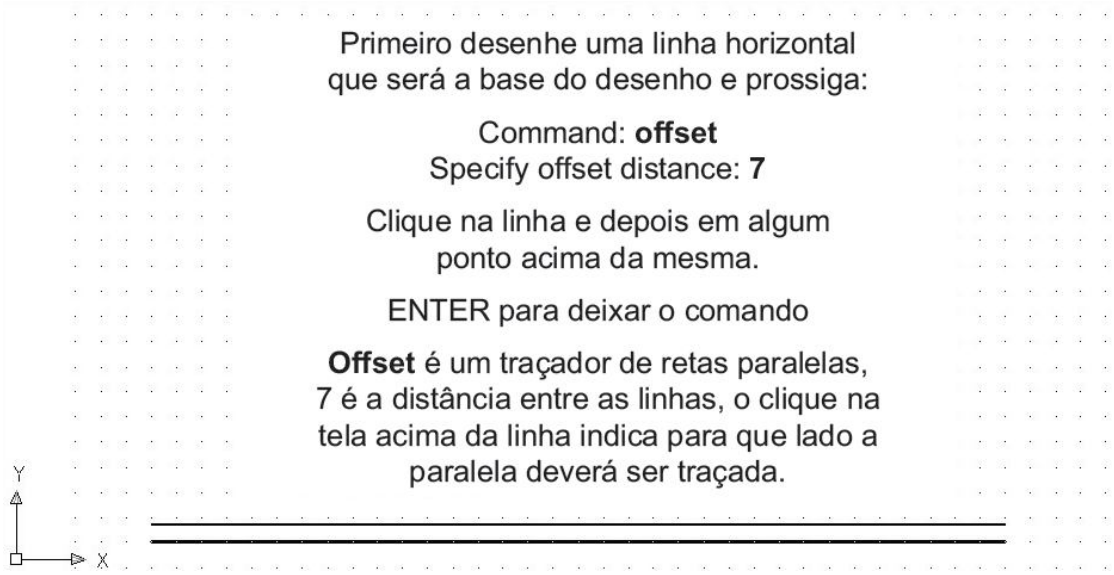


Redesenhe o logotipo.

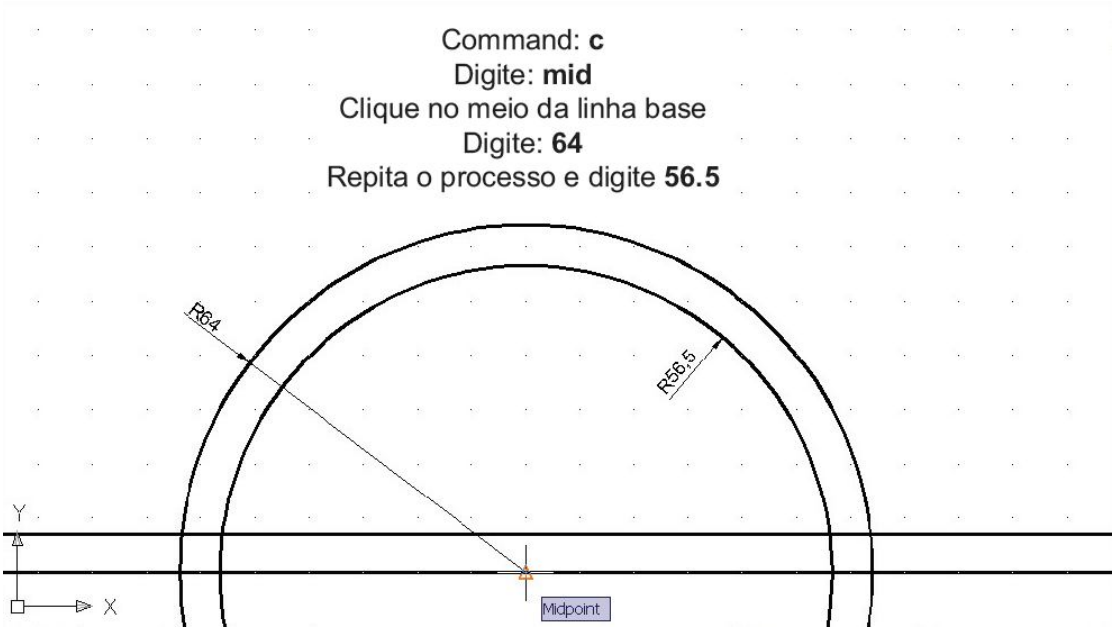
EXERCÍCIO Nº 6:



Etapa 1:

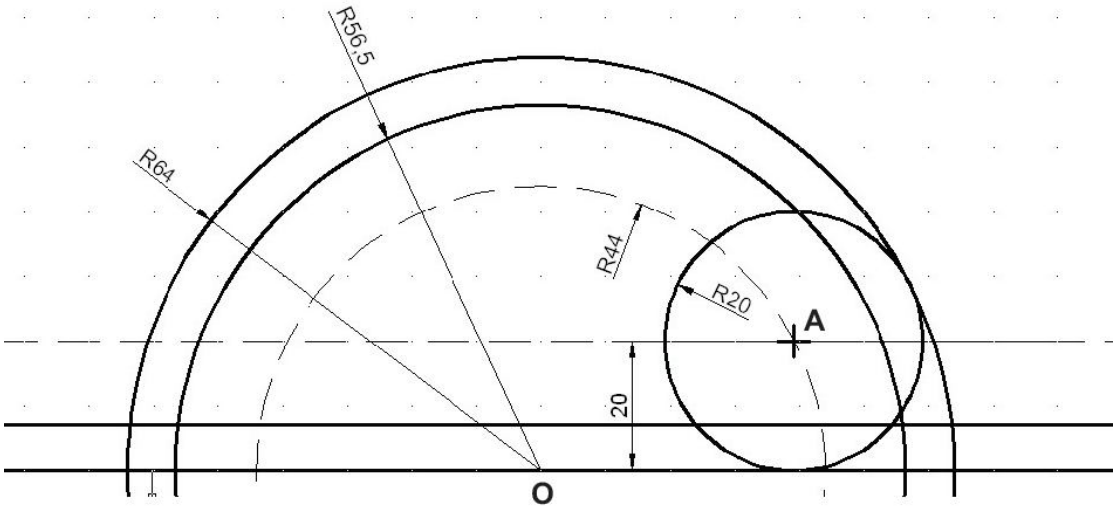


Etapa 2:



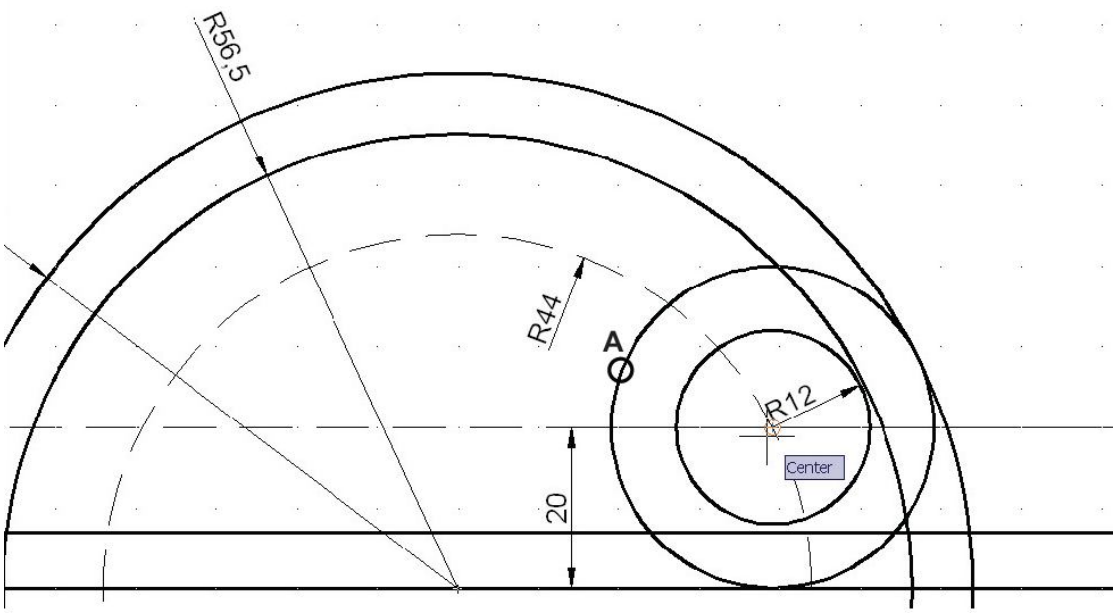
Etapa 3:

Trace um arco de raio 44 no mesmo centro **O** utilizado anteriormente.
Trace uma paralela de distância 20, de acordo com a indicação.
O ponto **A** encontrado é o centro da circunferência de raio 20.



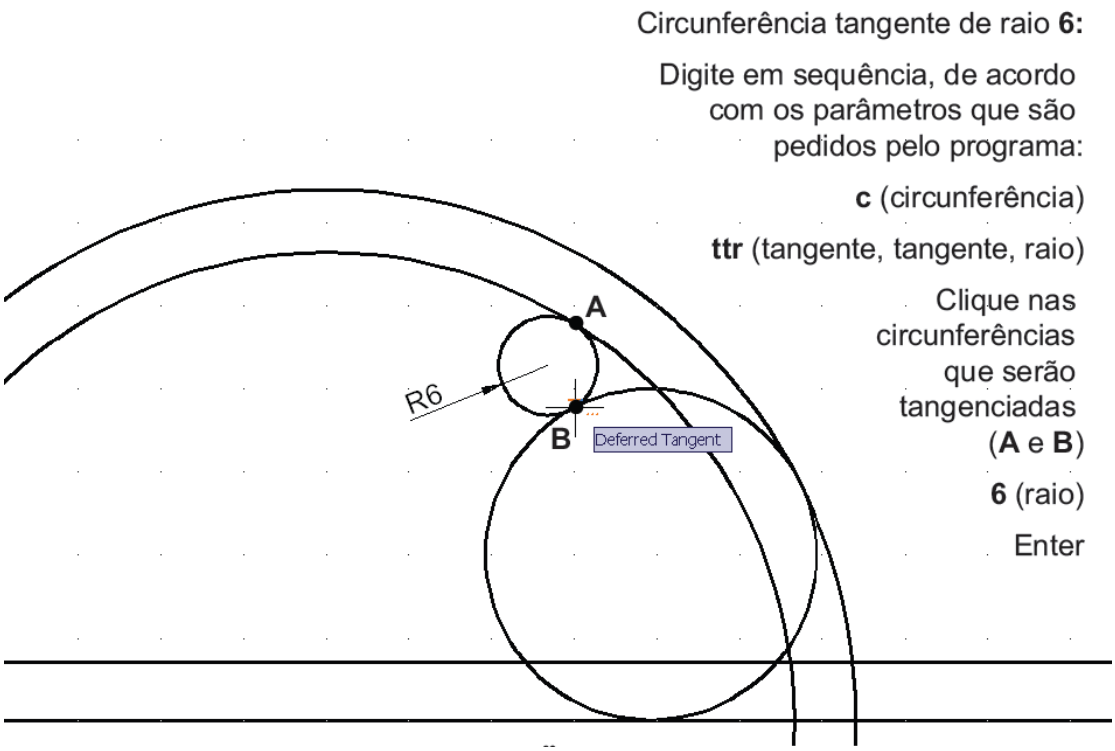
Essa foi uma passagem didática, que reviu os conceitos do Desenho Geométrico.
Será mostrado um meio mais direto de fazer essa construção.

Etapa 4:

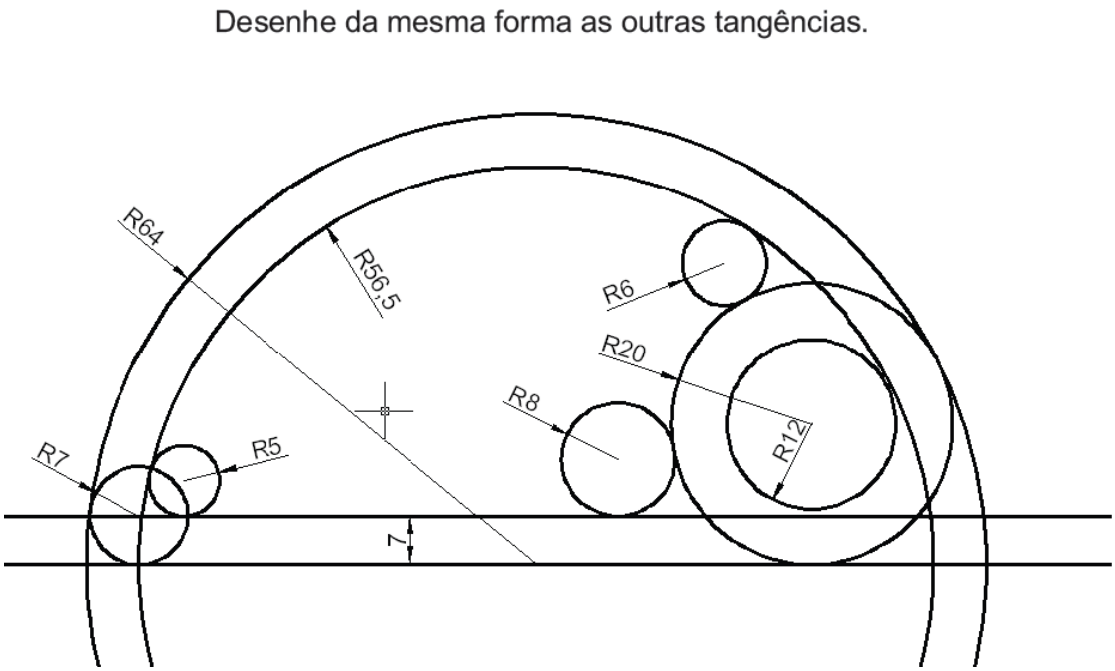


Command: **c**
Digite: **cen**
Clique próximo da circunferência de raio 20 (**A**)
Digite: **12**

Etapa 5:

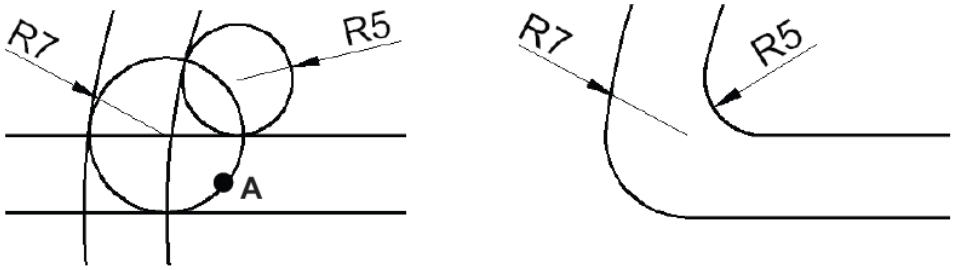


Etapa 6:



Etapa 7:

Use **TRIM** para tirar o excedente.

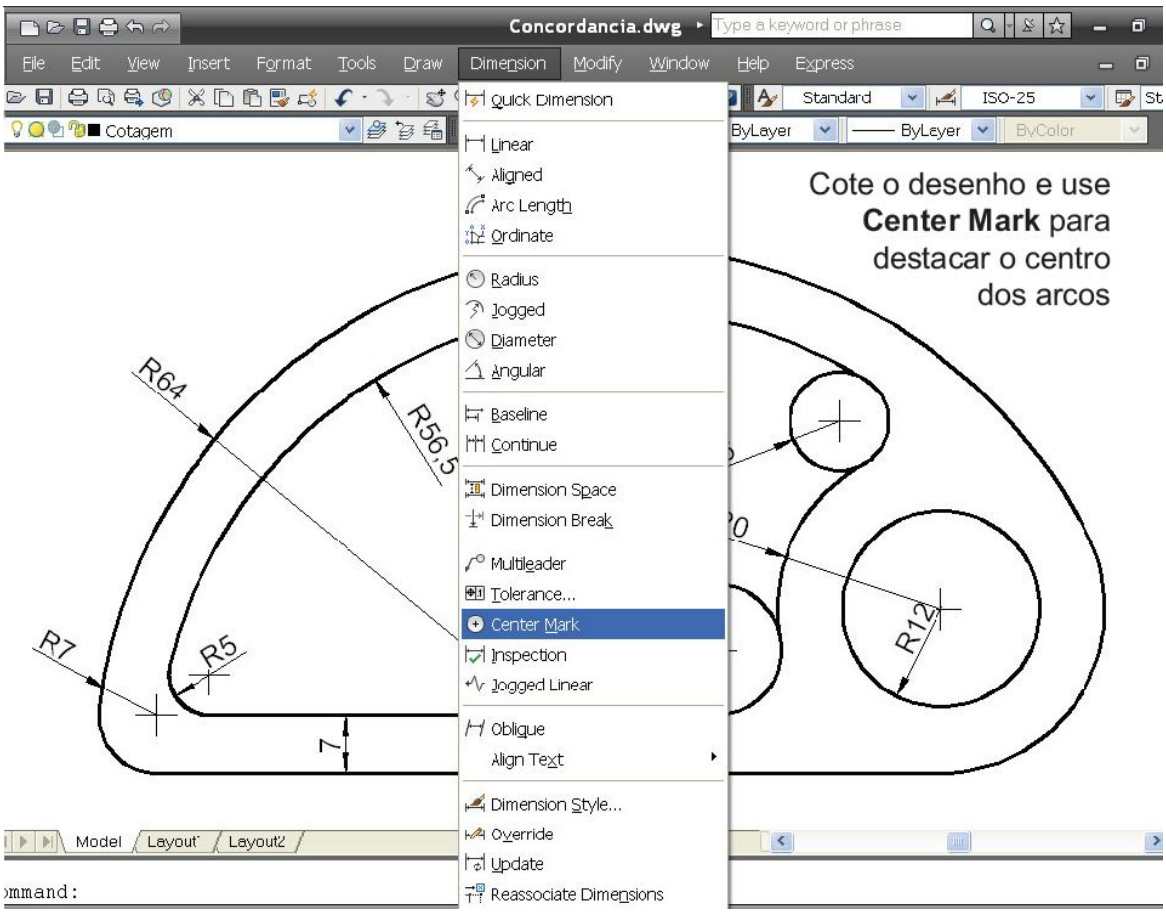


Clique no que irá permanecer (A)
Enter

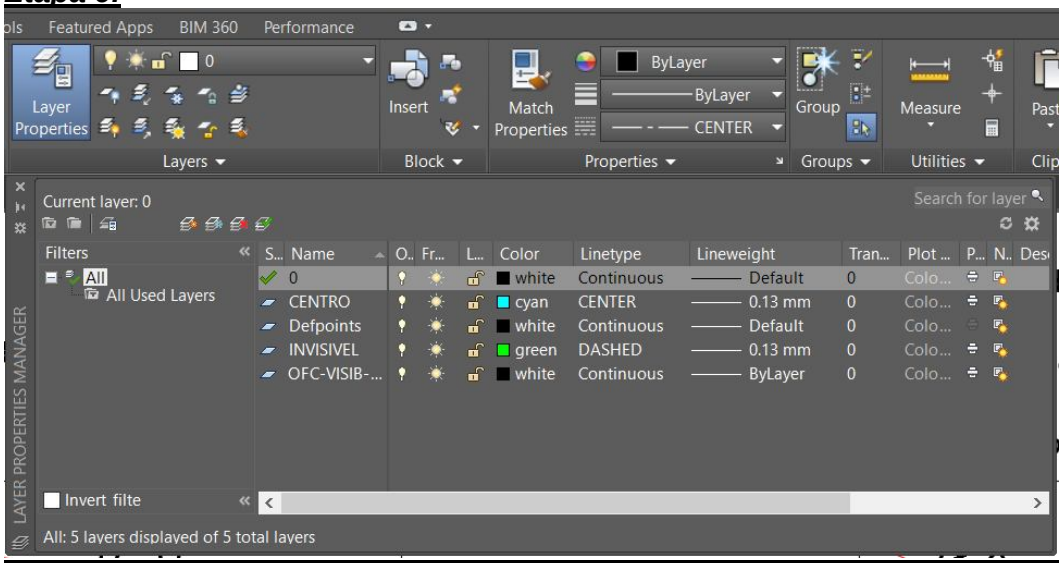
Clique no que será eliminado

Dependendo do caso, **selecione tudo**,
pressione **Enter** e clique no que deve ser apagado.

Etapa 8:



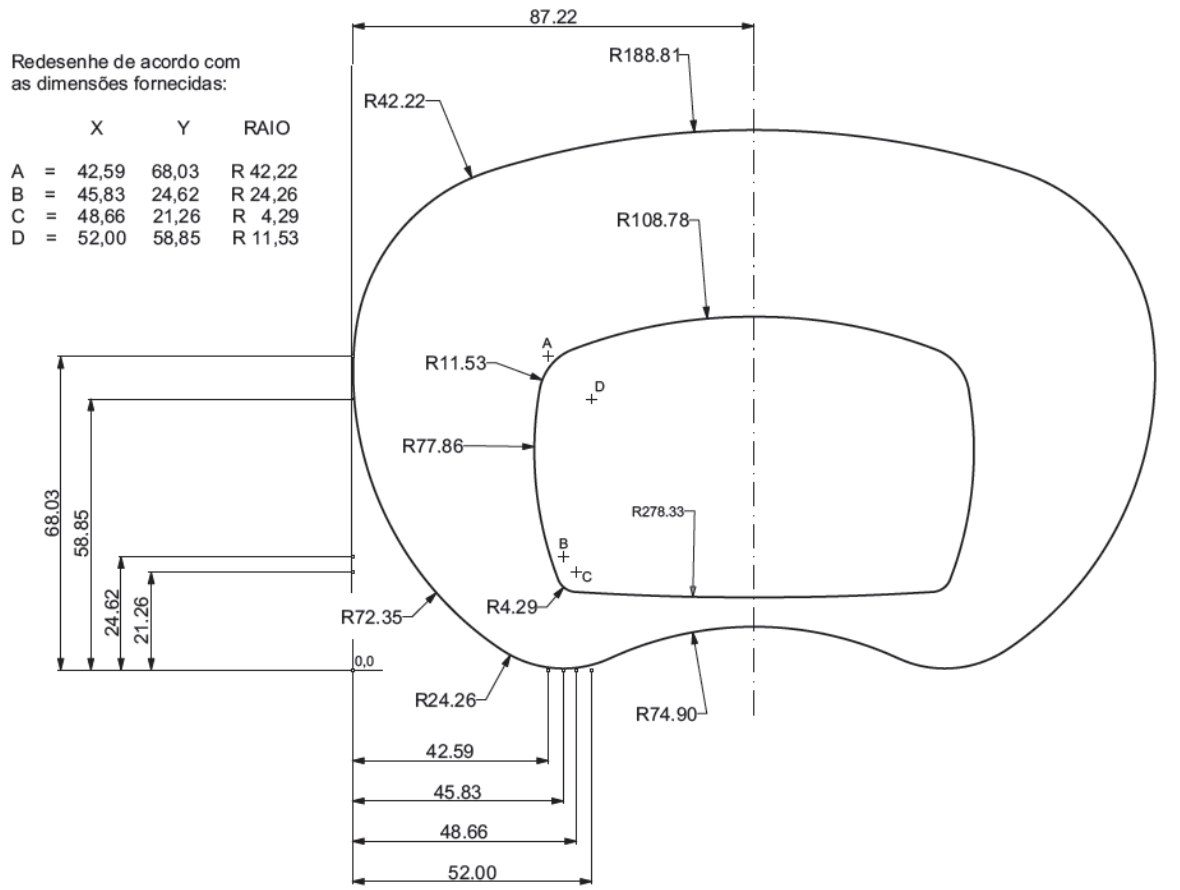
Etapa 9:



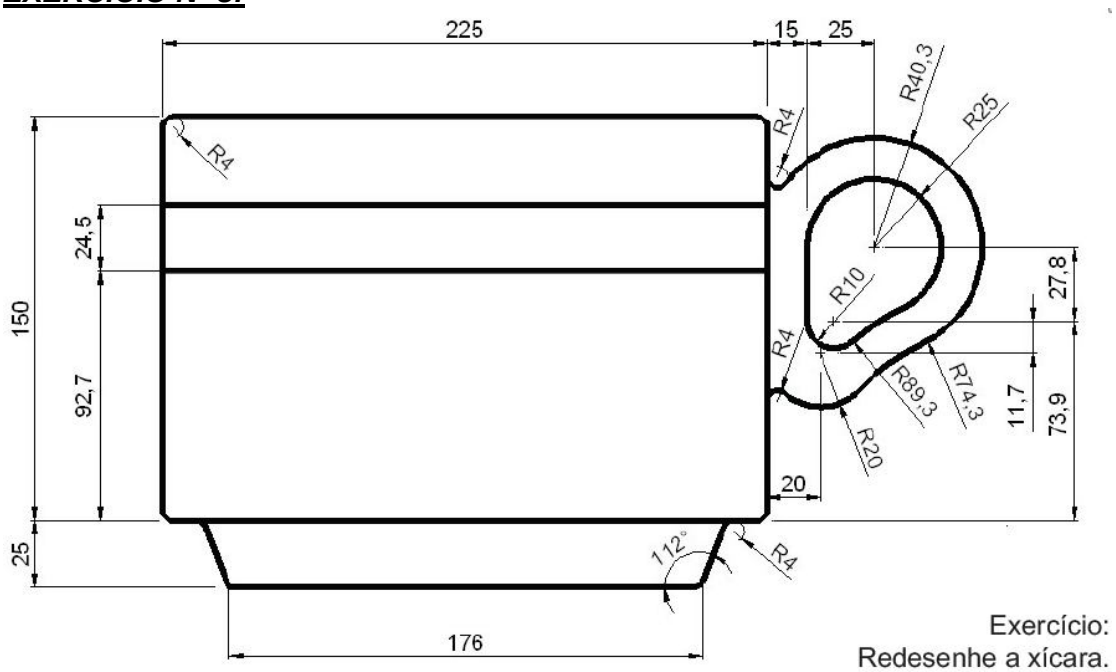
Através do **Layer Properties Manager** é possível, criar linhas, excluir linhas, selecionar qual linha está em uso.

Além do mais, cada layer pode ser escondido, congelado, travado, colorido, atribuir tipo de linha, alterar a espessura, etc.

EXERCÍCIO Nº 7:



EXERCÍCIO Nº 8:



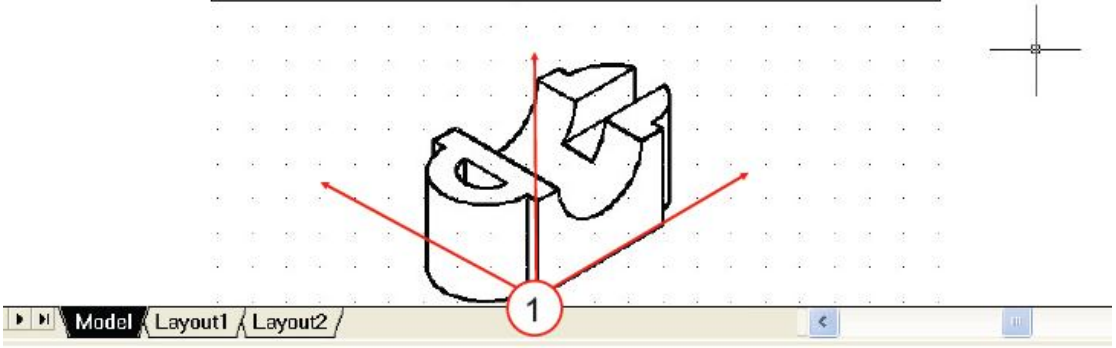
Exercício:
Redesenhe a xícara.
Medidas em mm.

EXERCÍCIO Nº 9:

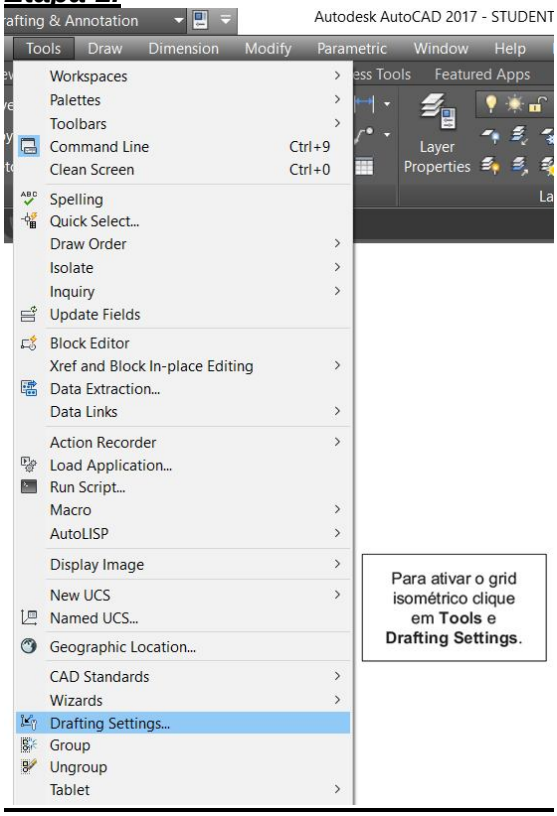
A **Isométrica** é uma perspectiva paralela. As linhas que se encontram no tri-eixo ortogonal (1) têm as mesmas medidas encontradas nas vistas ortogonais.

Iso + métrica = mesma medida

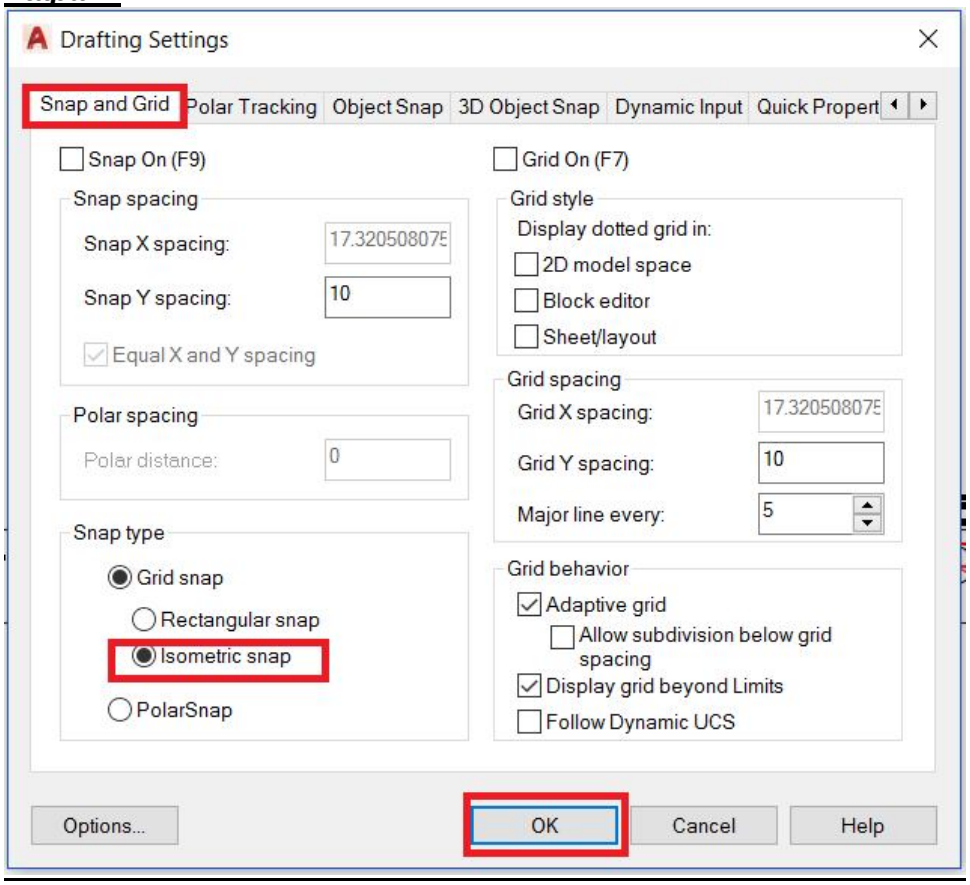
Os eixos X e Y se afastam da origem a 30 graus em direções opostas.



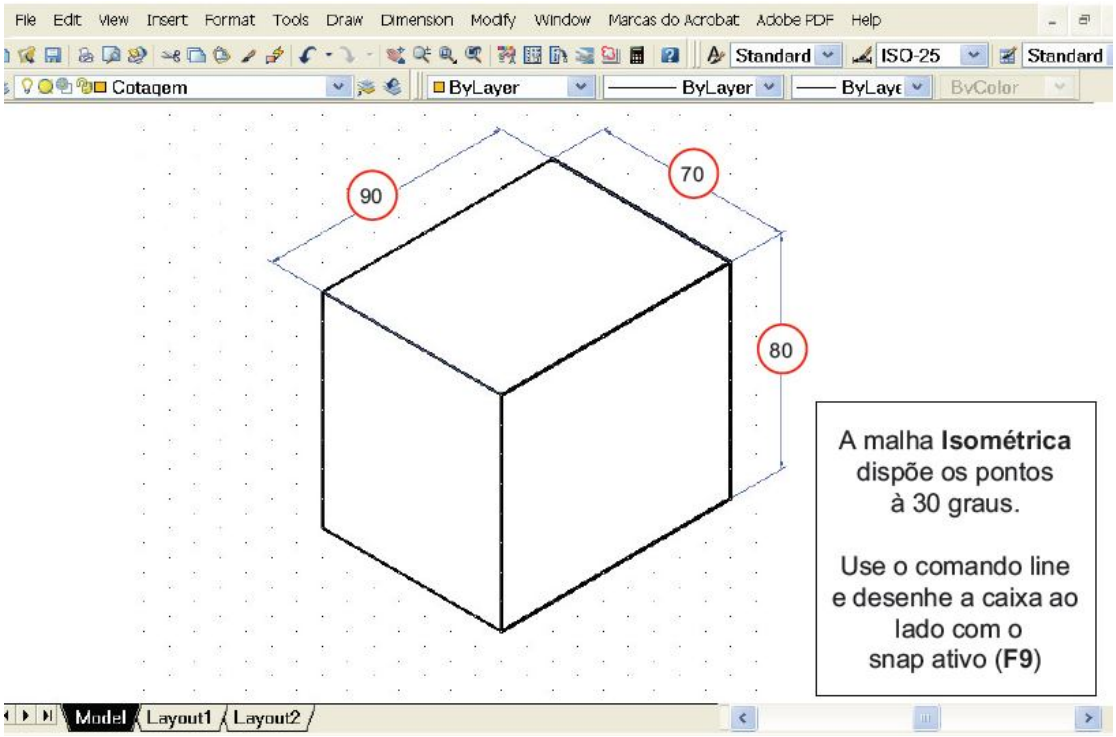
Etapa 1:



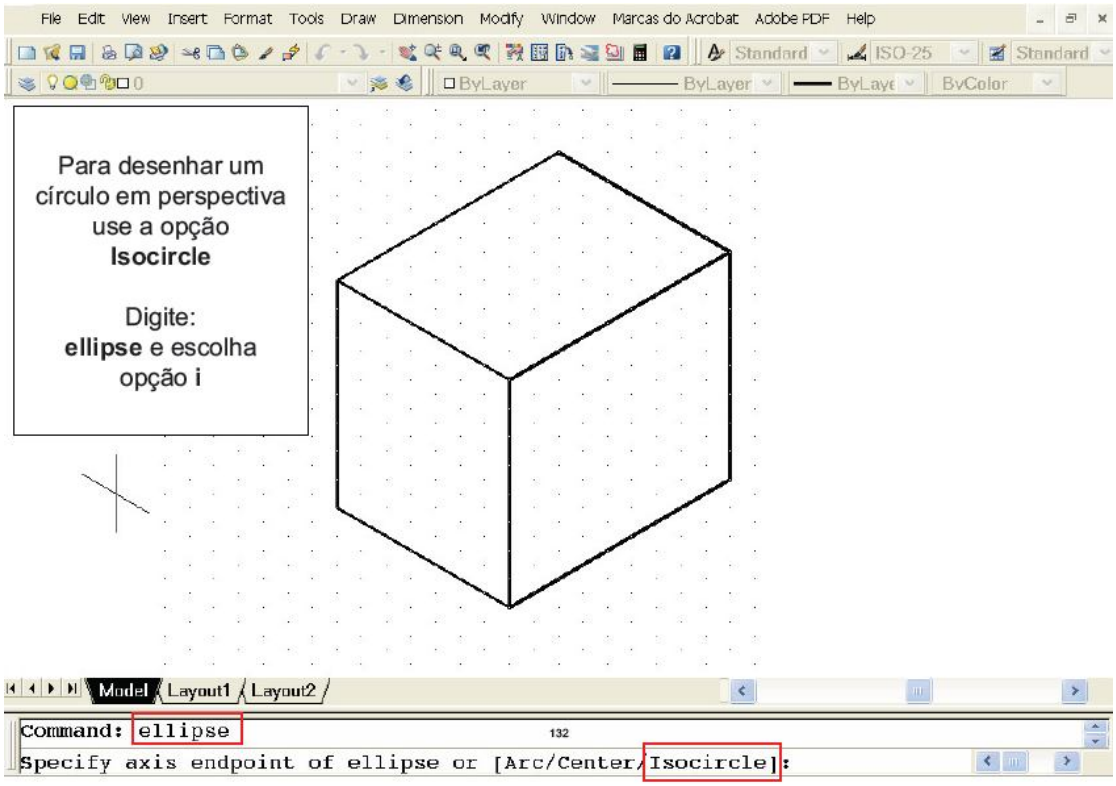
Etapa 2:



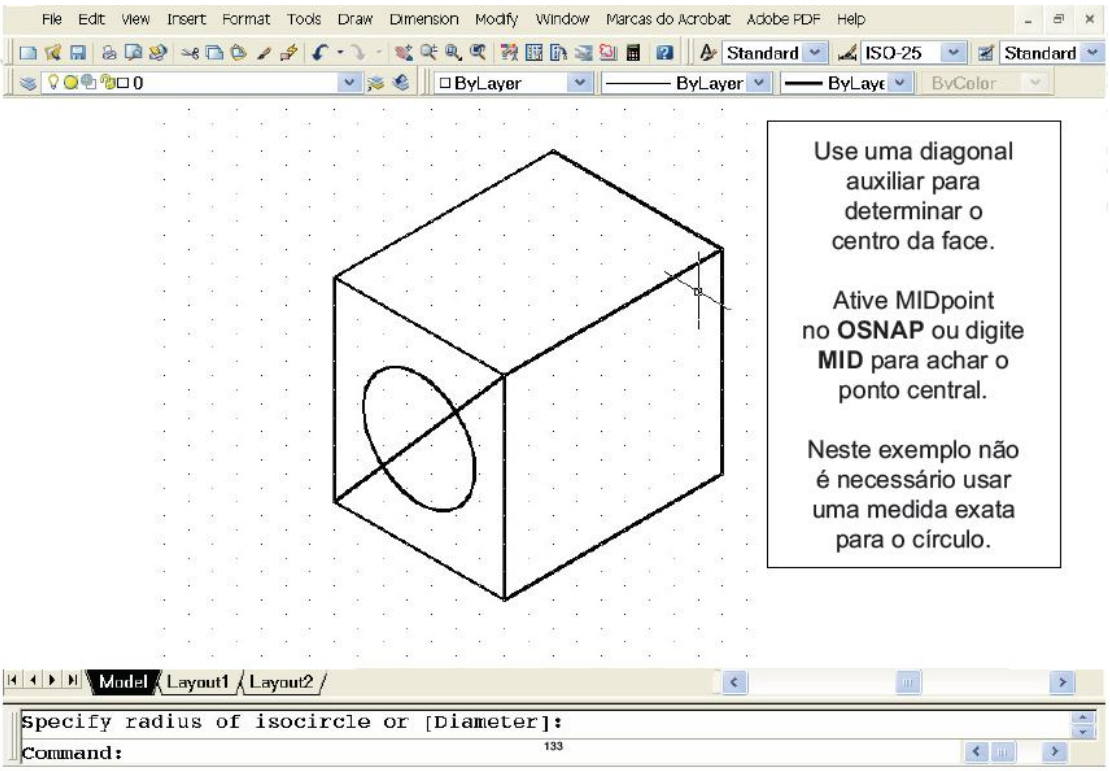
Etapa 3:



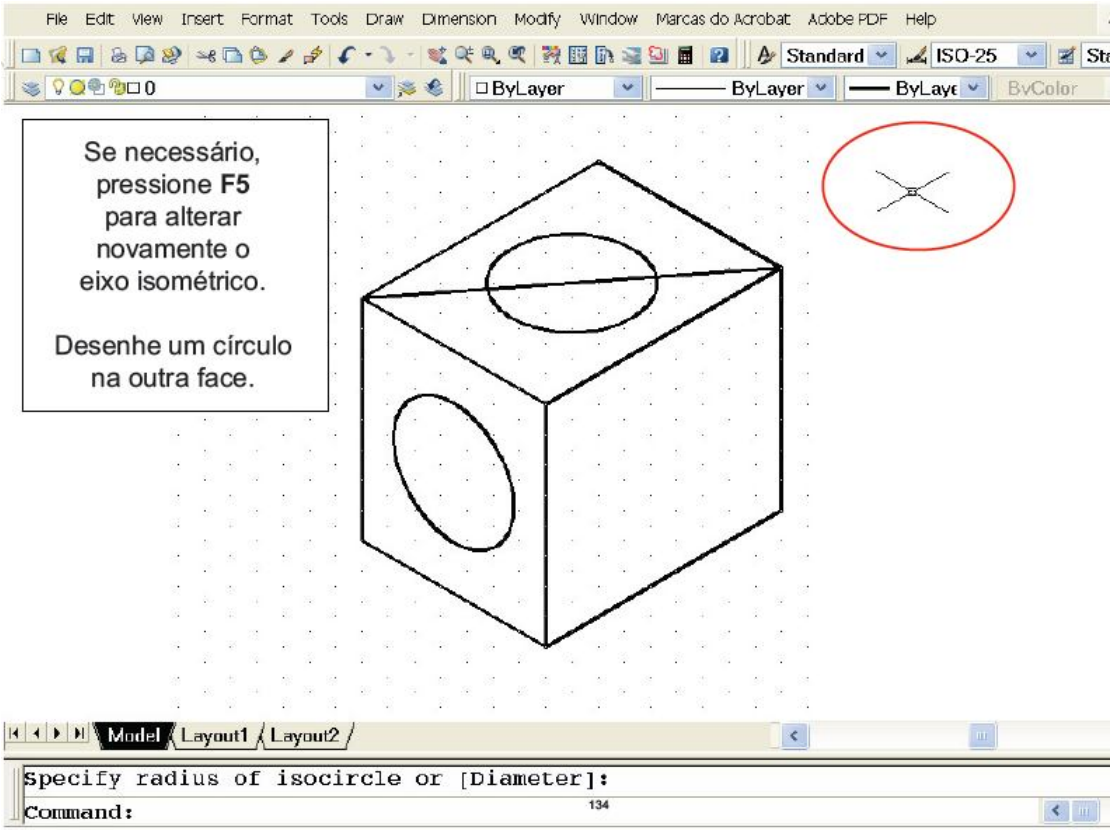
Etapa 4:



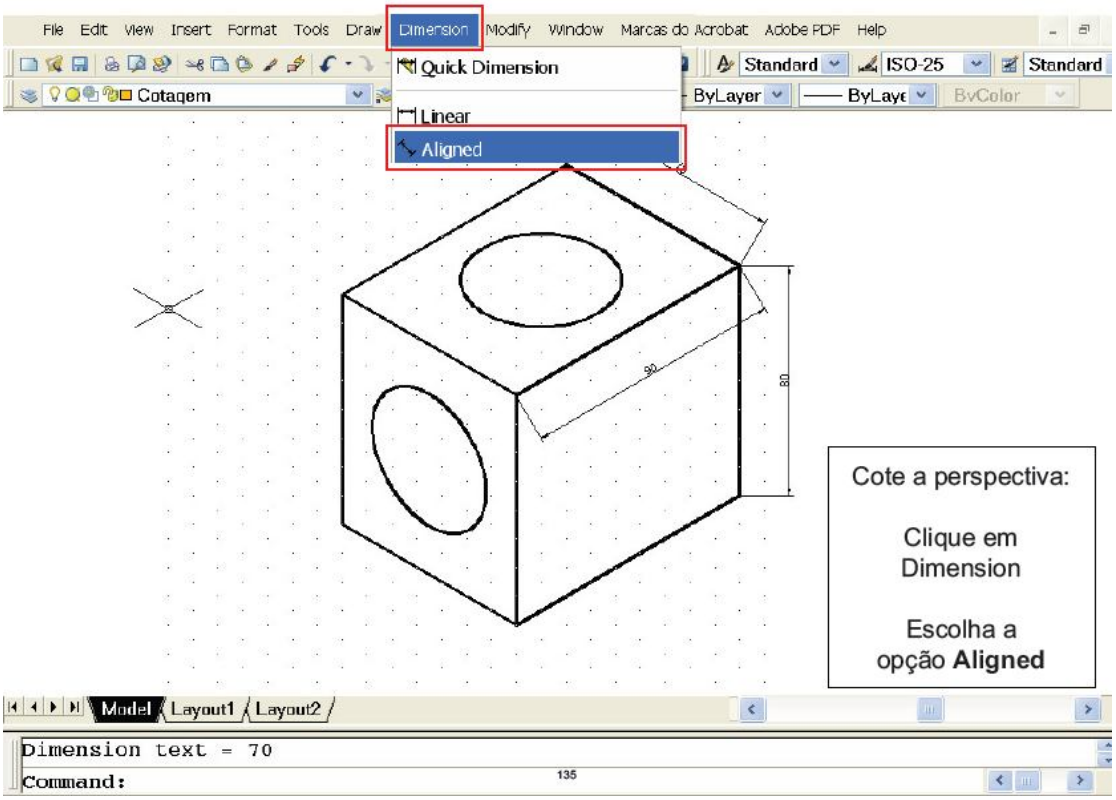
Etapa 5:



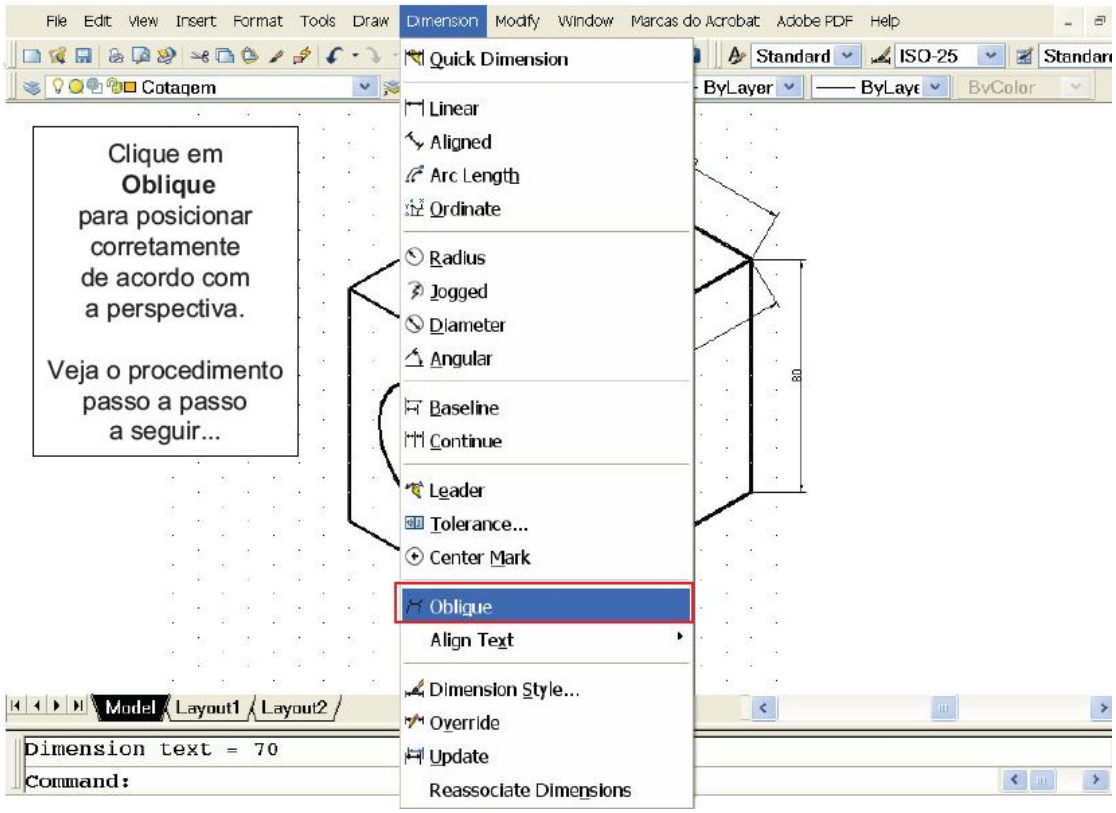
Etapa 6:



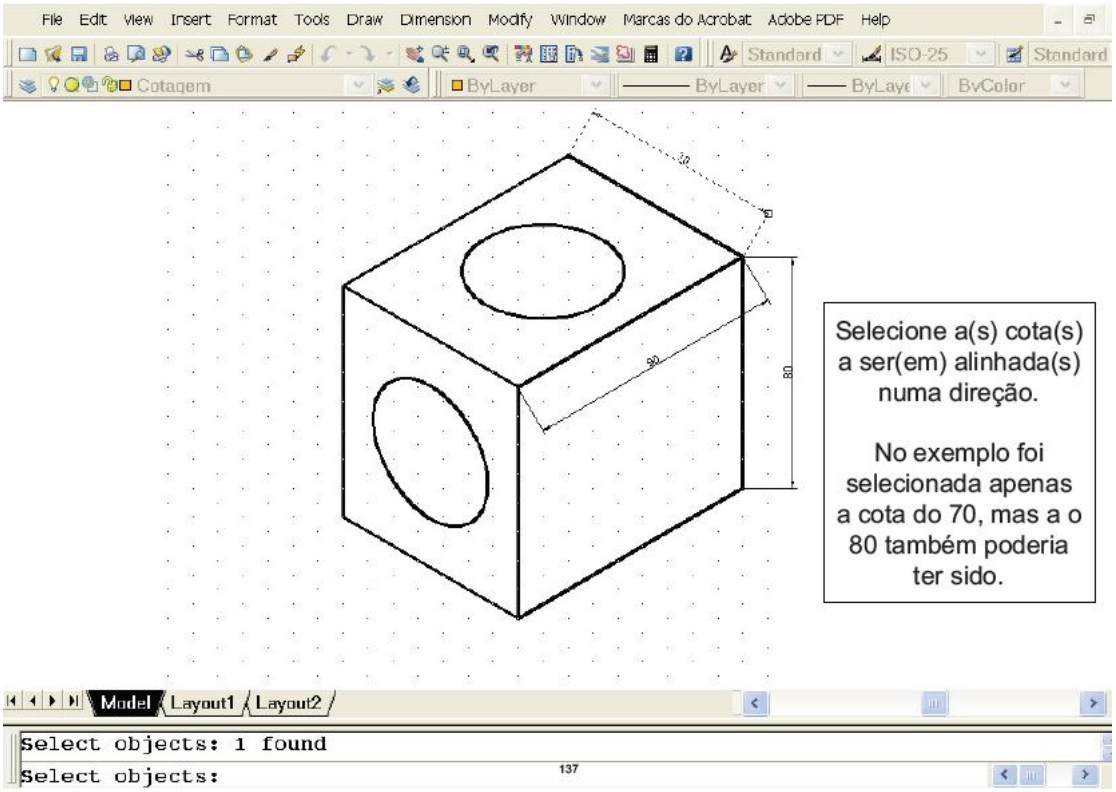
Etapa 7:



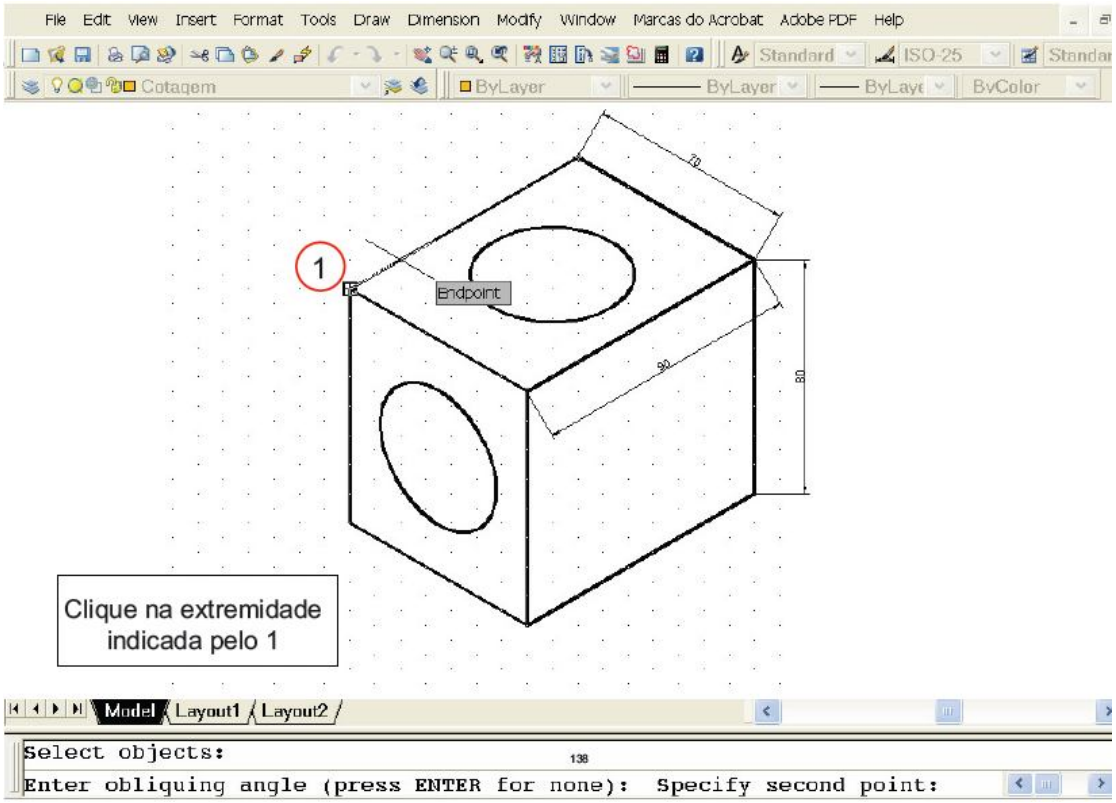
Etapa 8:



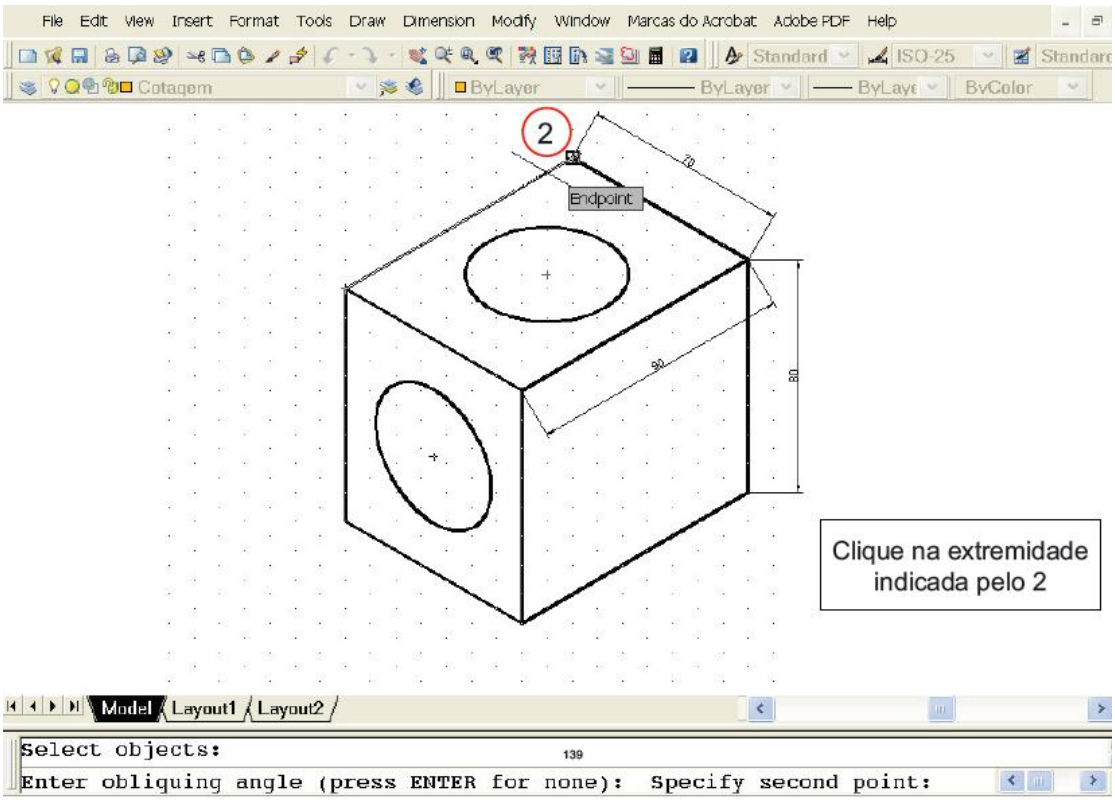
Etapa 9:



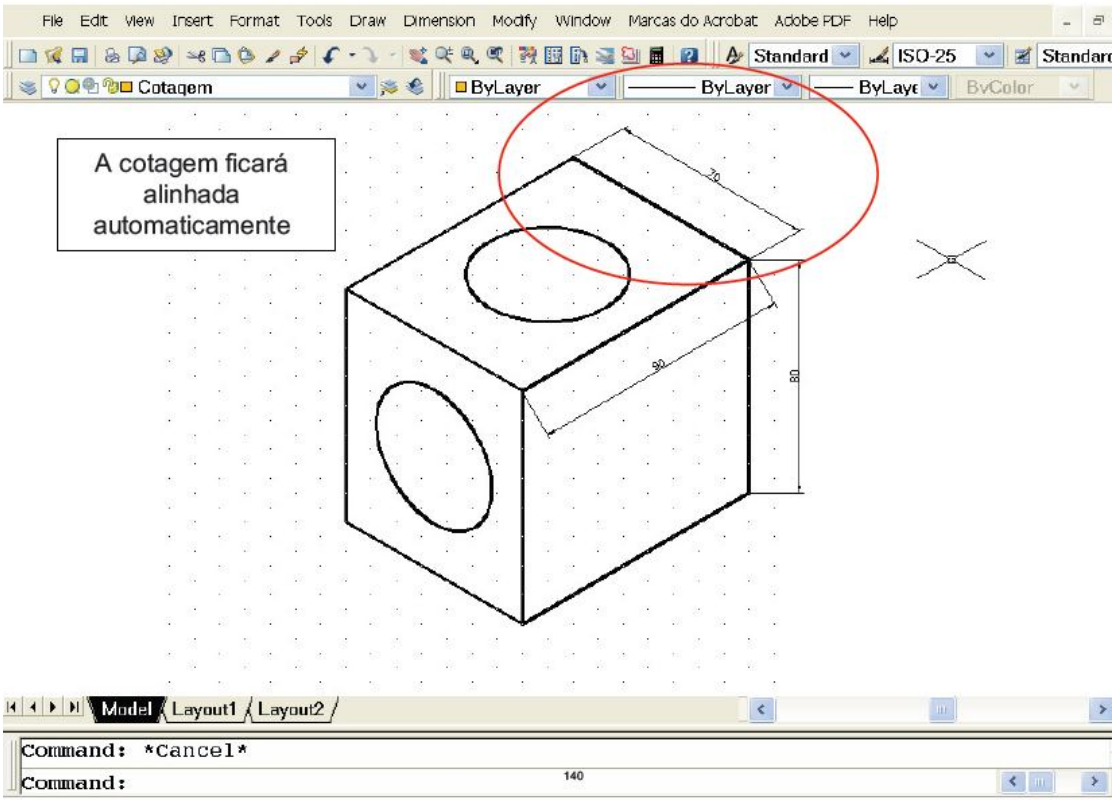
Etapa 10:



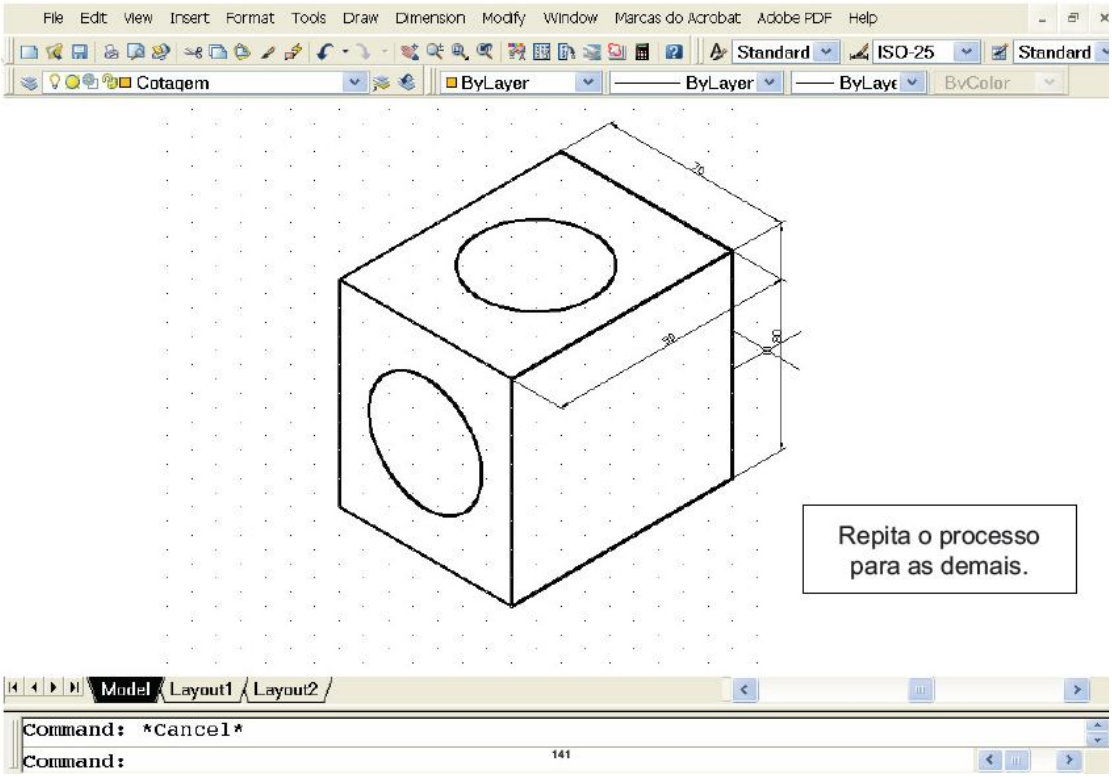
Etapa 11:



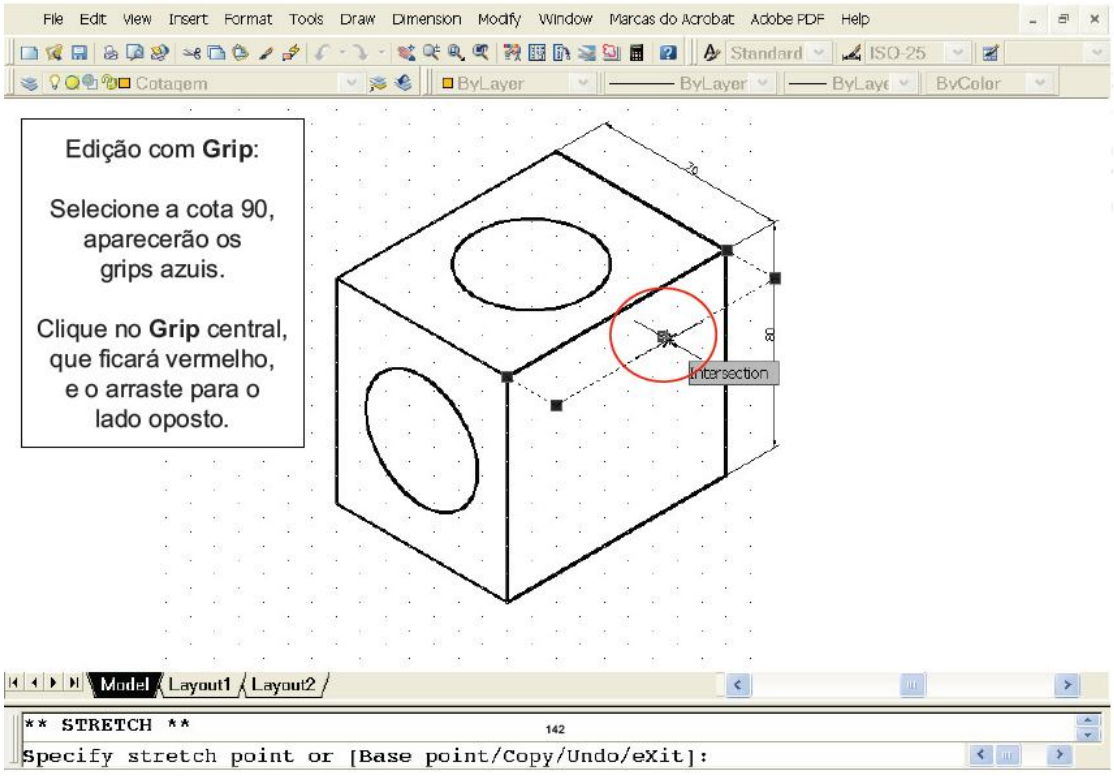
Etapa 12:



Etapa 13:



Etapa 14:



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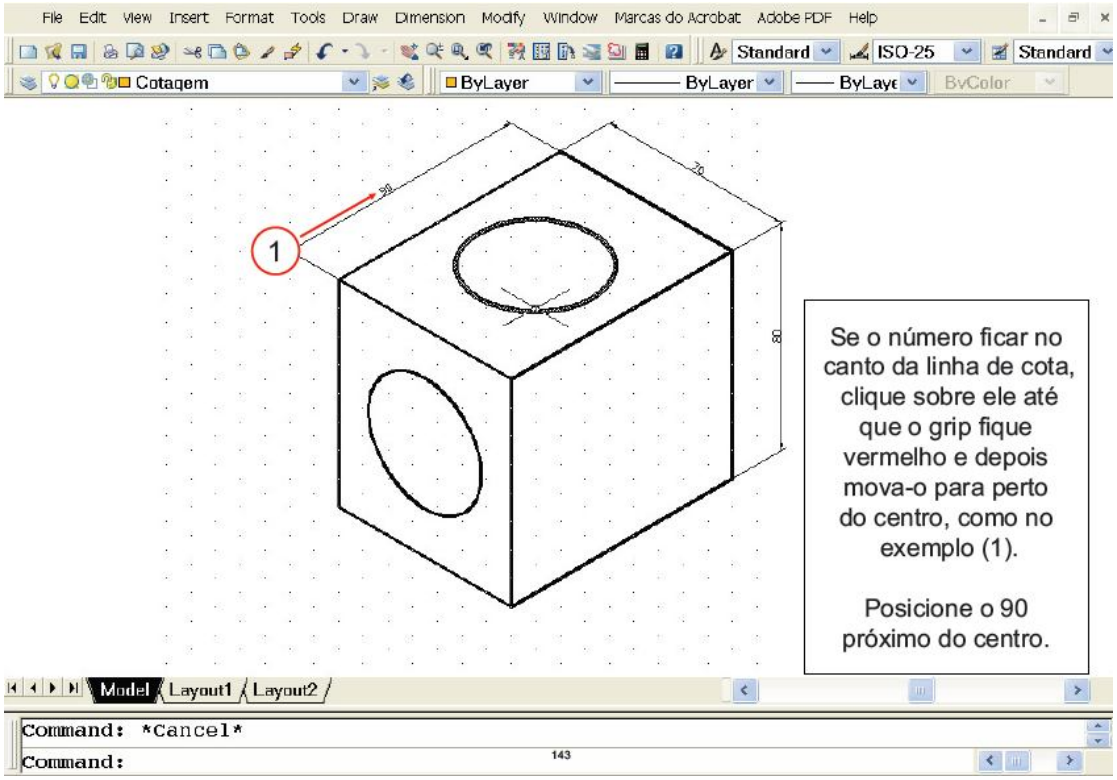

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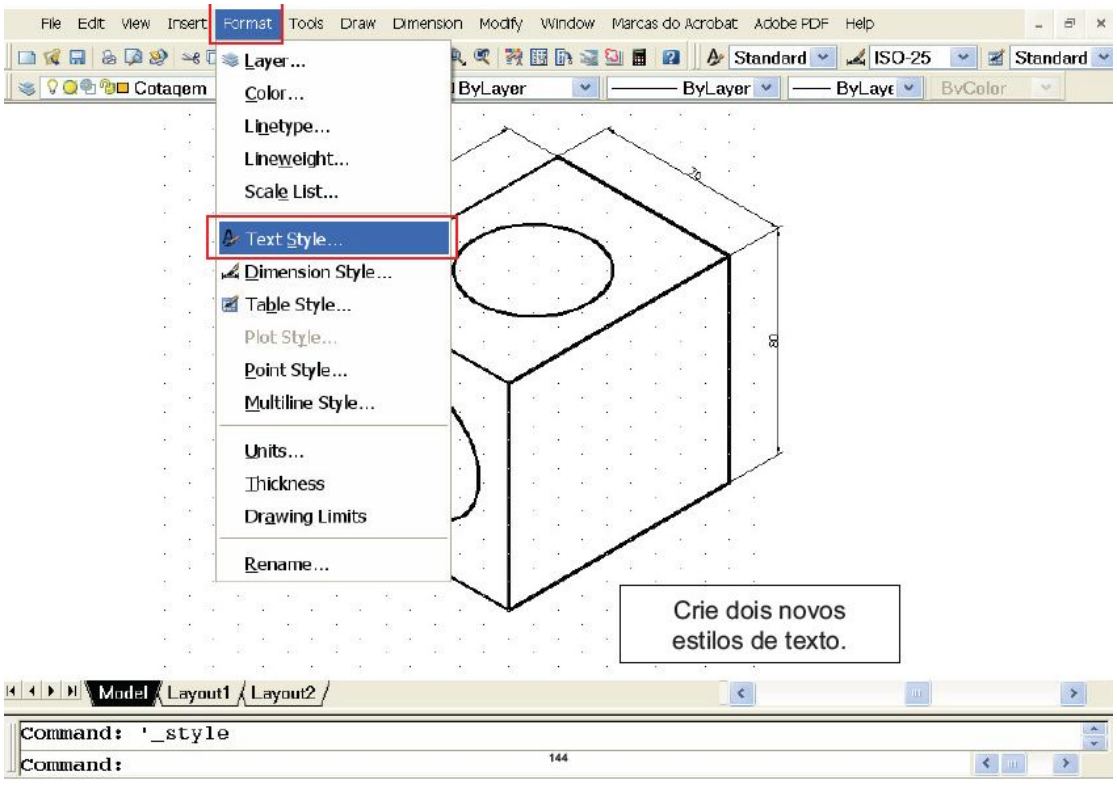

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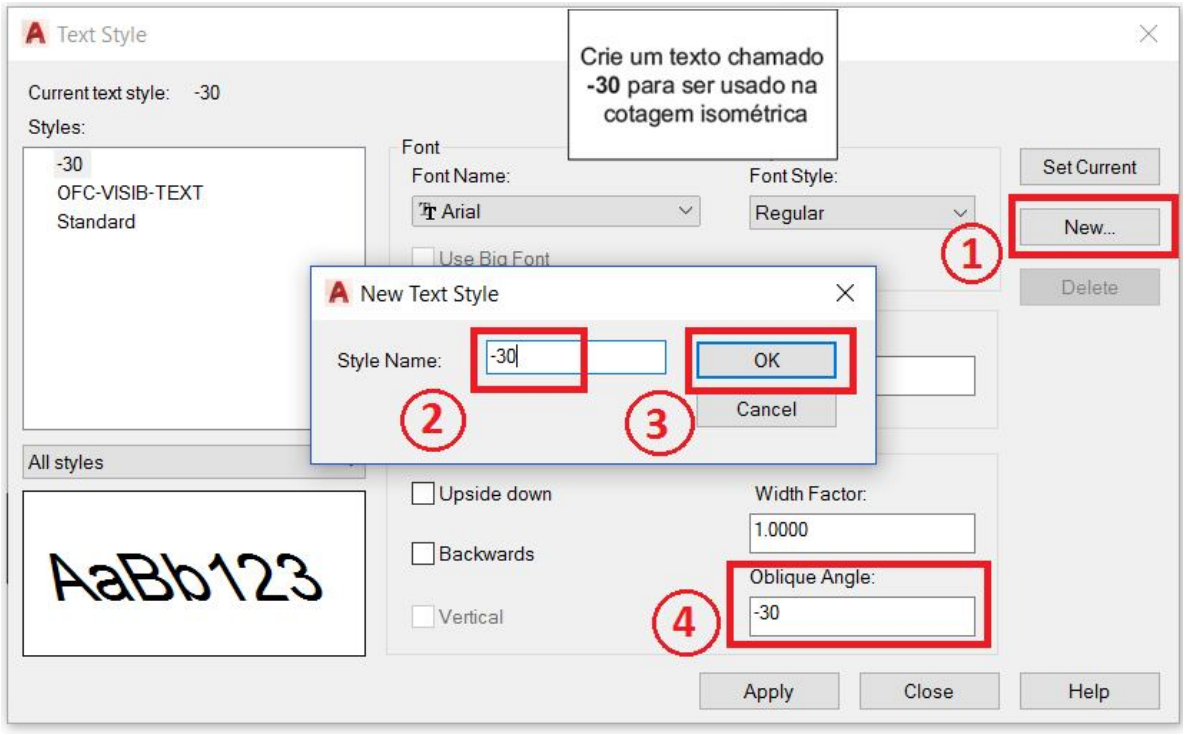
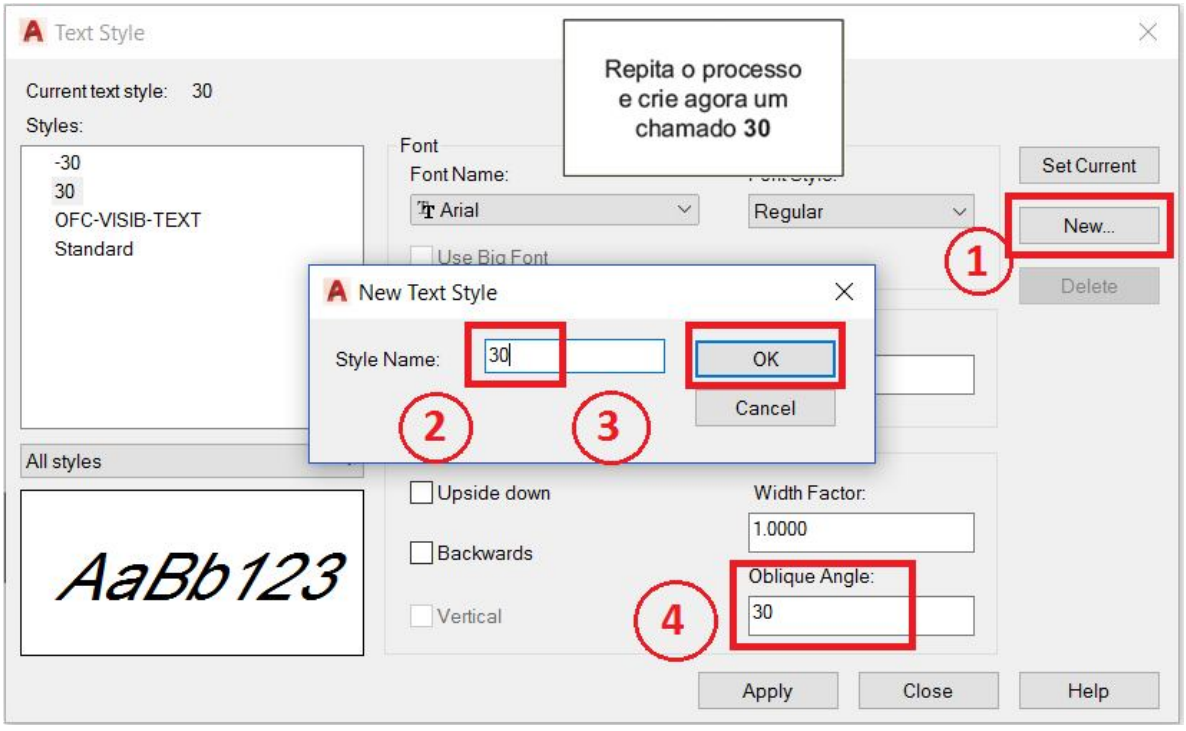


Etapa 18:



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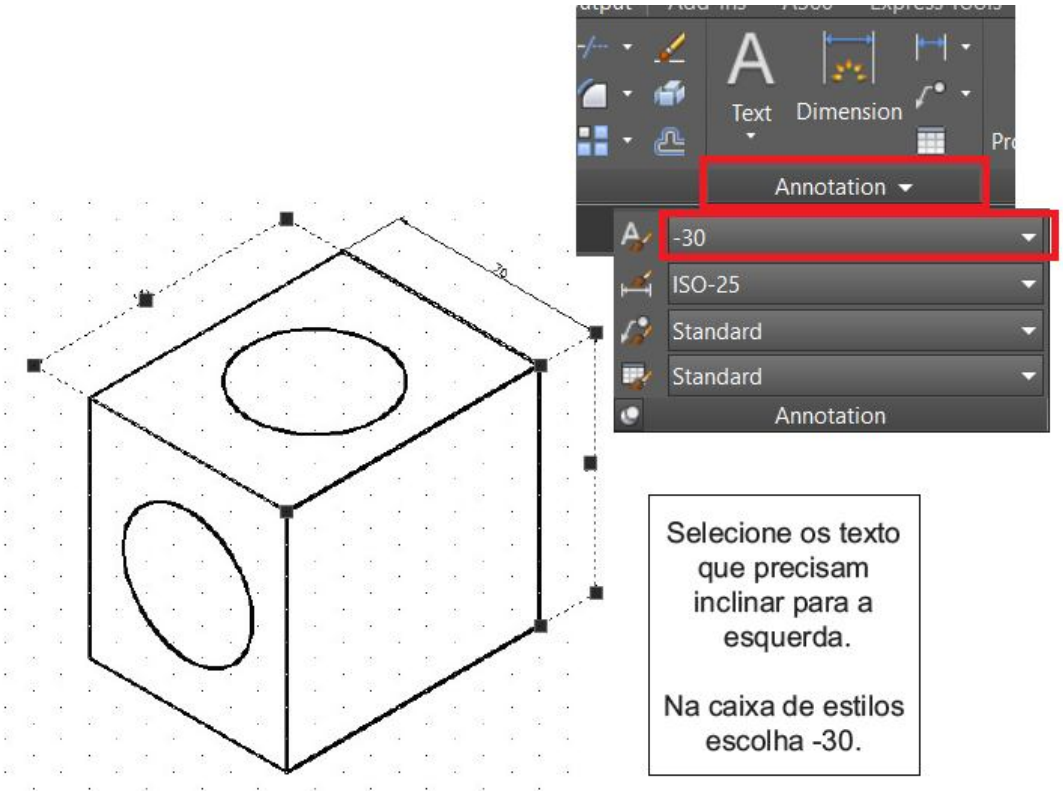

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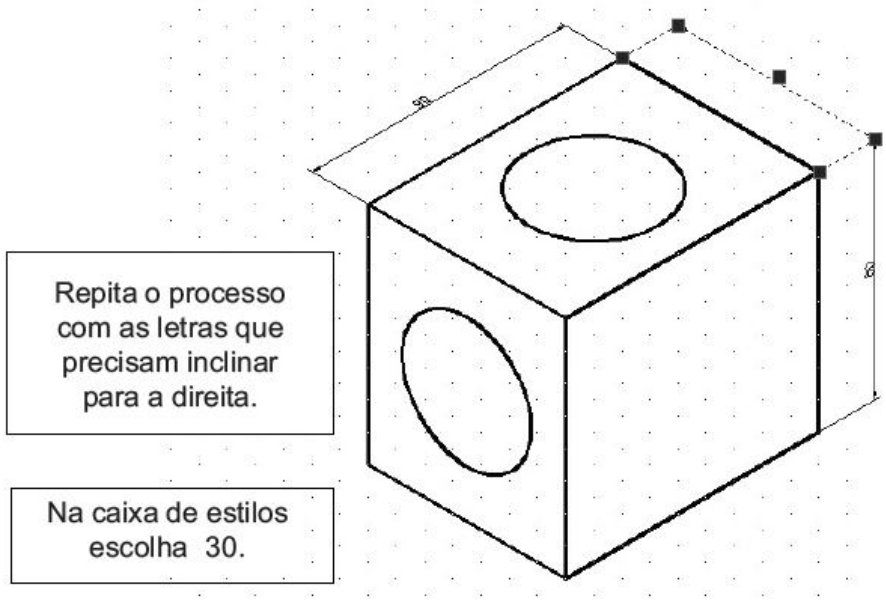

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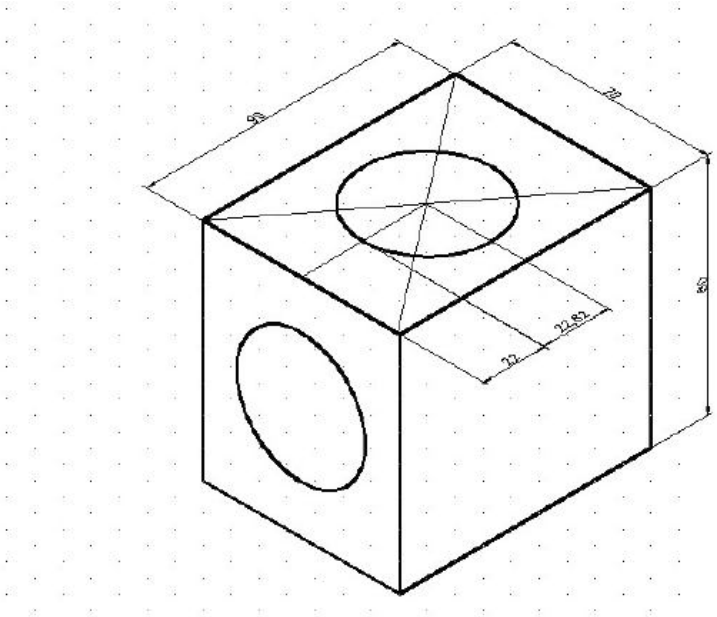
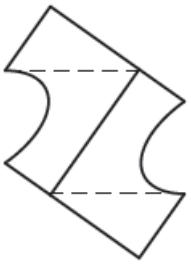


Use linhas auxiliares para cotar os isocírculos e os seus centros.

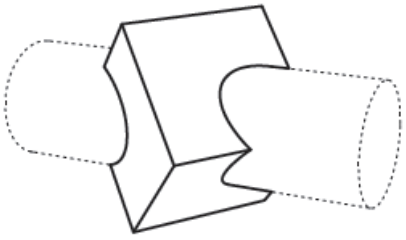
PERSPECTIVAS:

A IMPORTÂNCIA DA PERSPECTIVA

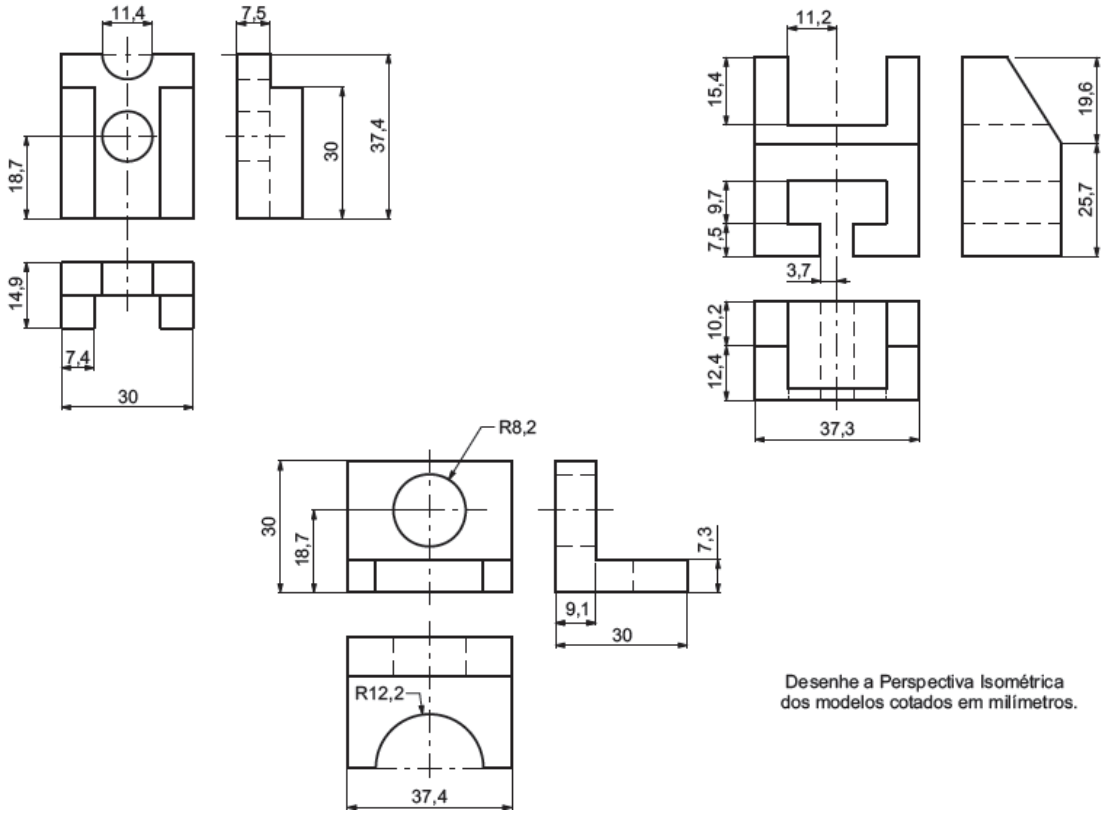
Existem objetos que não podem ser bem representados através de vistas, cortes ou seções. Na realidade, é a interpretação do modelo que fica comprometida. Nesses casos uma simples perspectiva é muito útil, principalmente para a apresentação pública. Em termos técnicos os arquivos digitais estão substituindo as folhas impressas.



O modelo é perfurado por um cilindro cujo eixo está situado na diagonal do cubo.



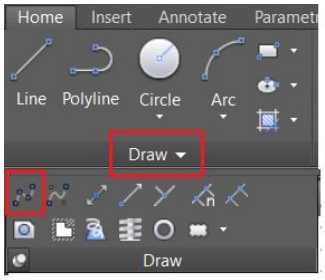
EXERCÍCIO Nº 10:

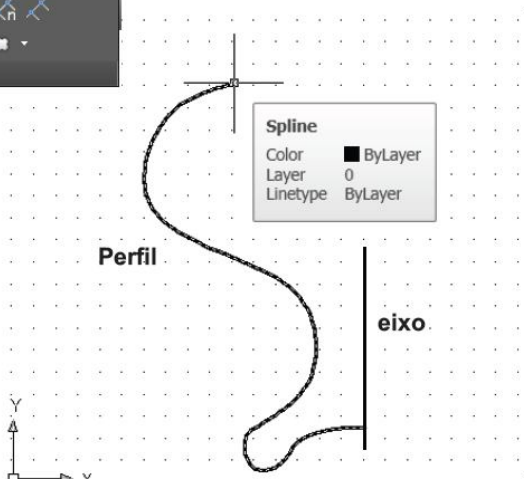


Desenhe a Perspectiva Isométrica dos modelos cotados em milímetros.

EXERCÍCIO Nº 11:

Etapa 1:

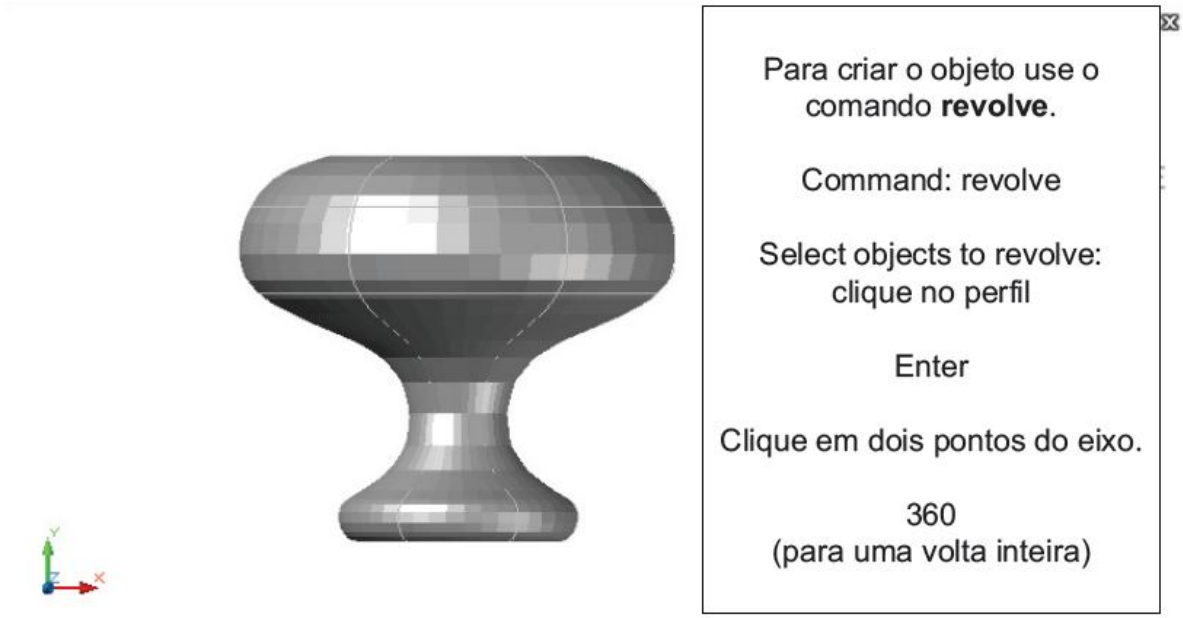




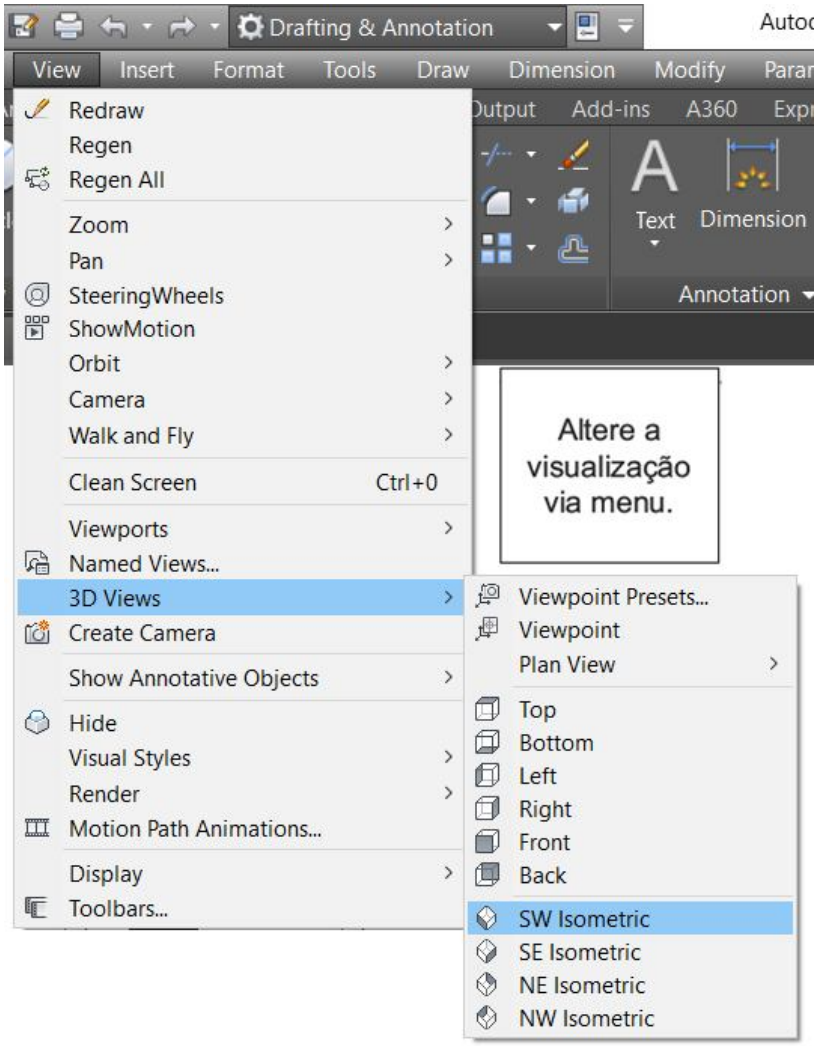
Corpos de revolução necessitam de um perfil e um eixo de rotação.

Desenhe o perfil da superfície com **spline**

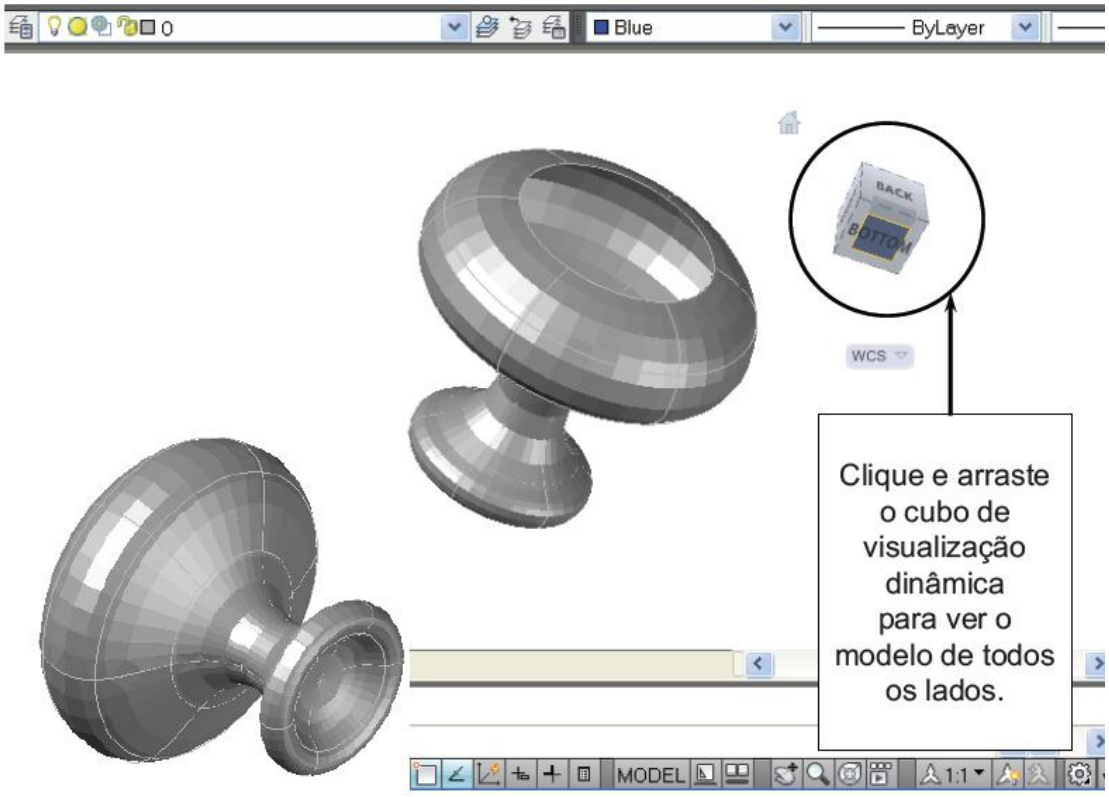
Ao término do traçado pressione **Enter** por três vezes.



Etapa 2:



Etapa 3:



EXERCÍCIO Nº 12:

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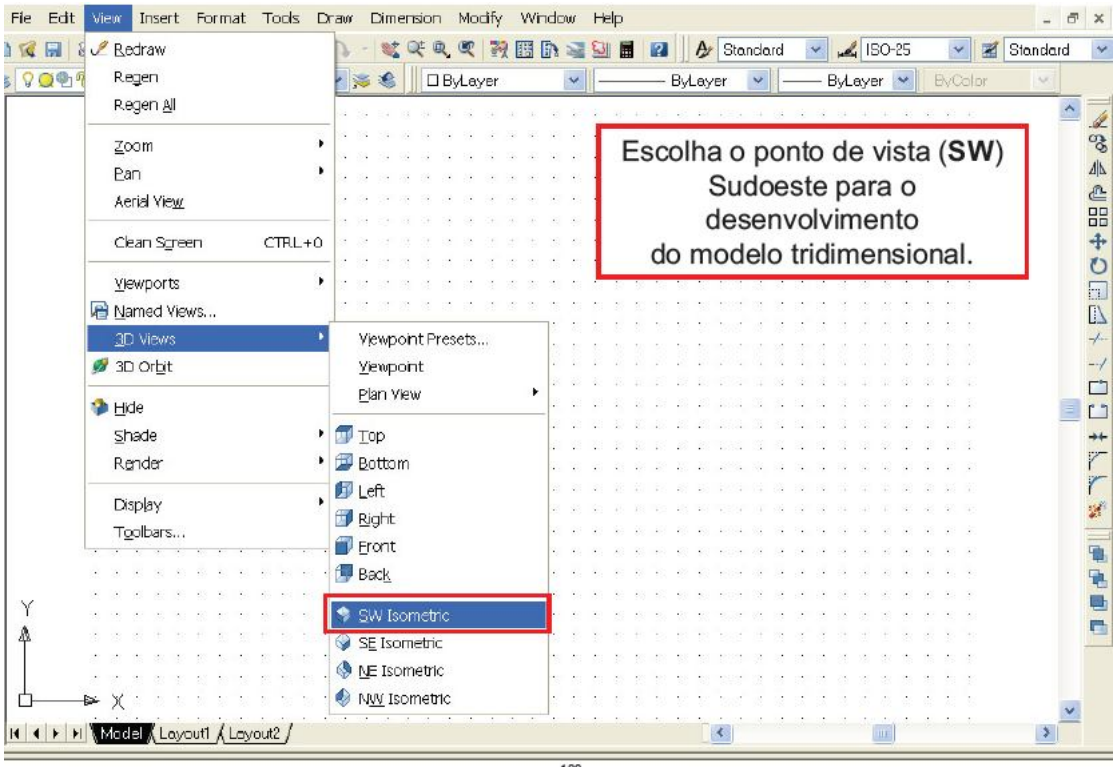

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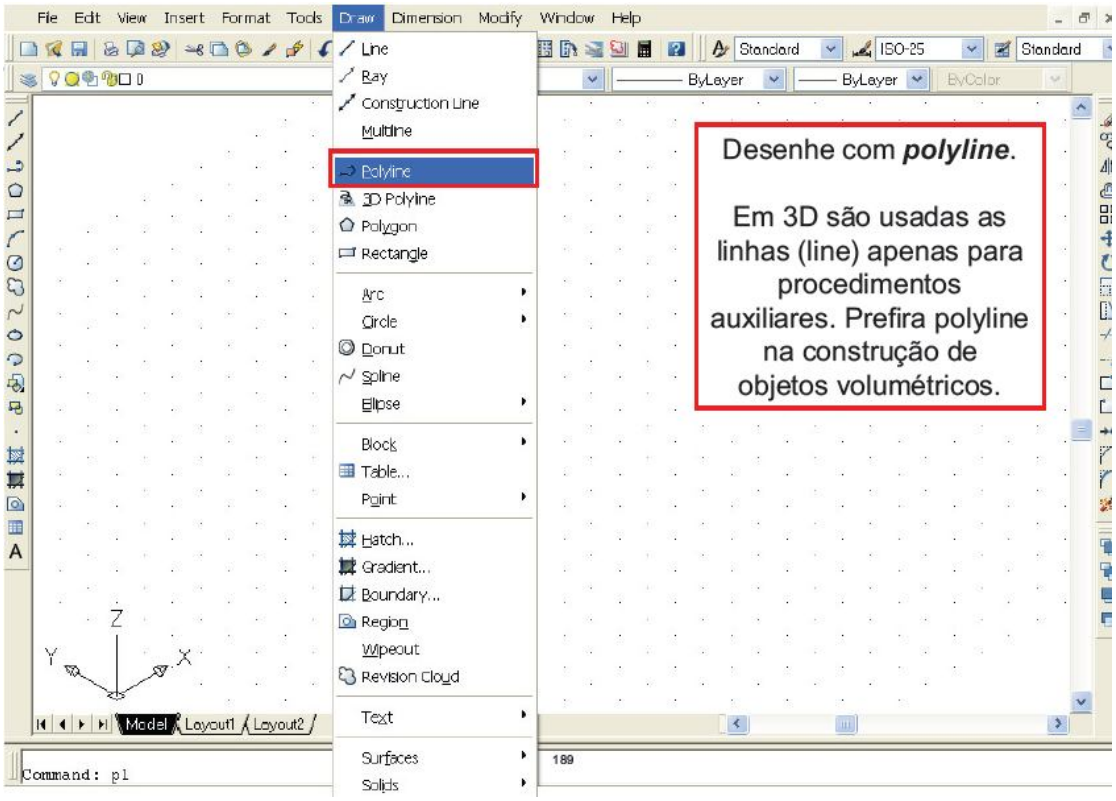

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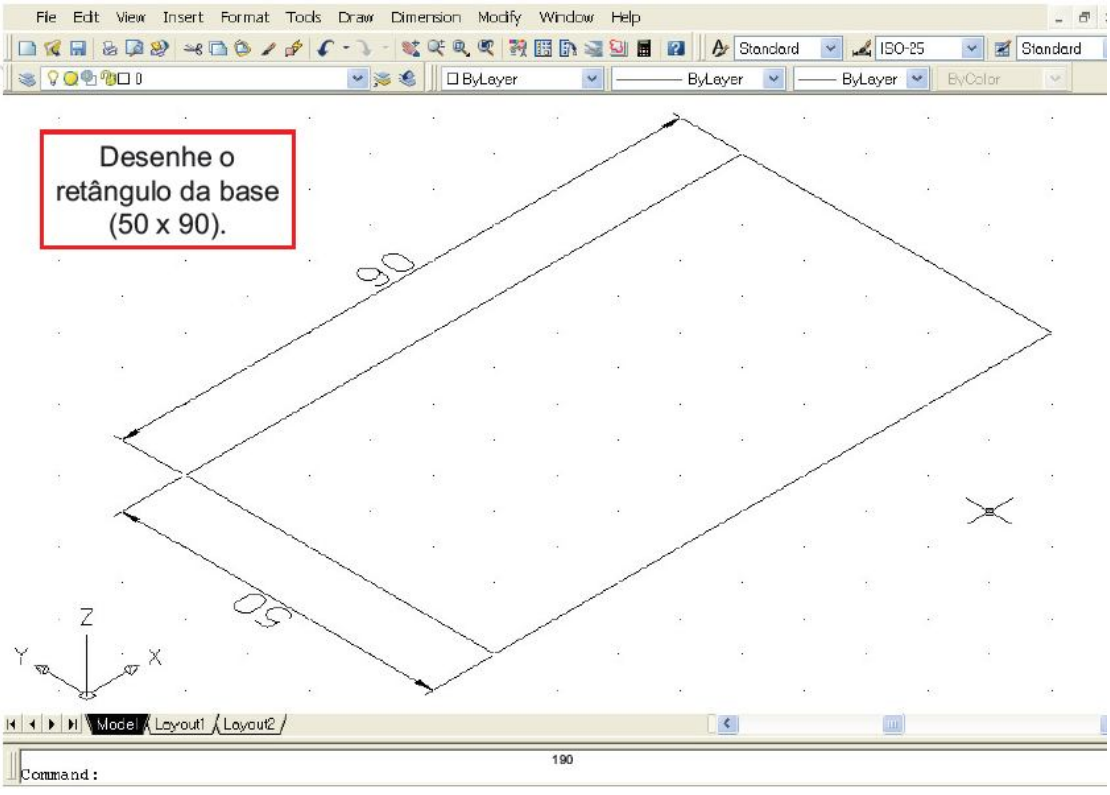

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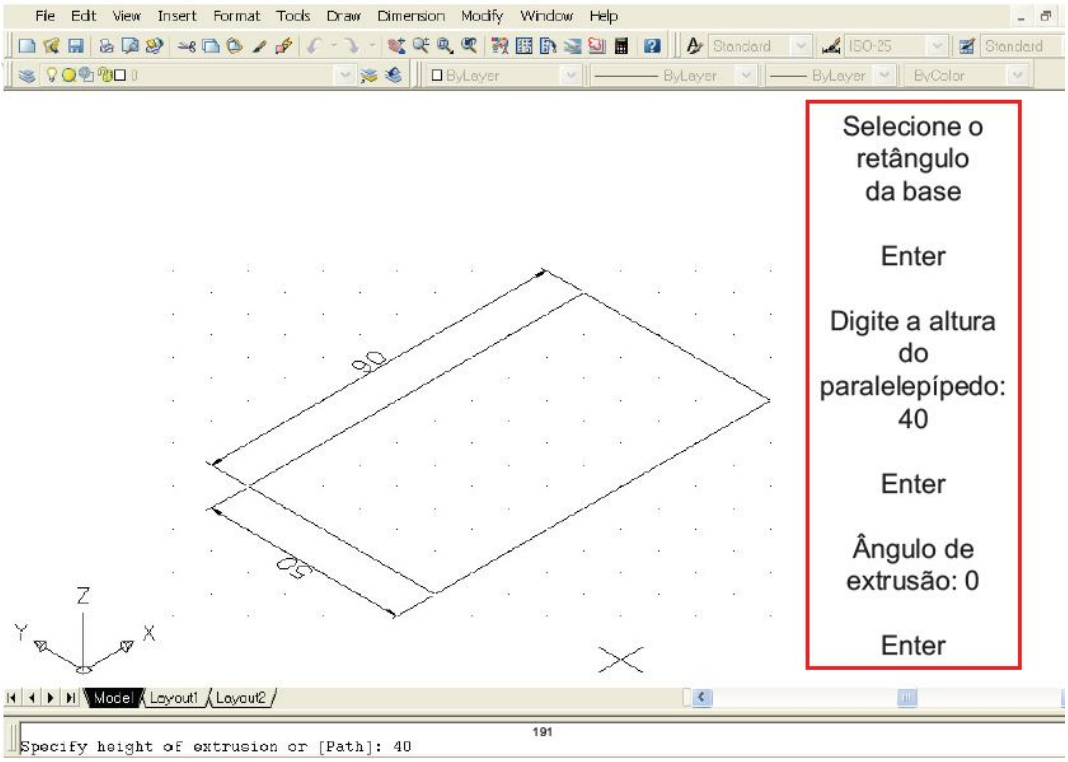

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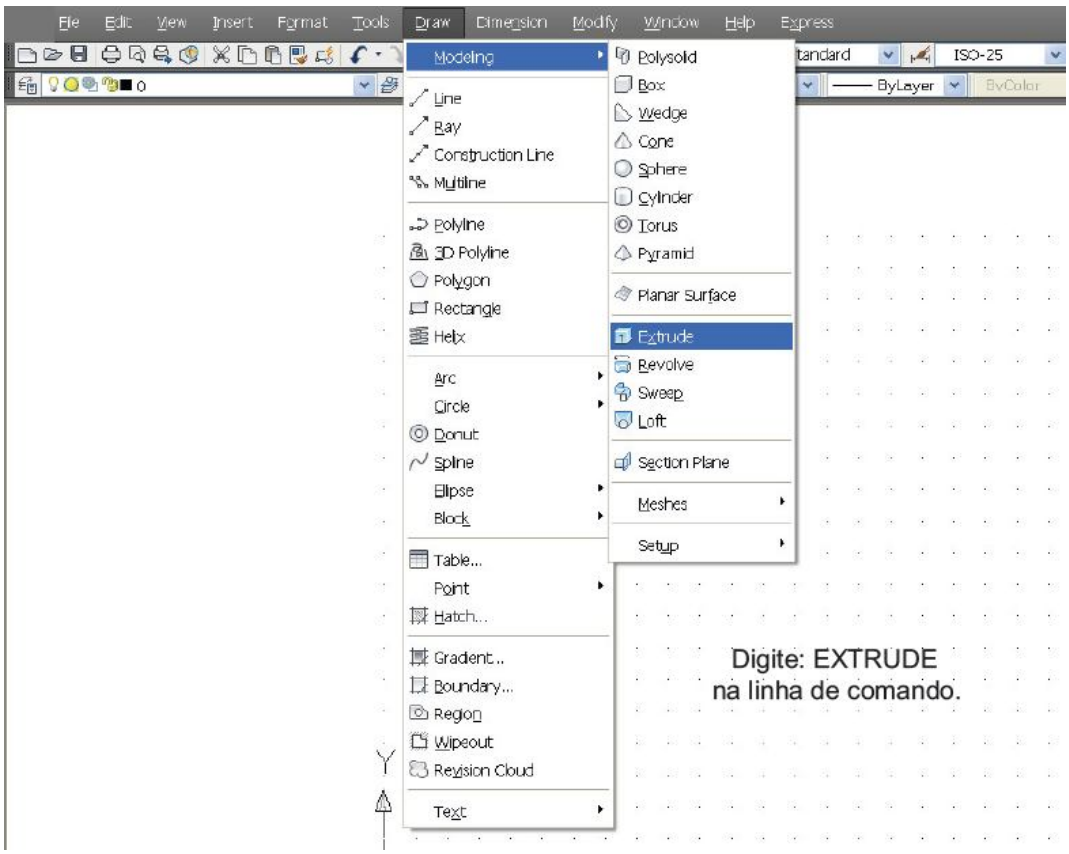

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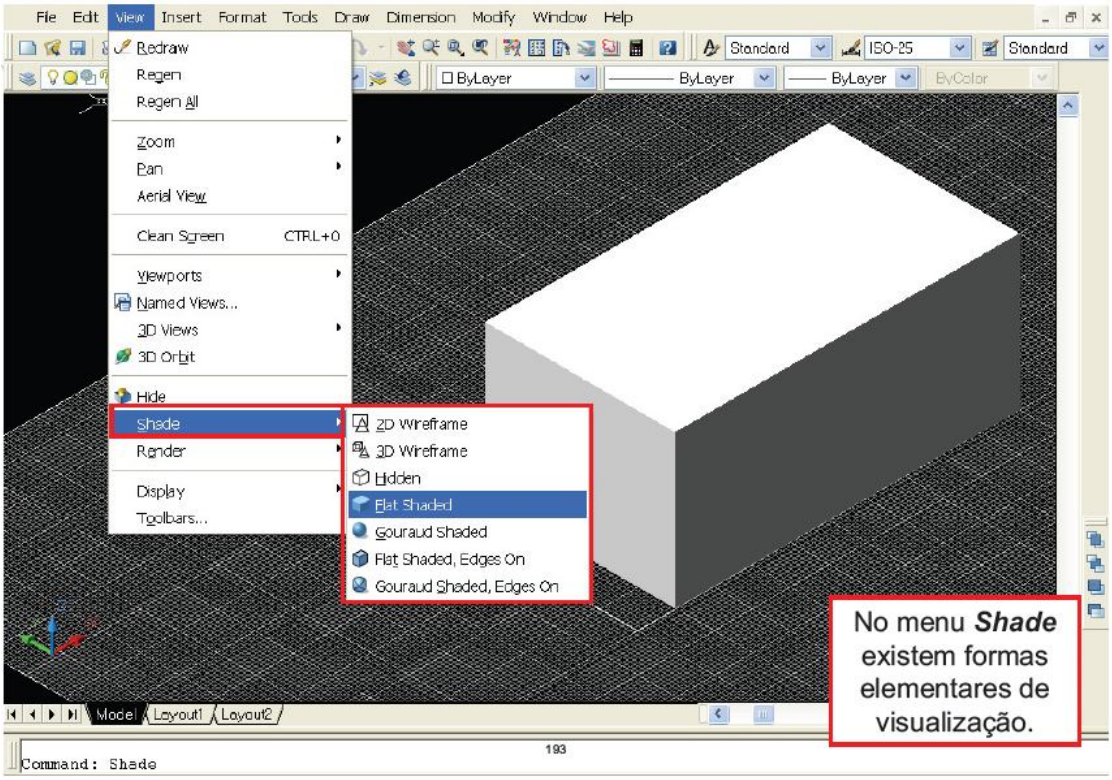

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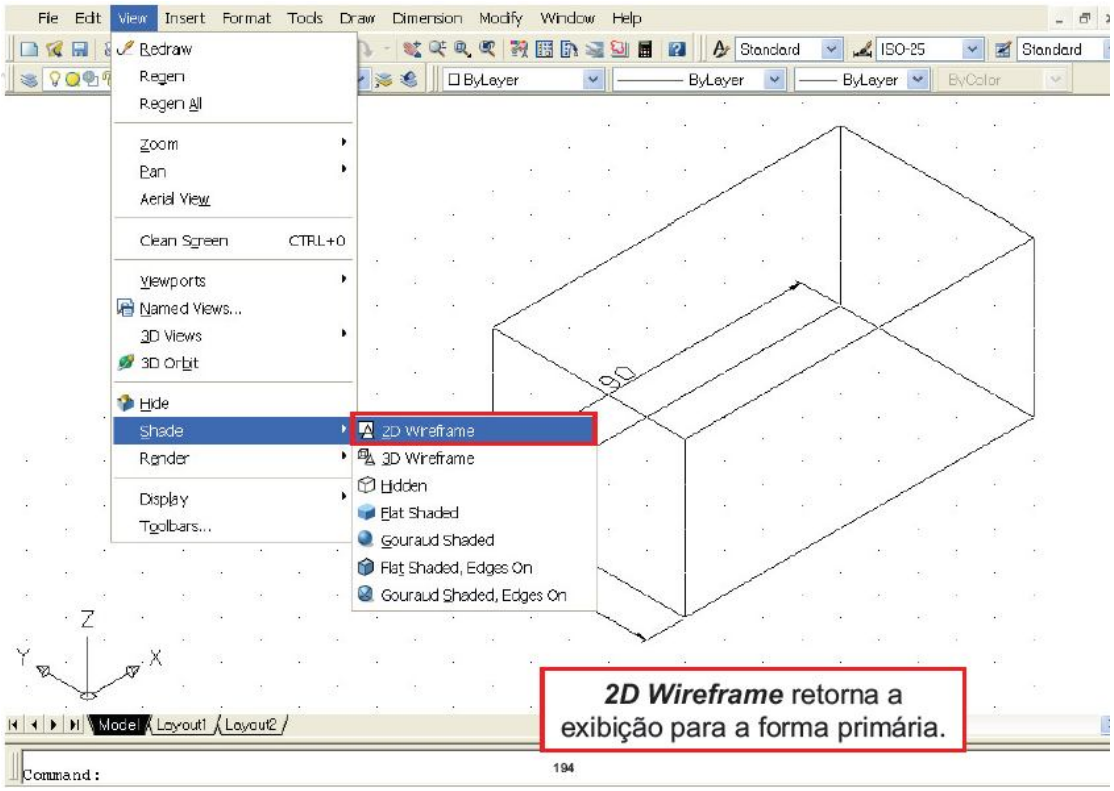

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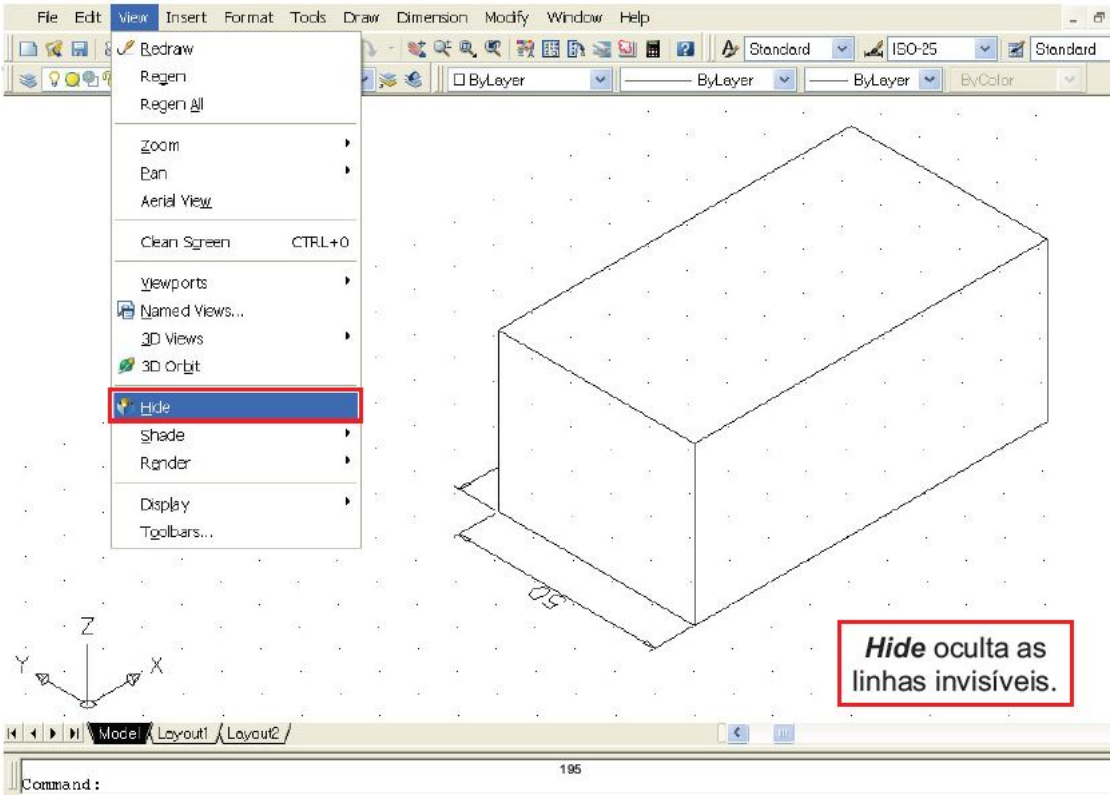

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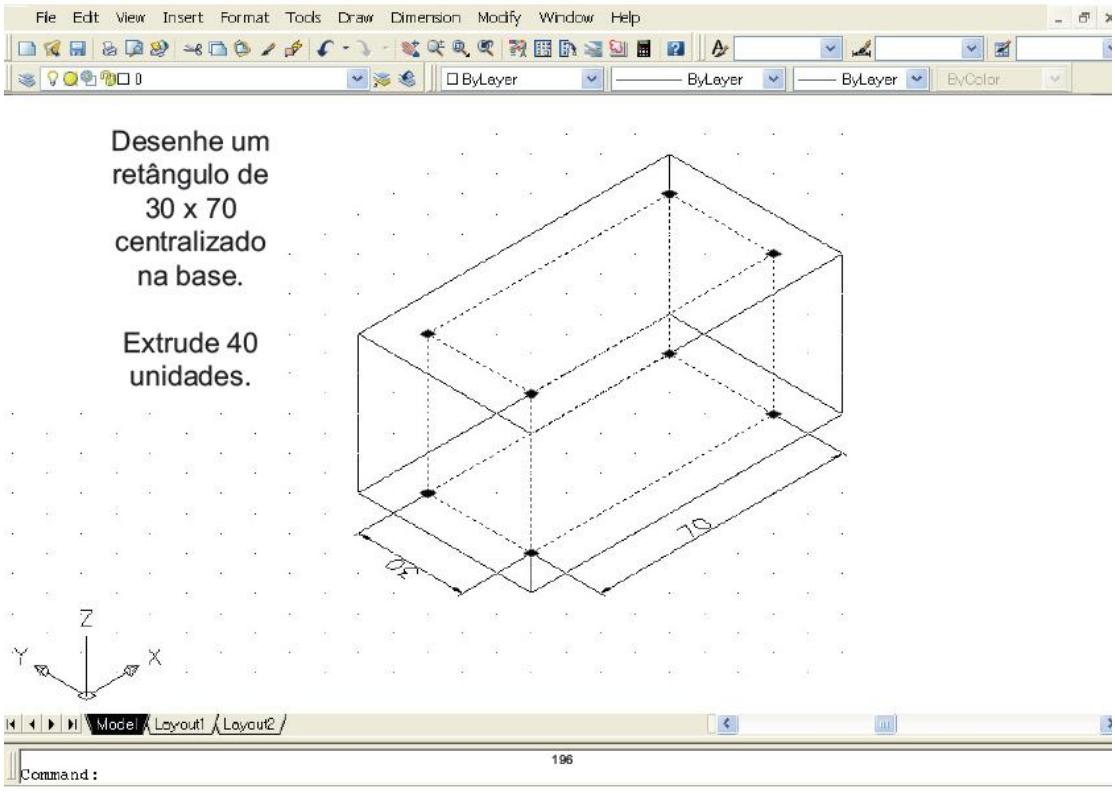

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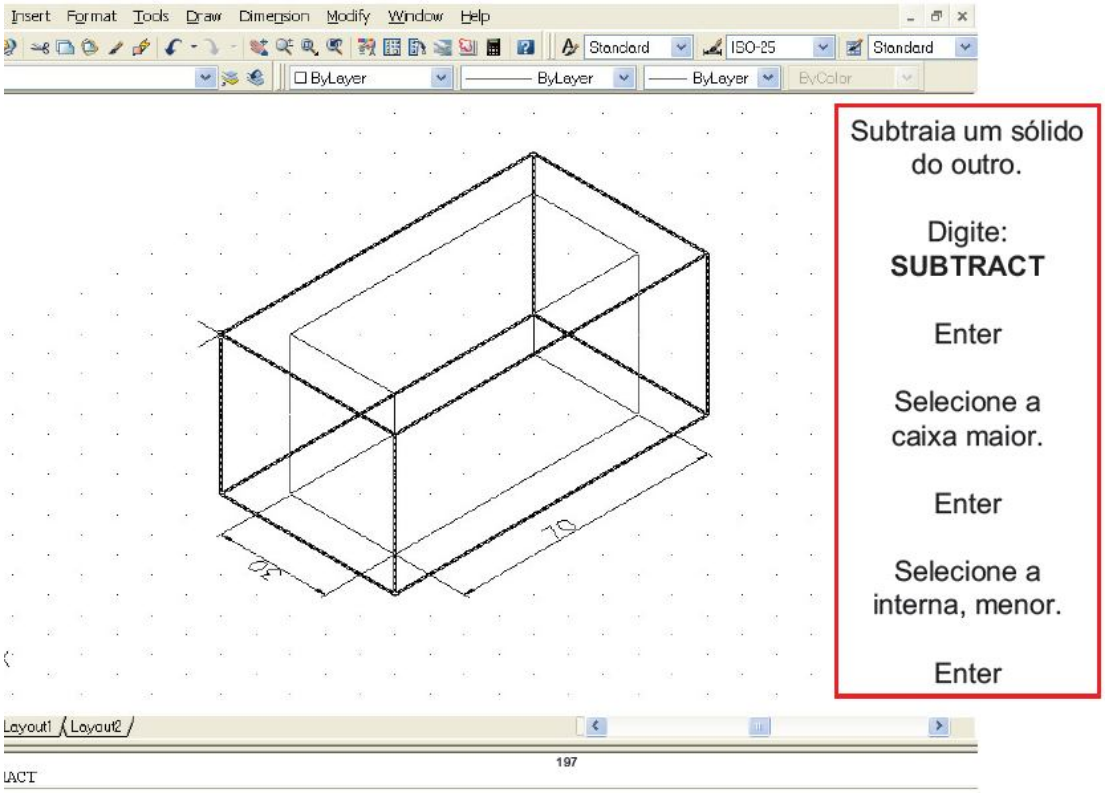

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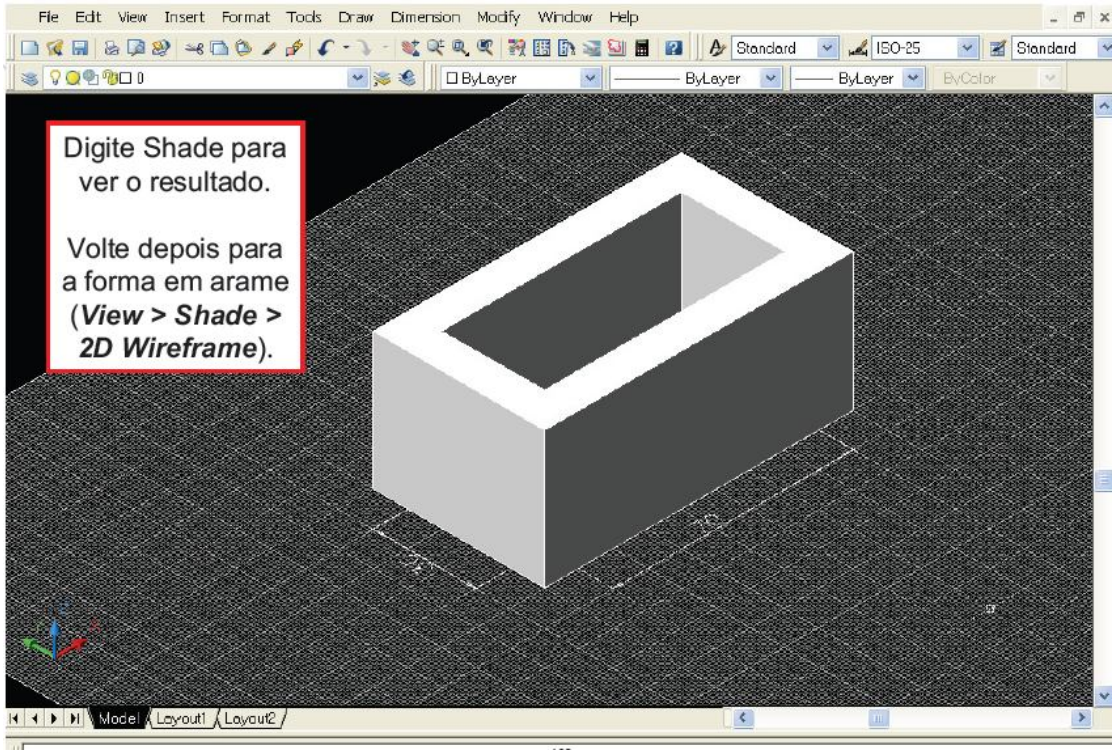

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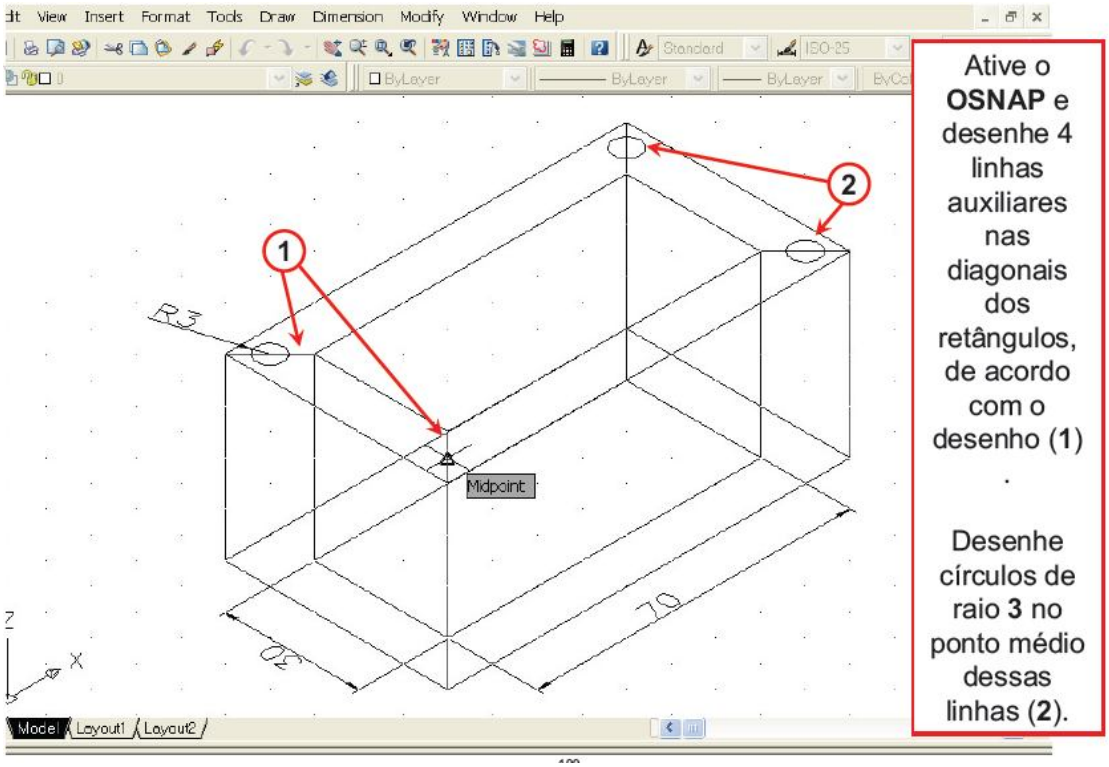

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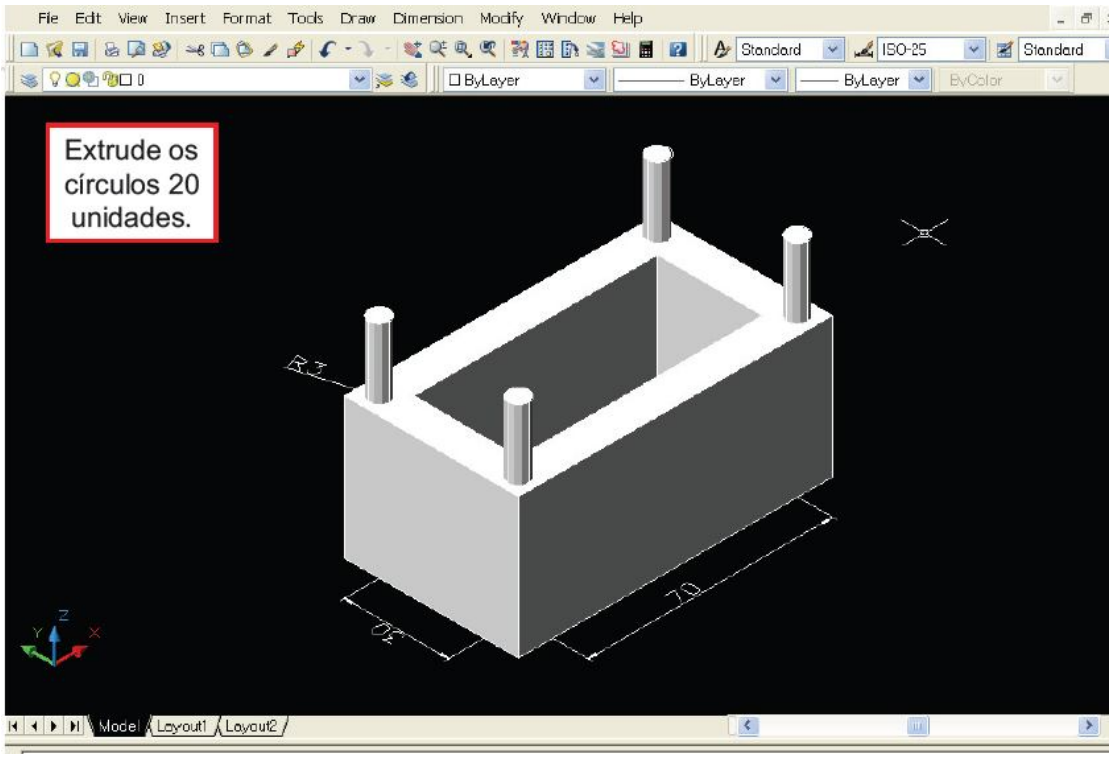

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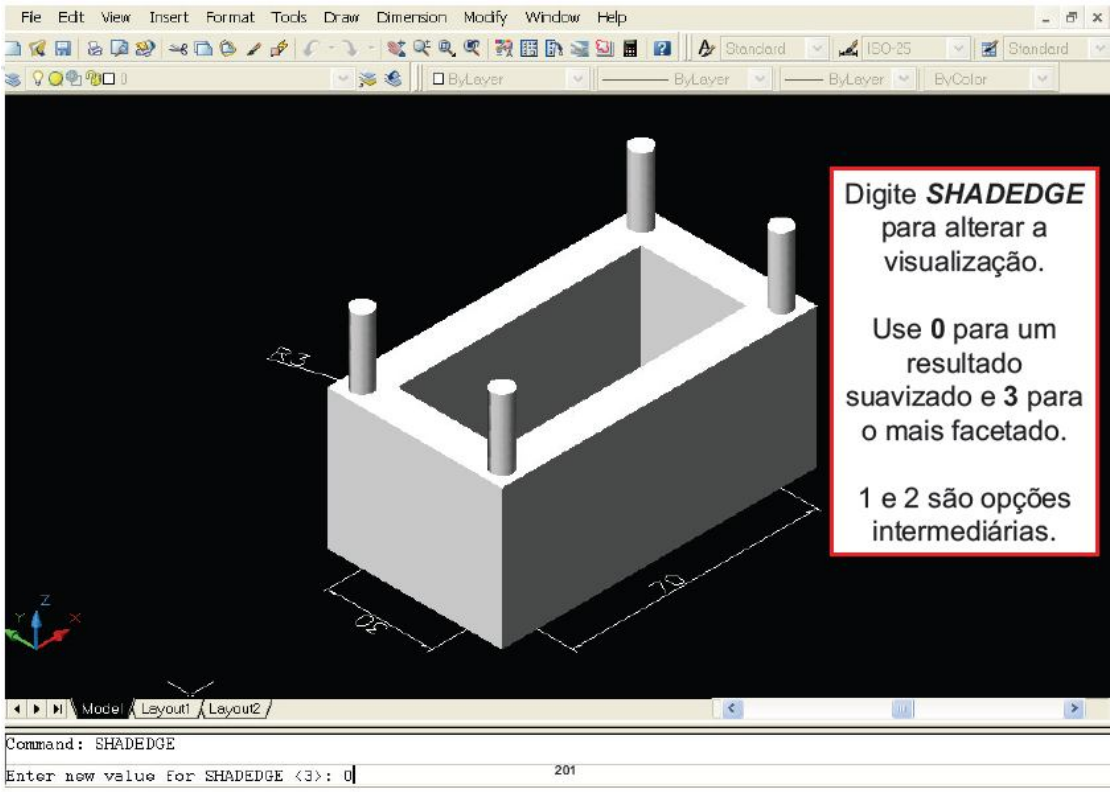

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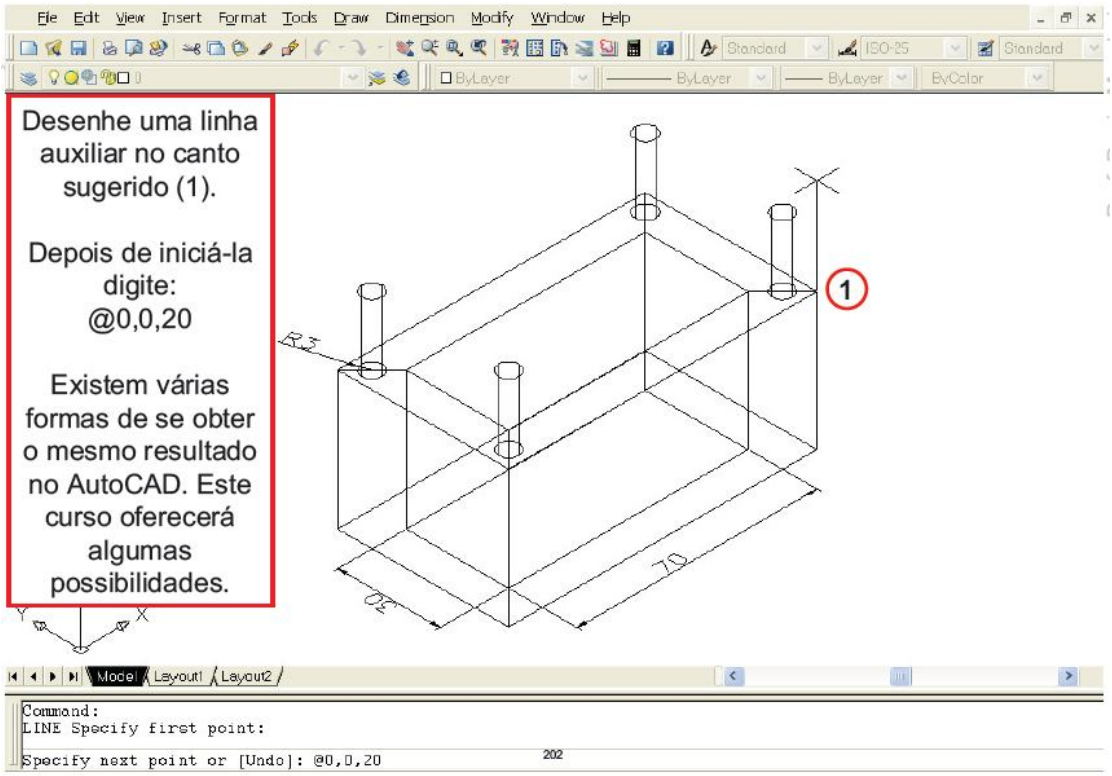

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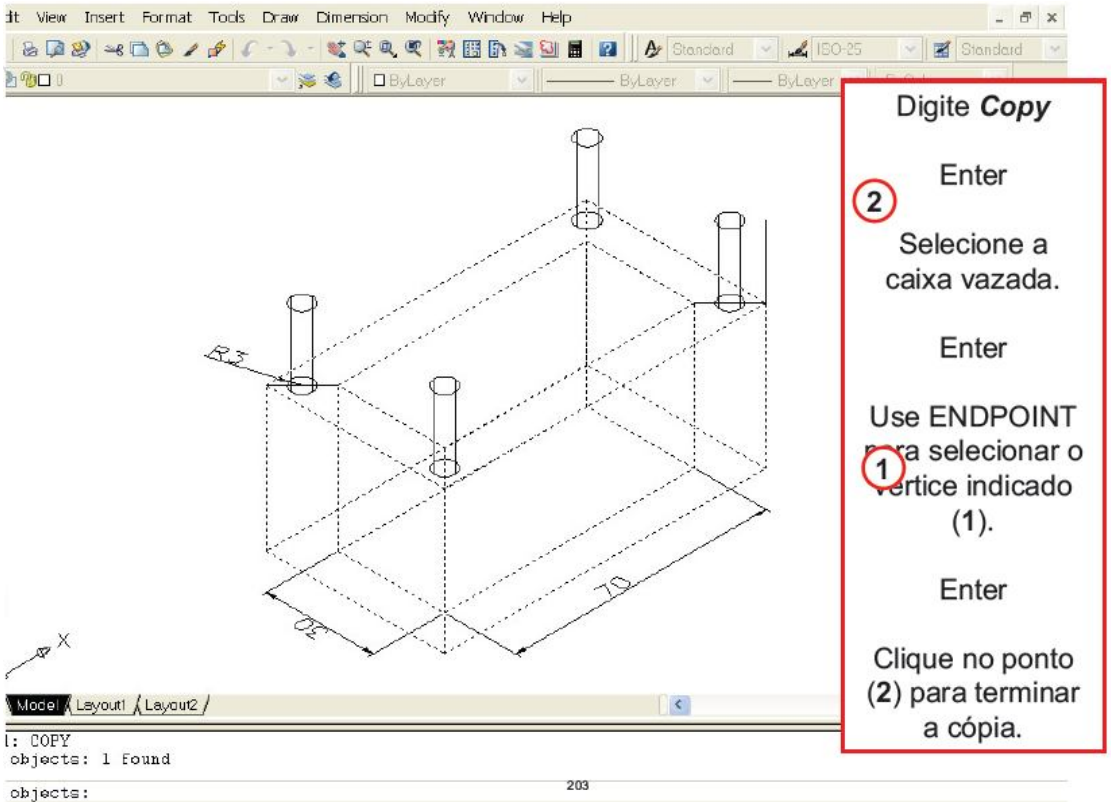

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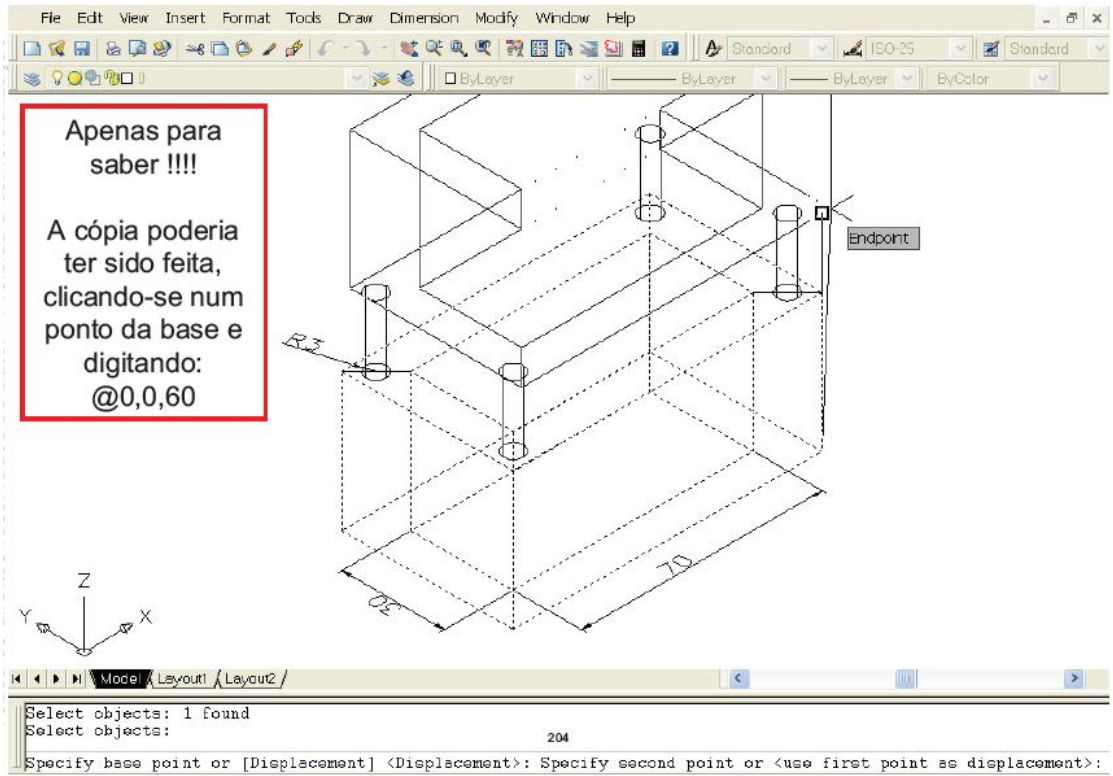

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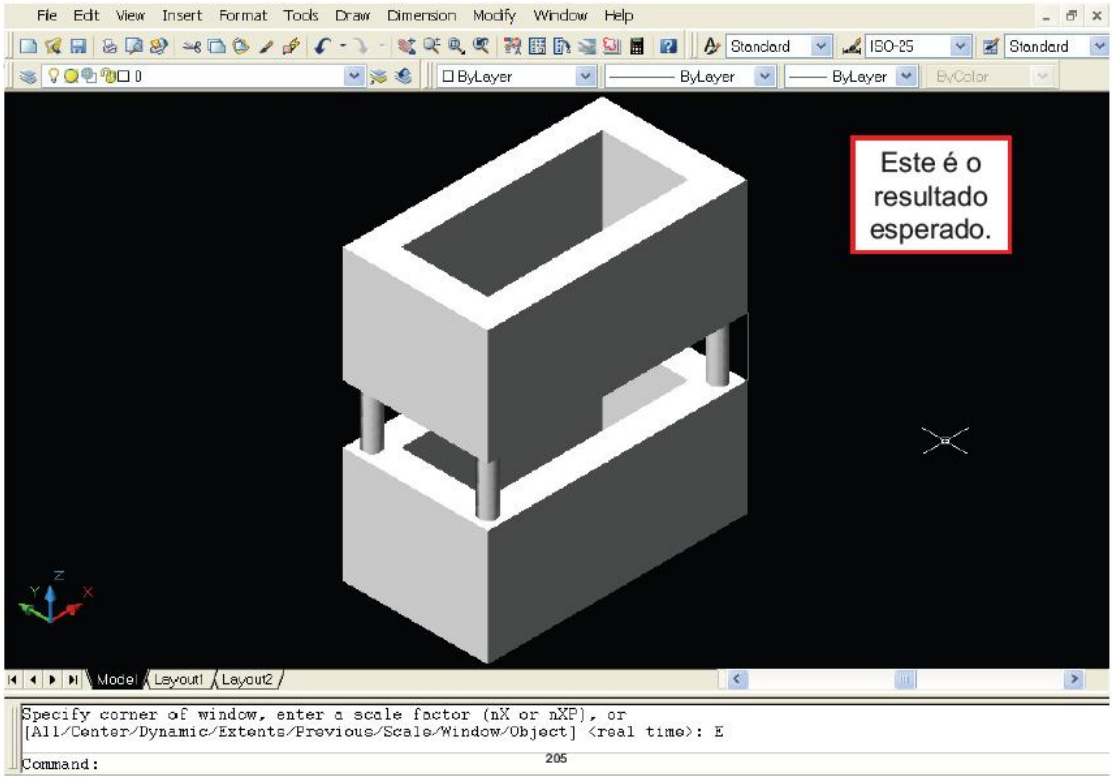

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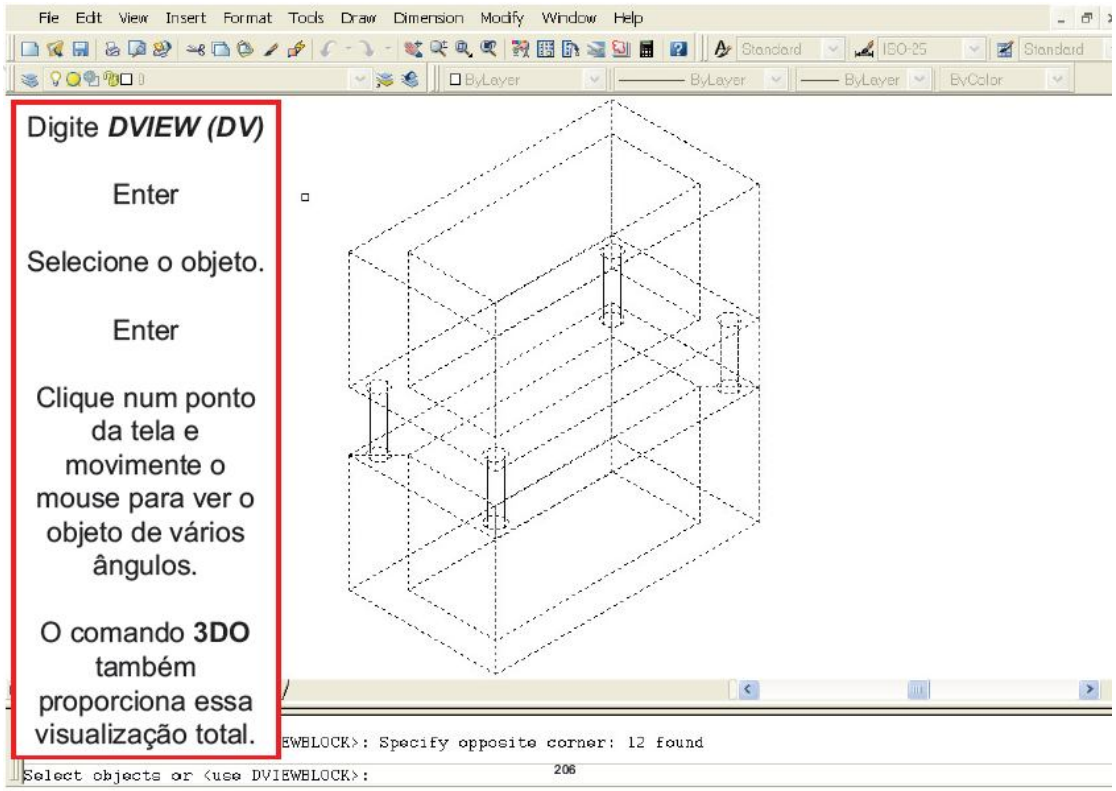

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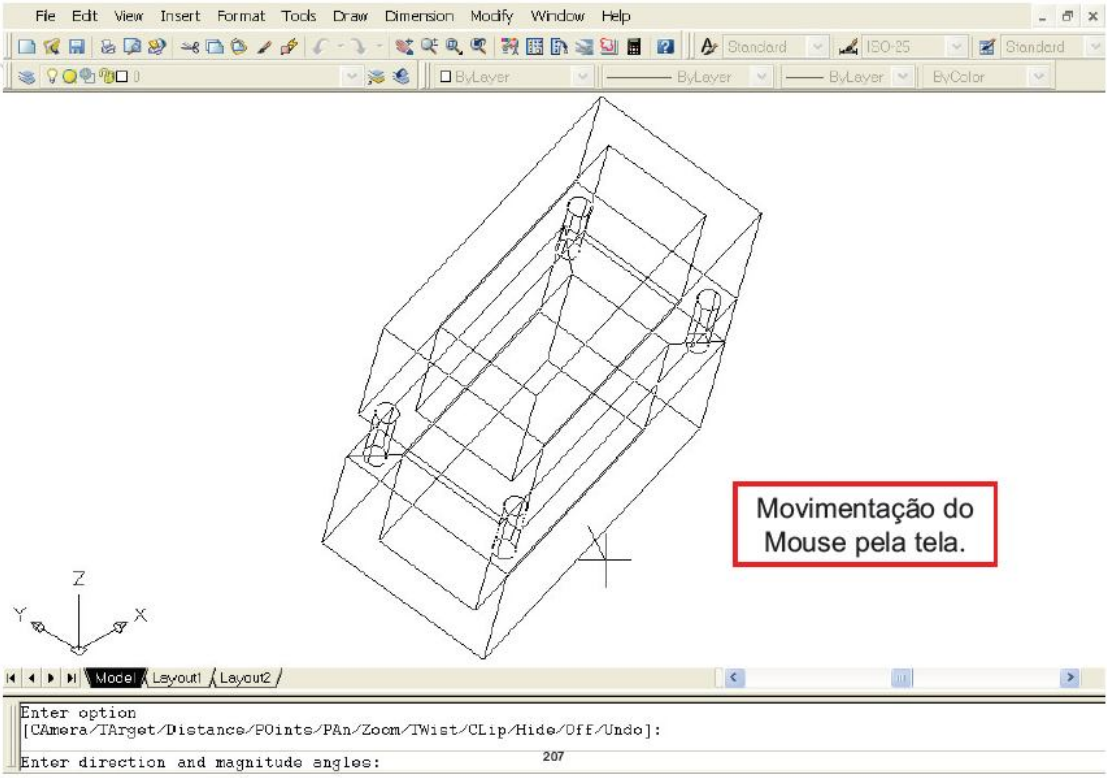

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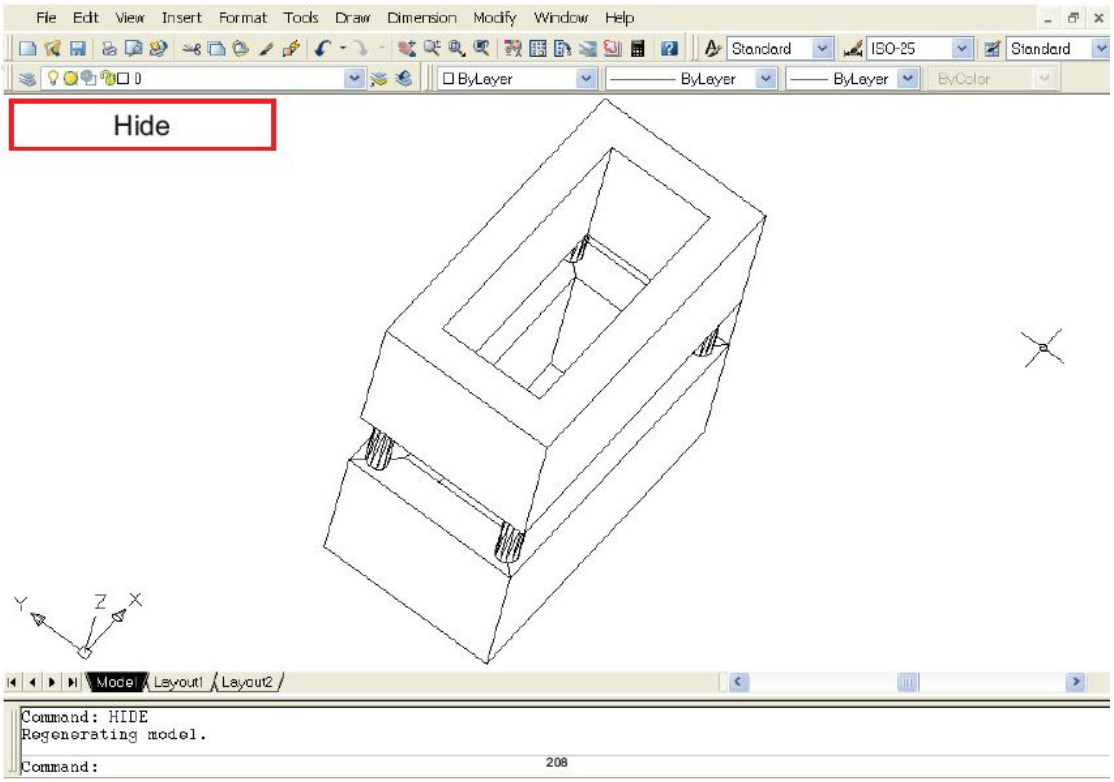

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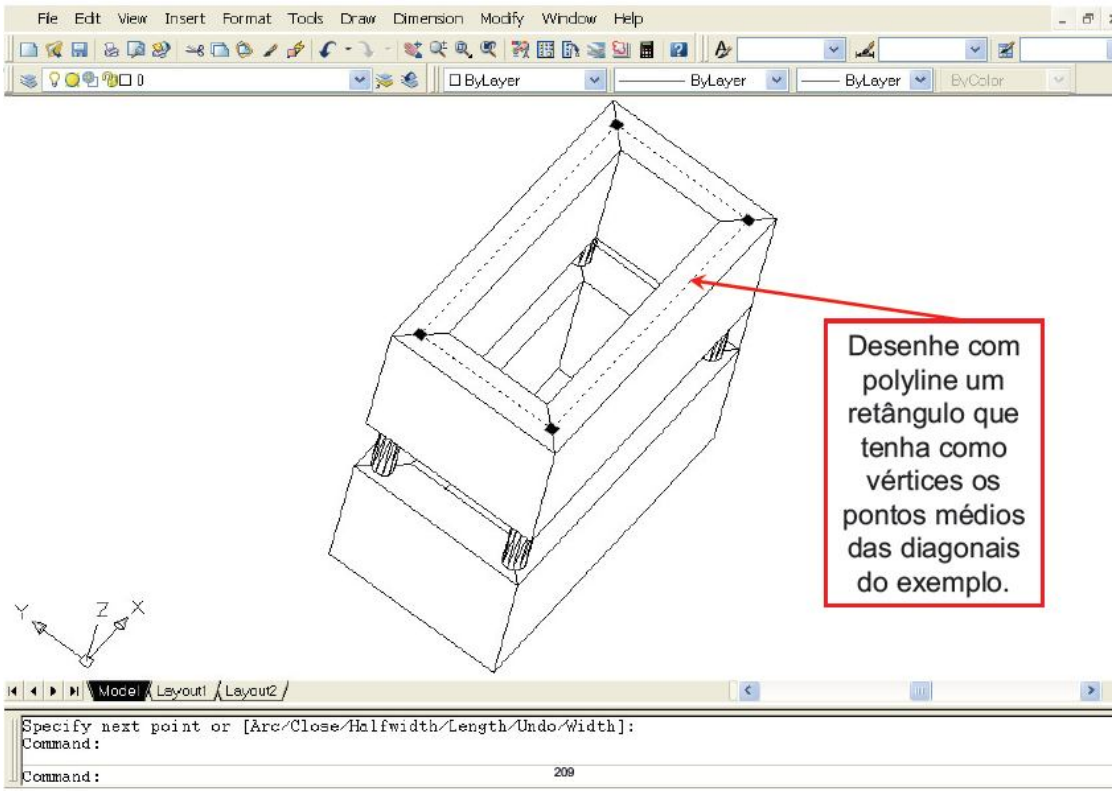

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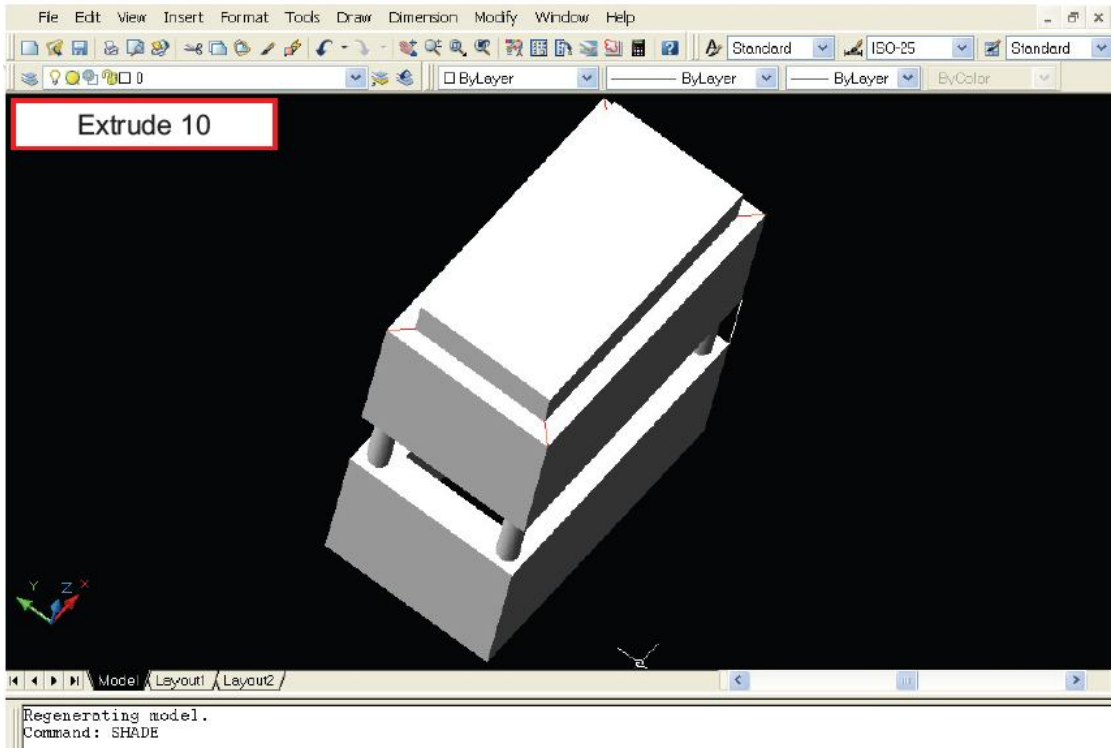

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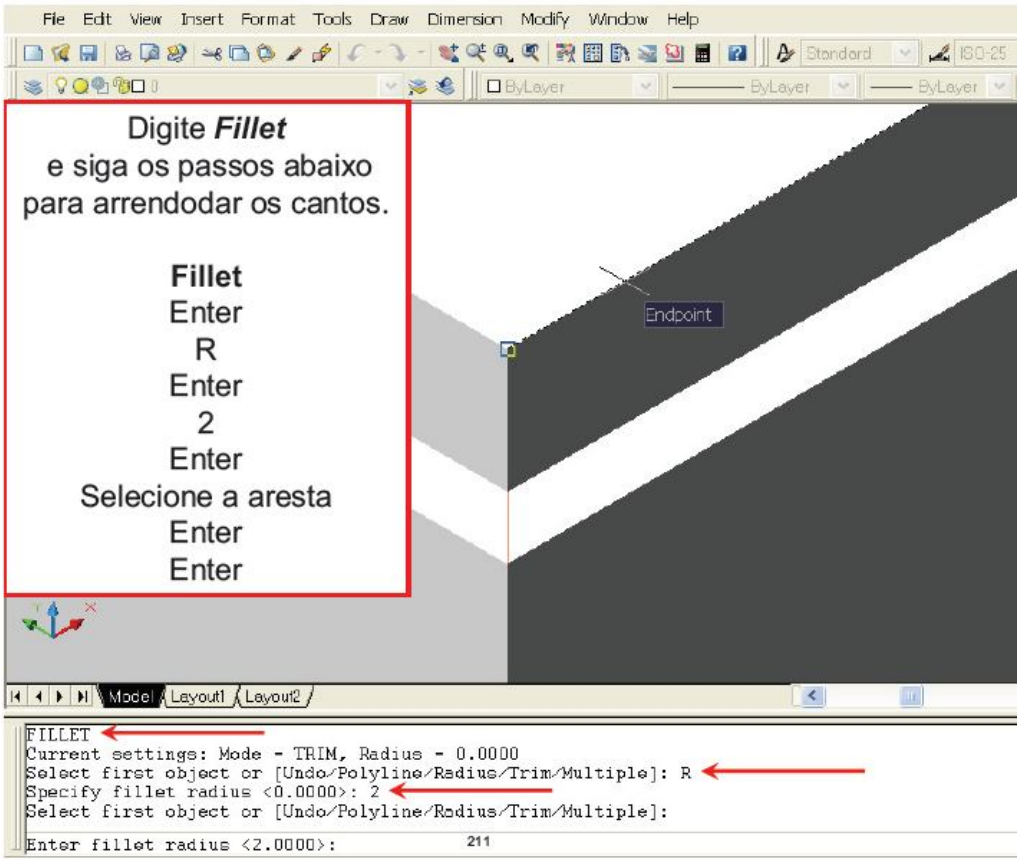

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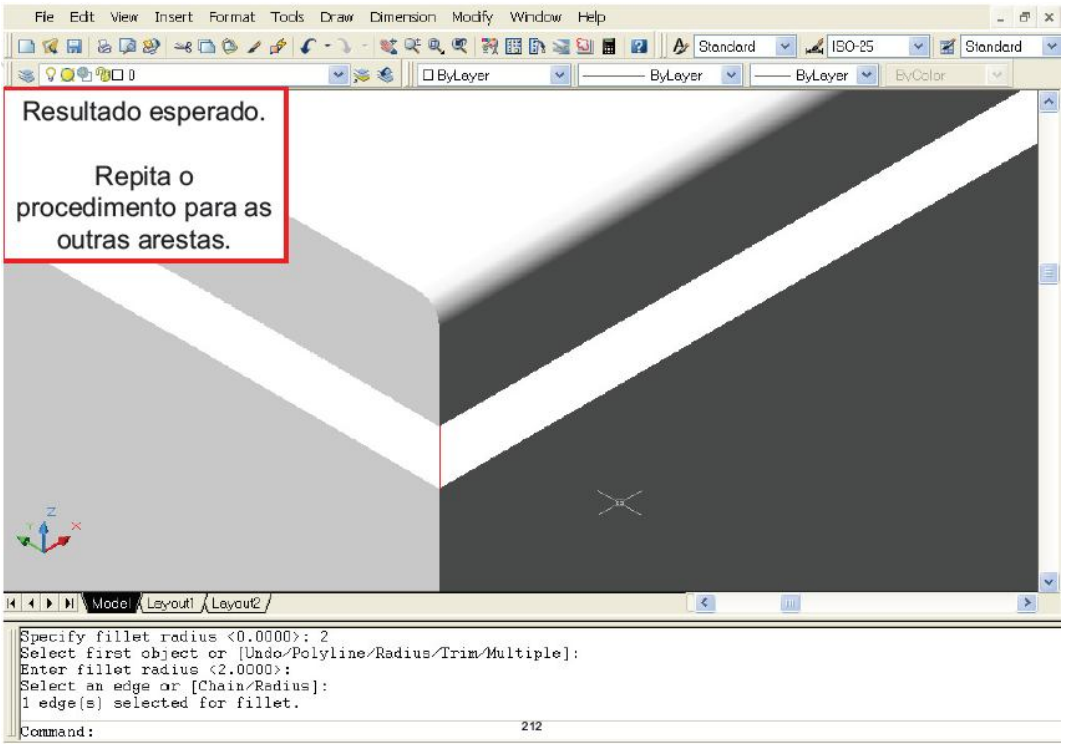

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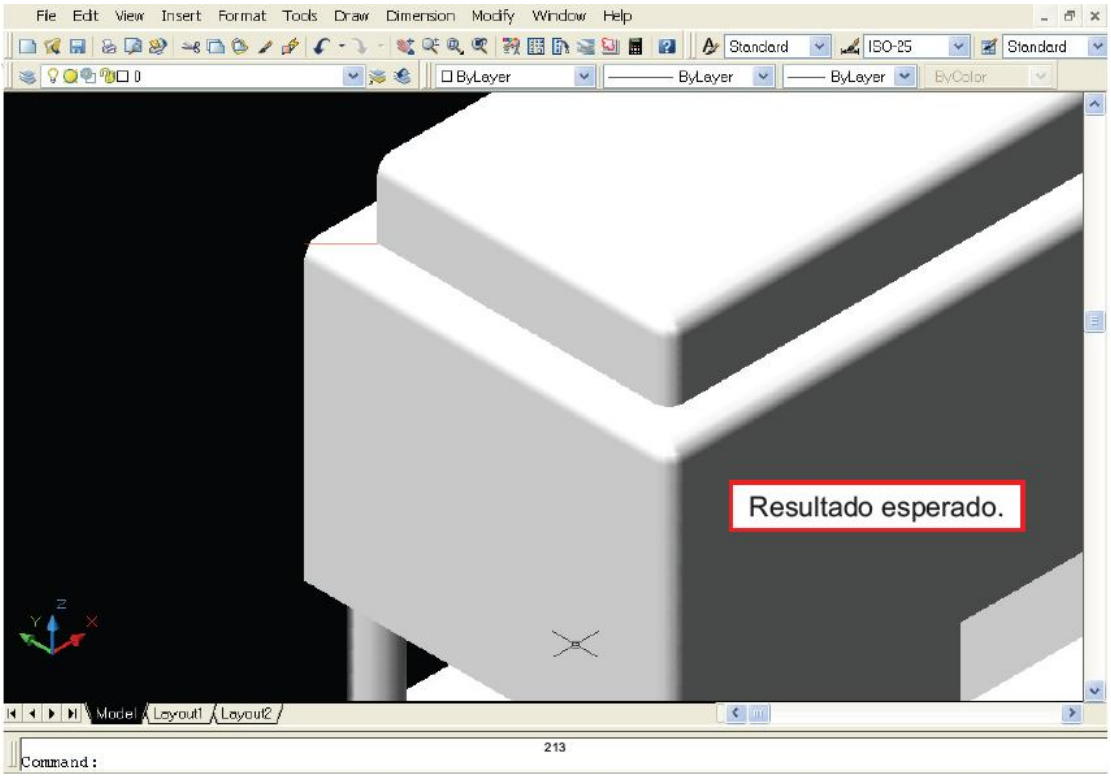

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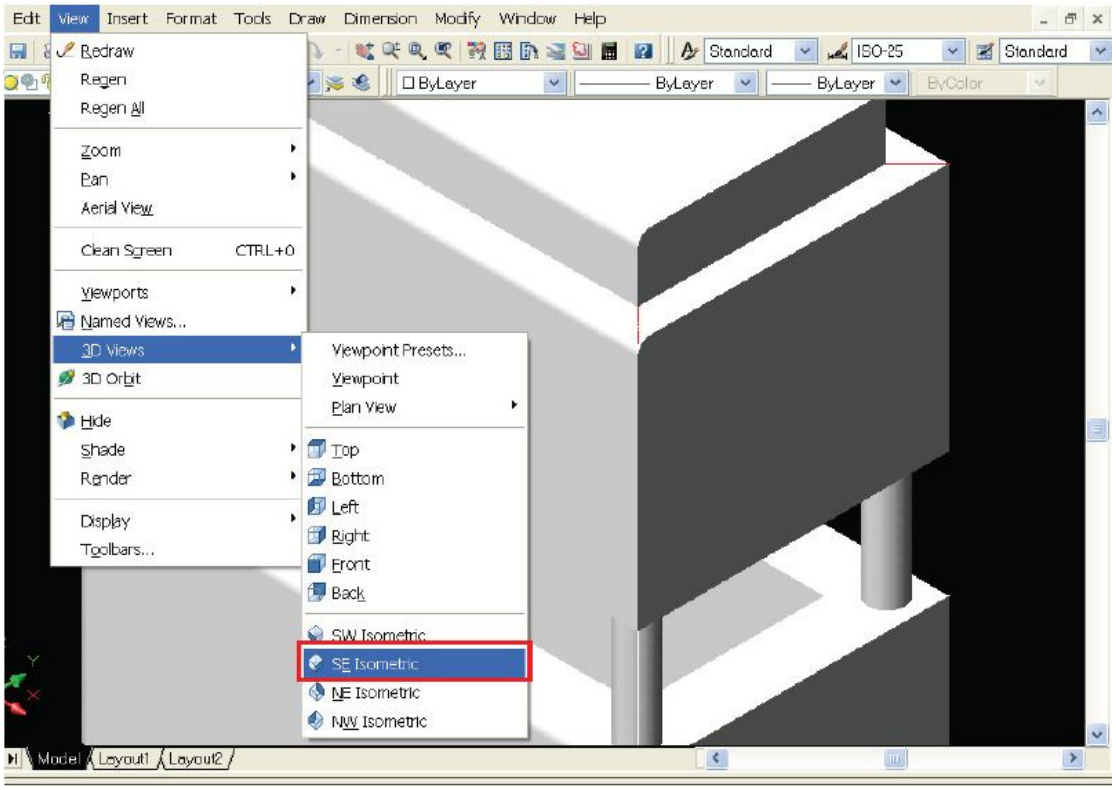

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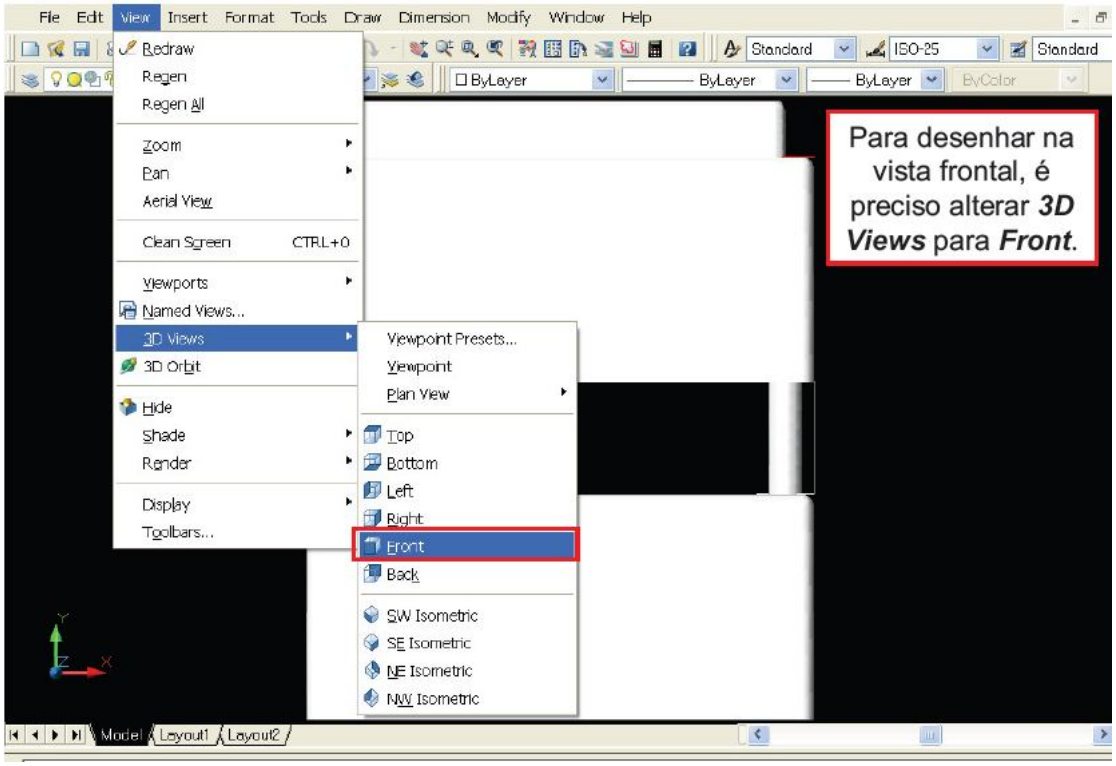

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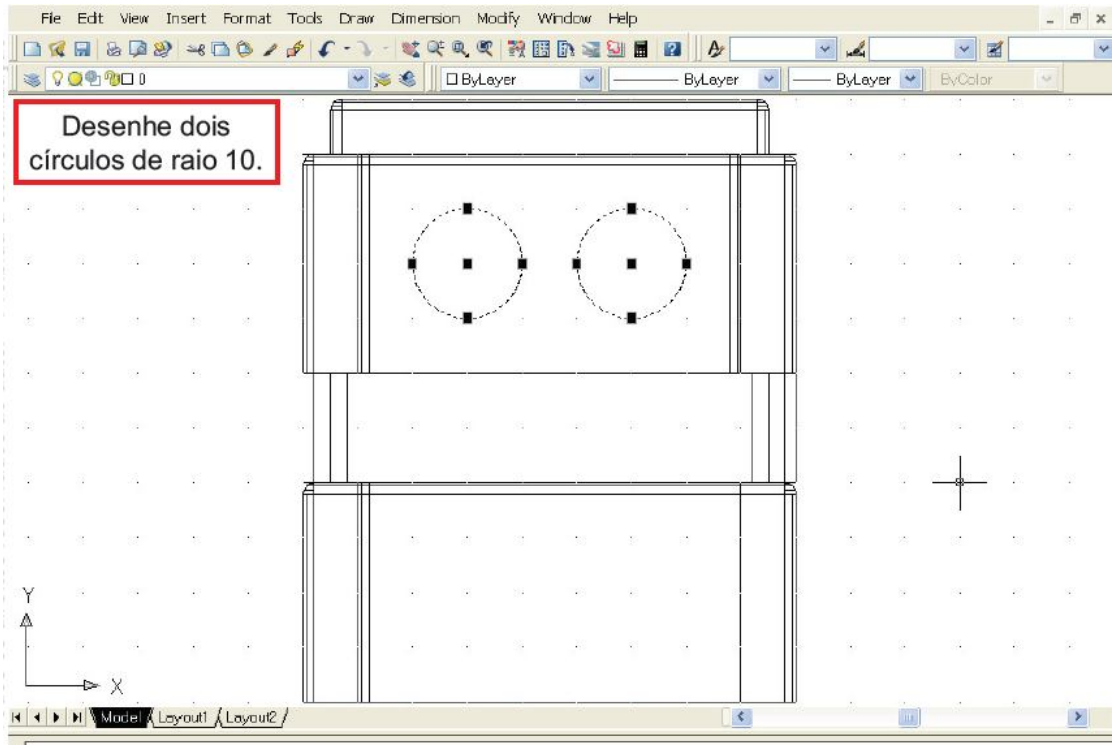

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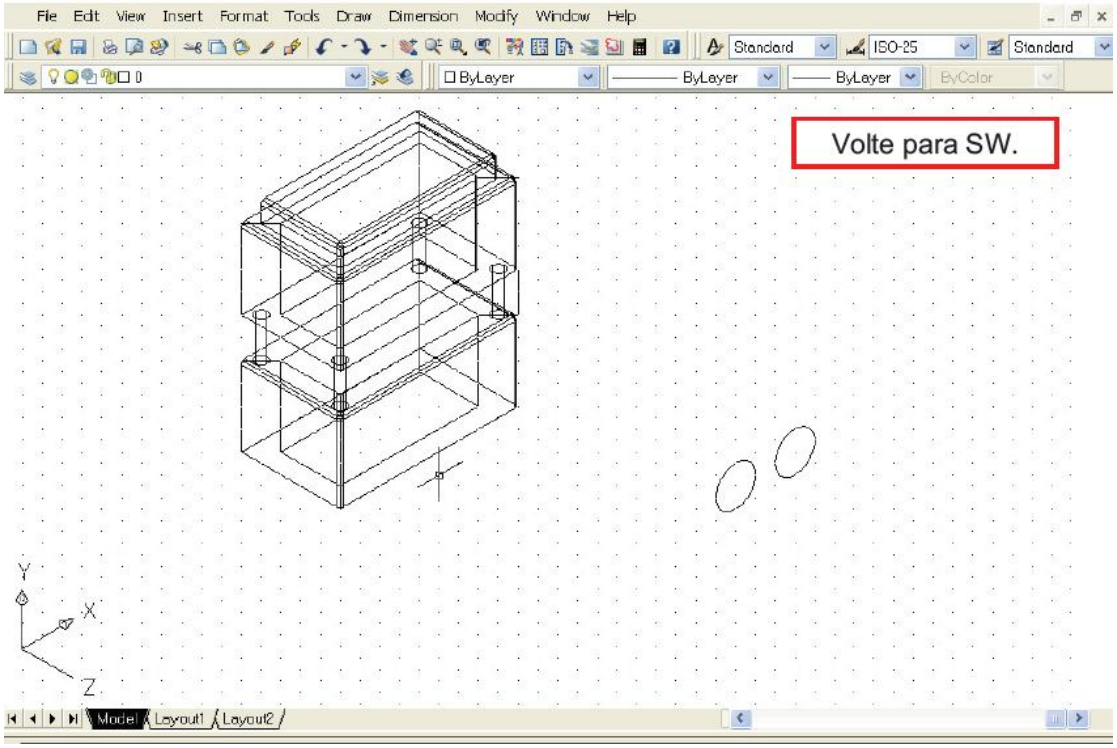

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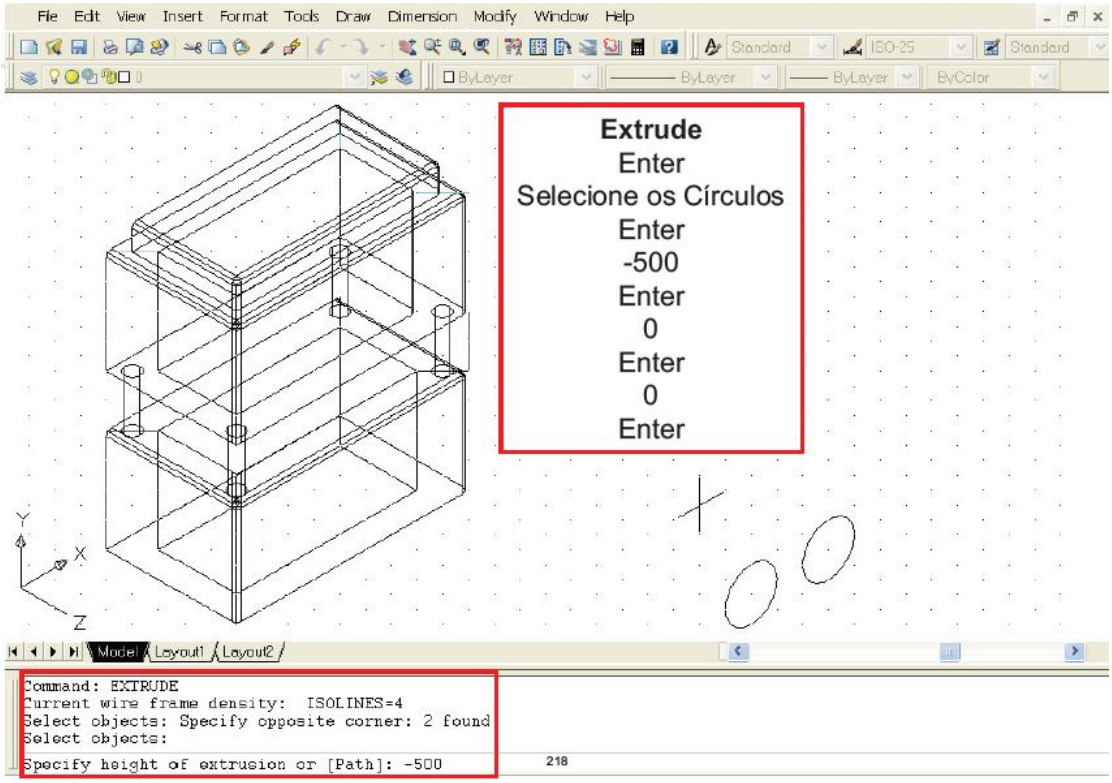

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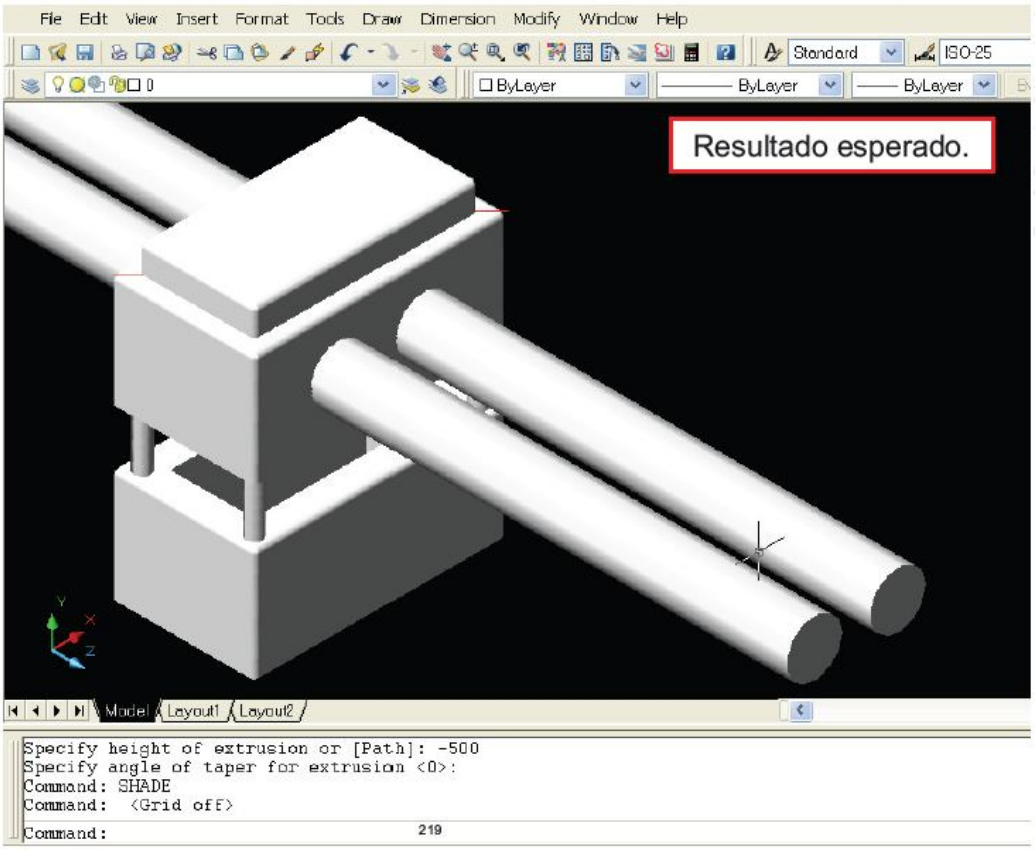

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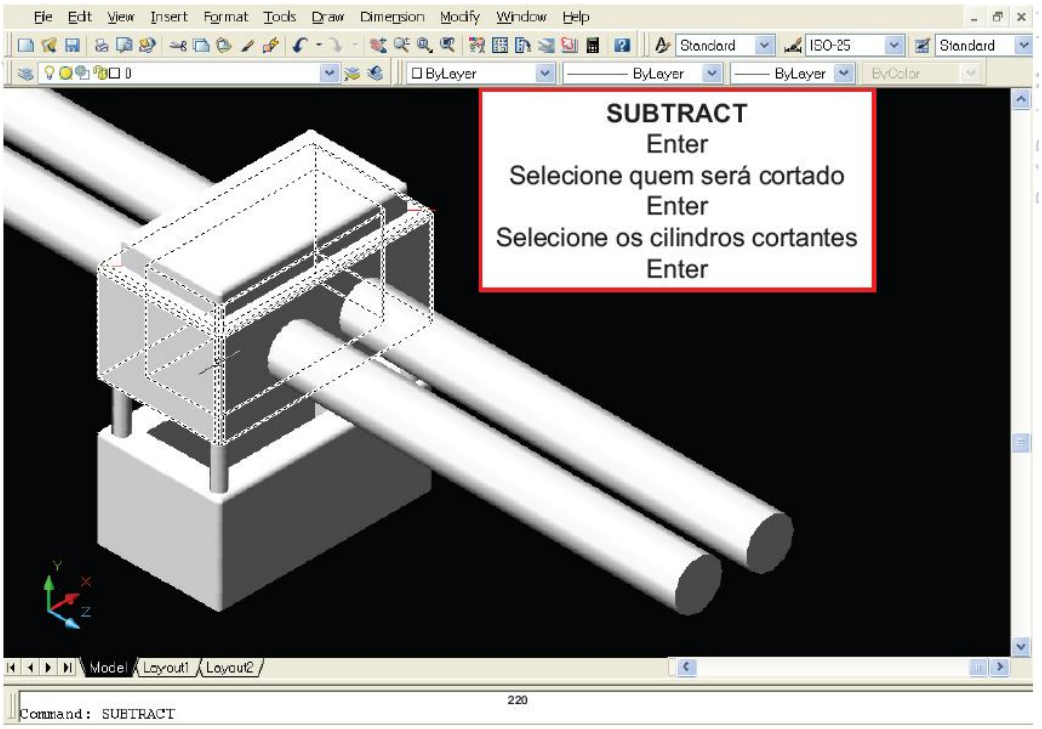

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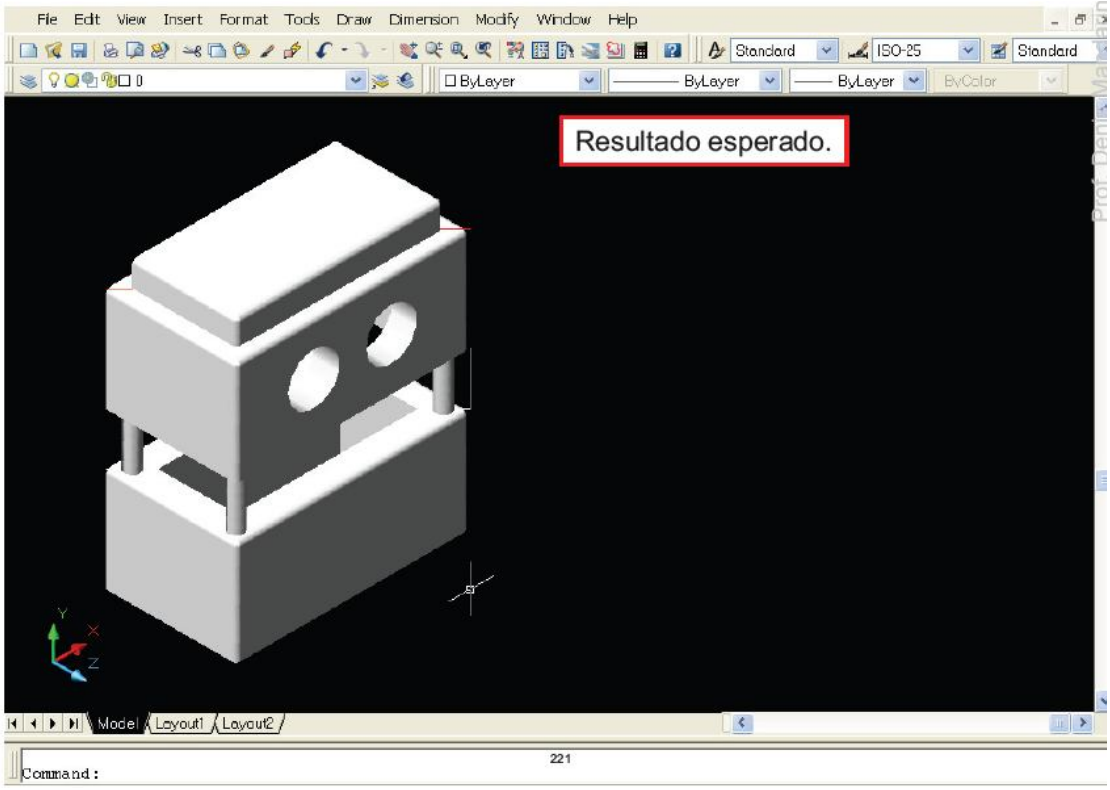

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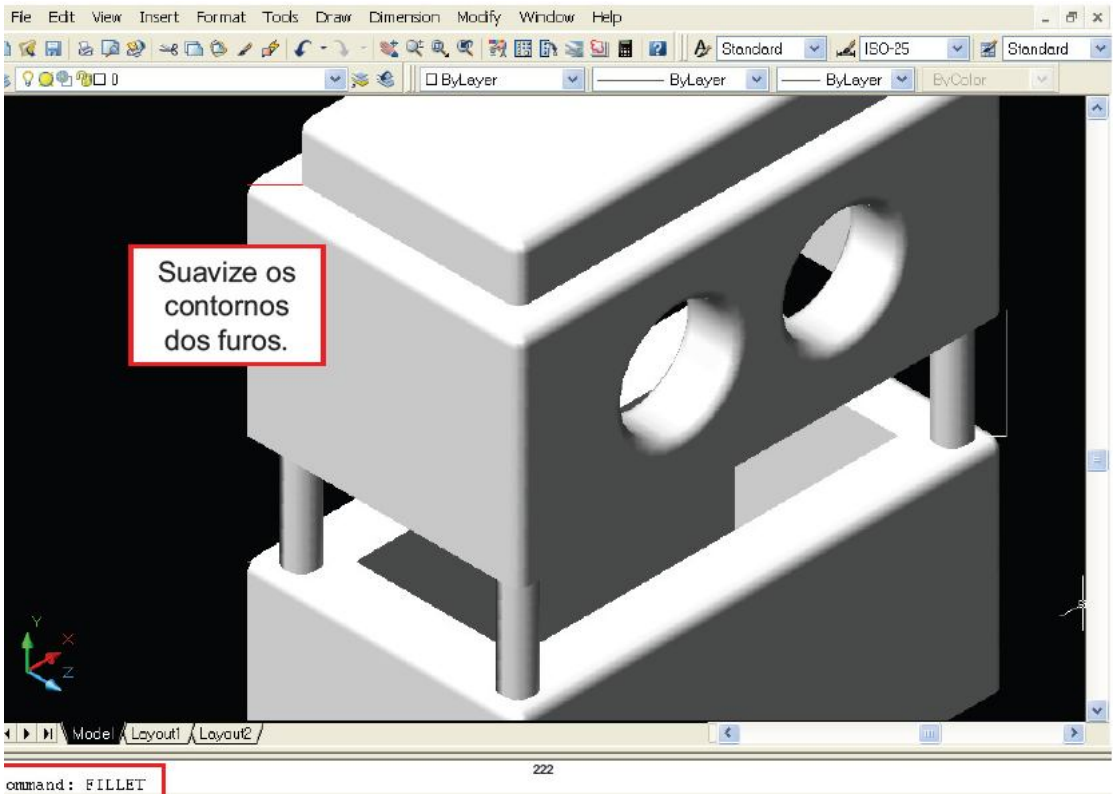

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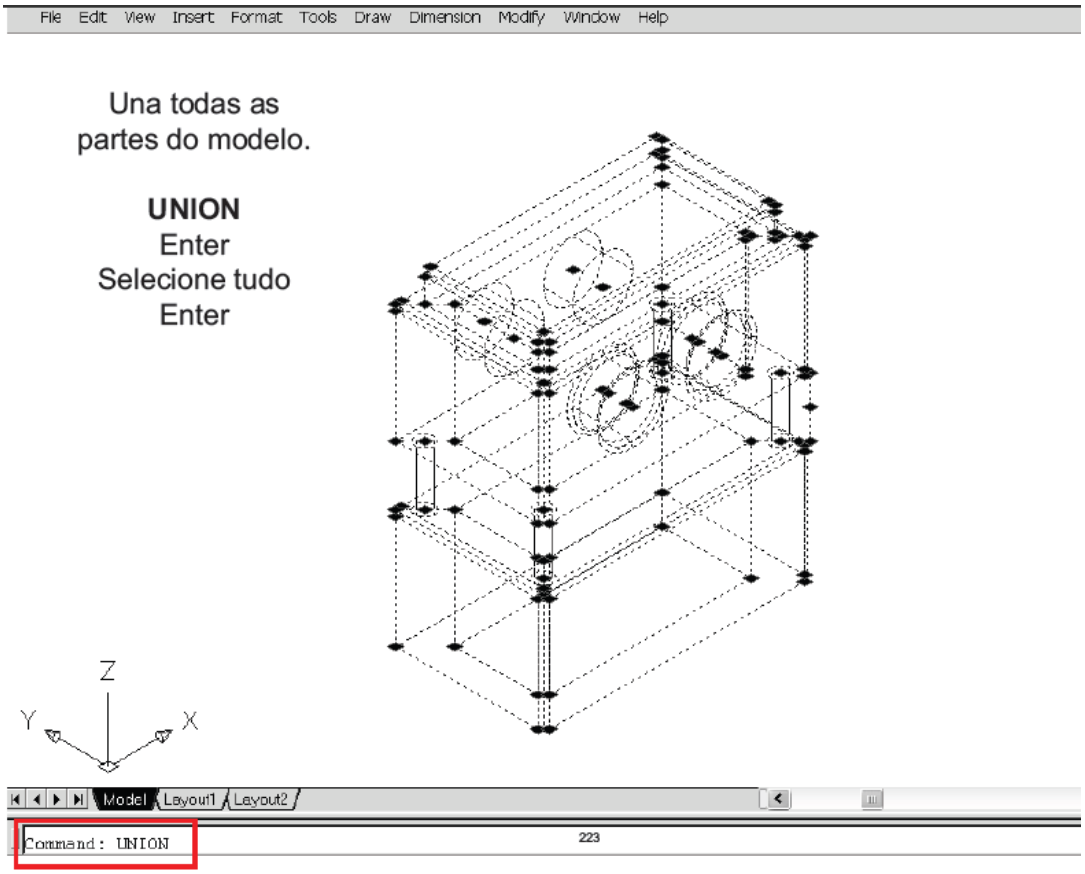

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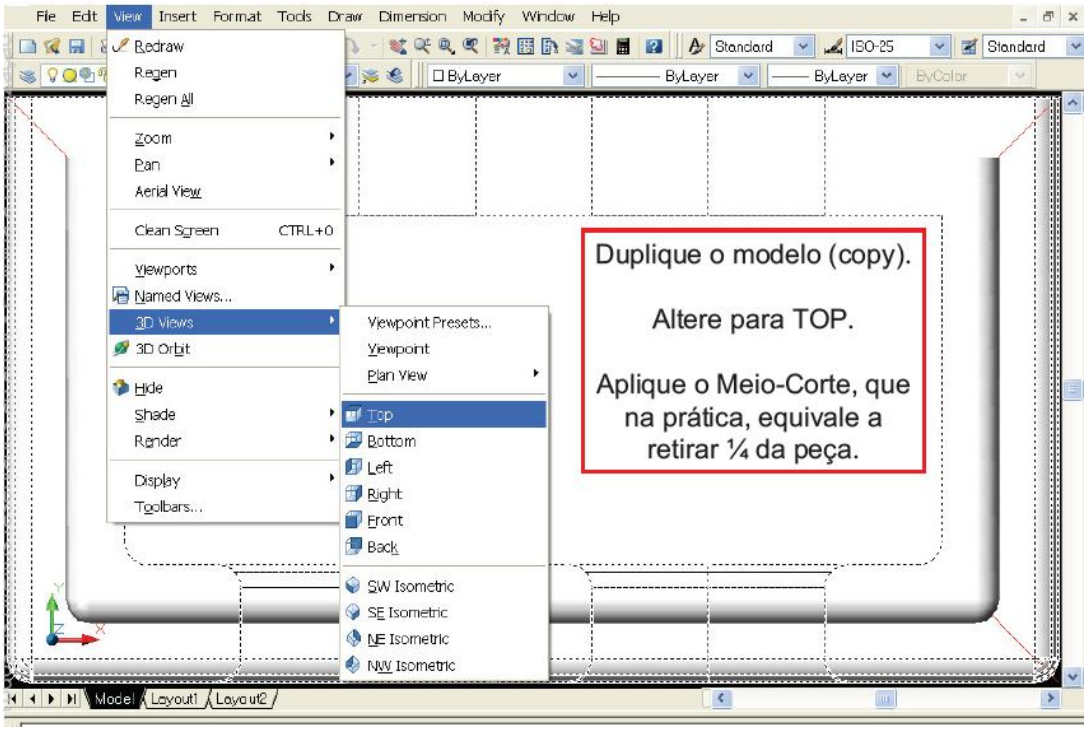

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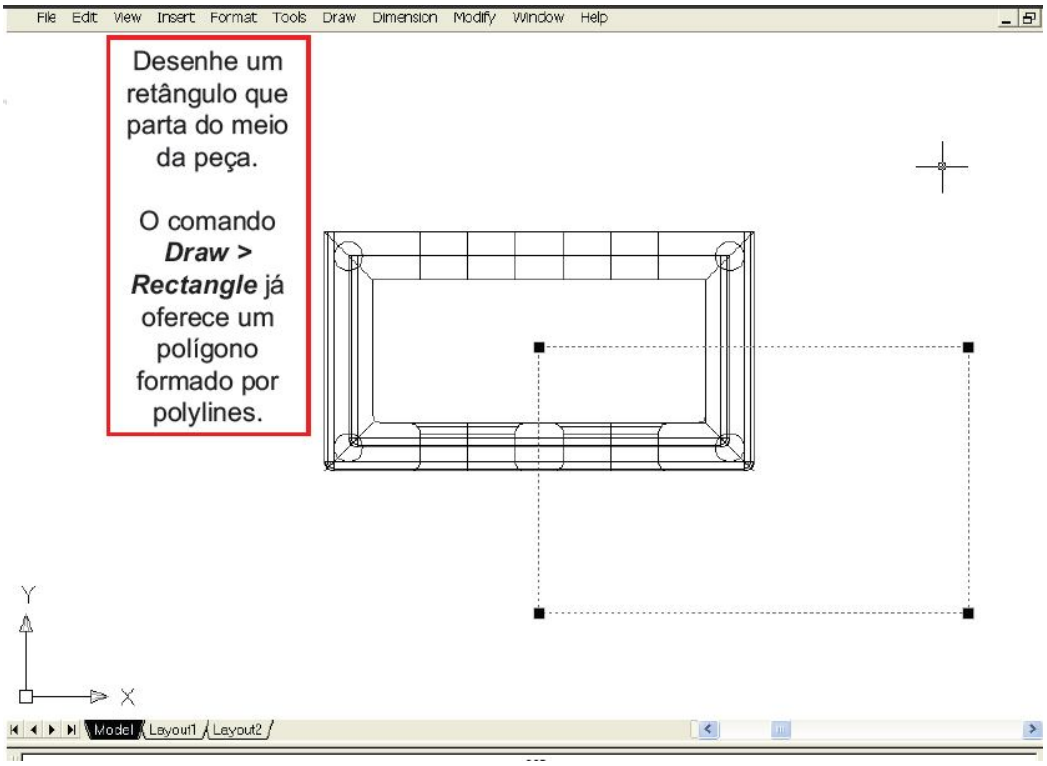

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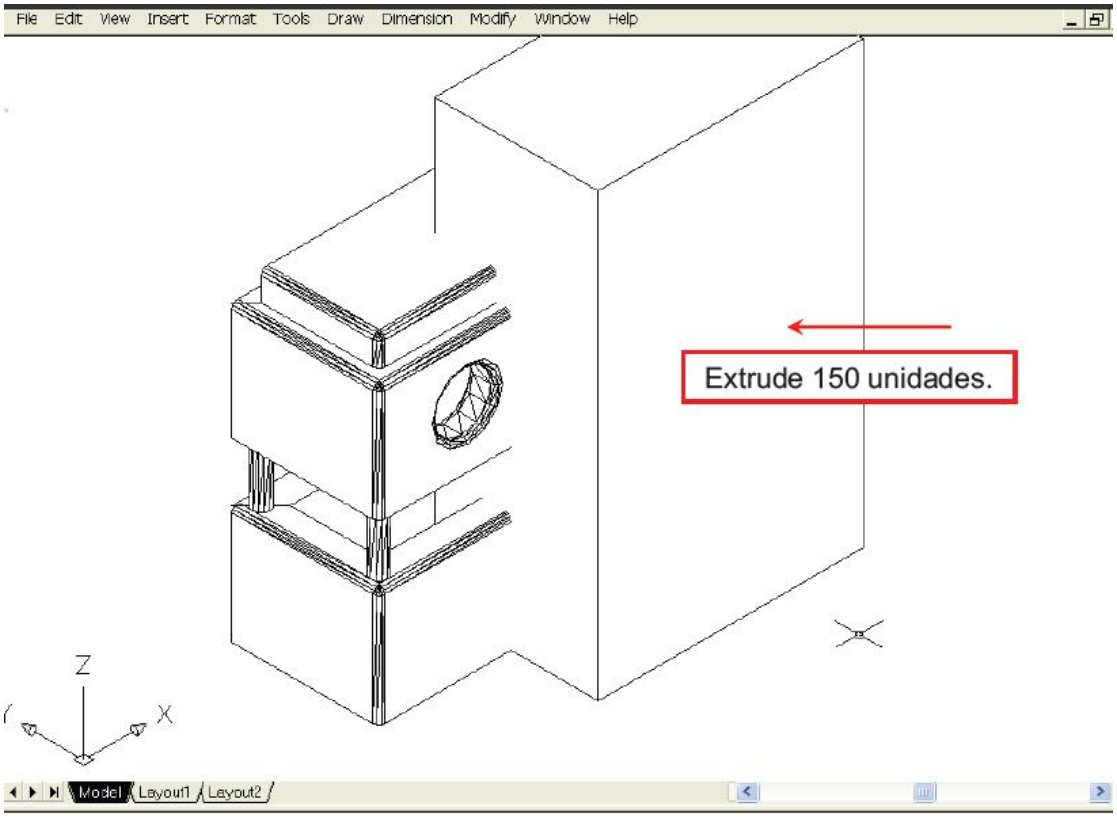

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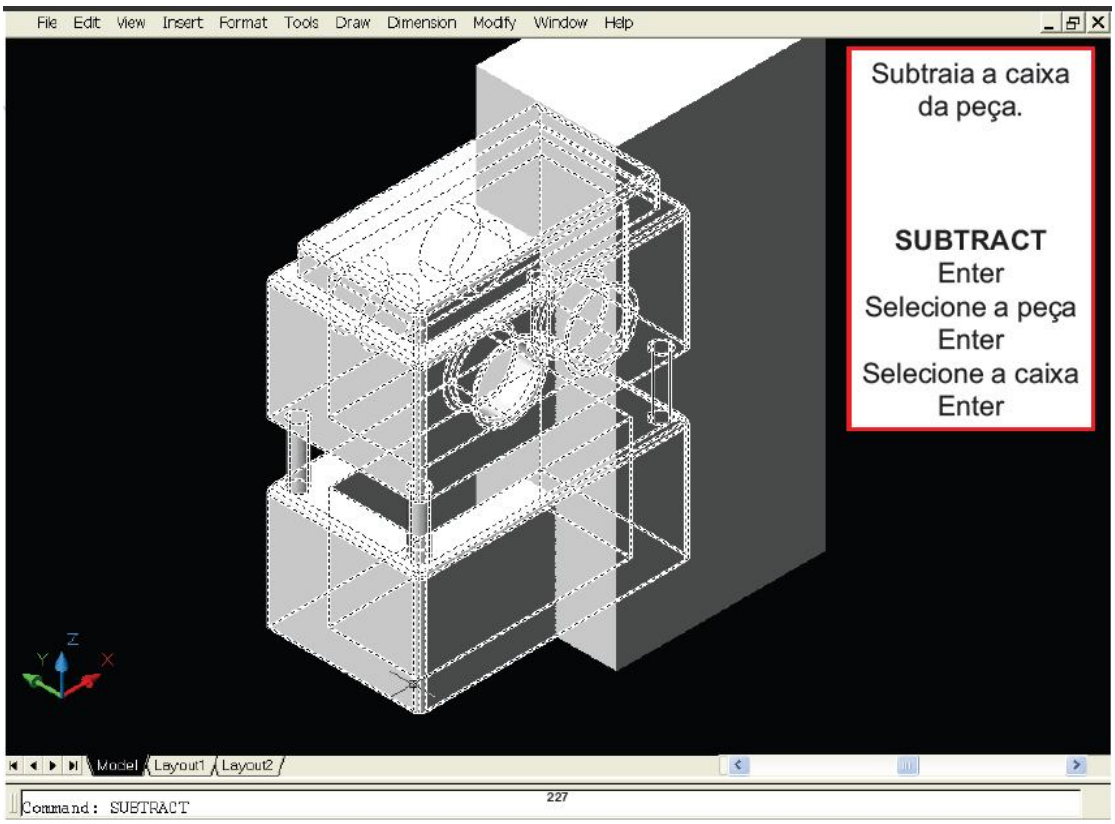

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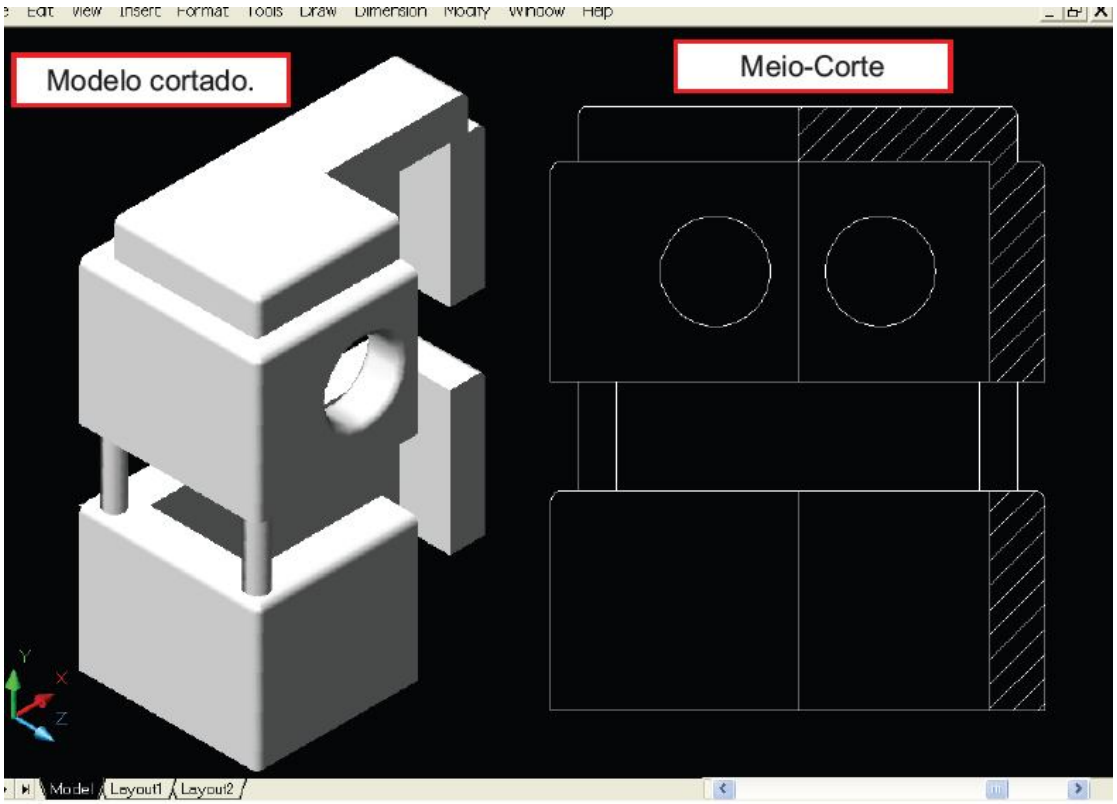

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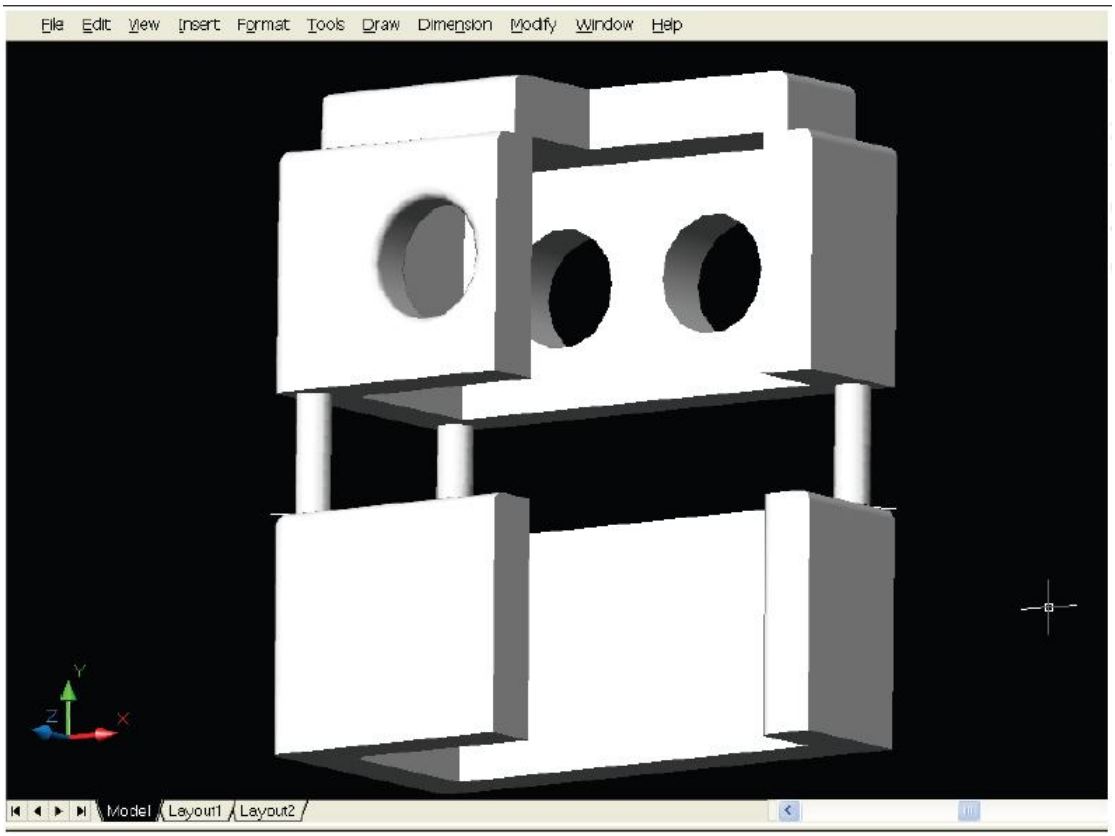

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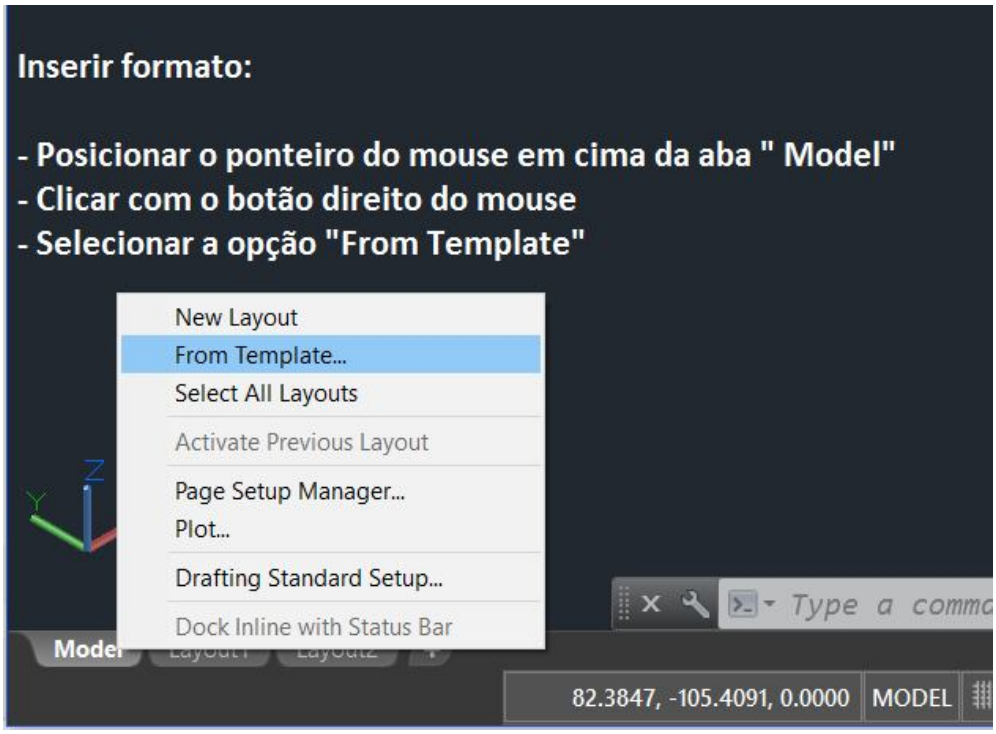

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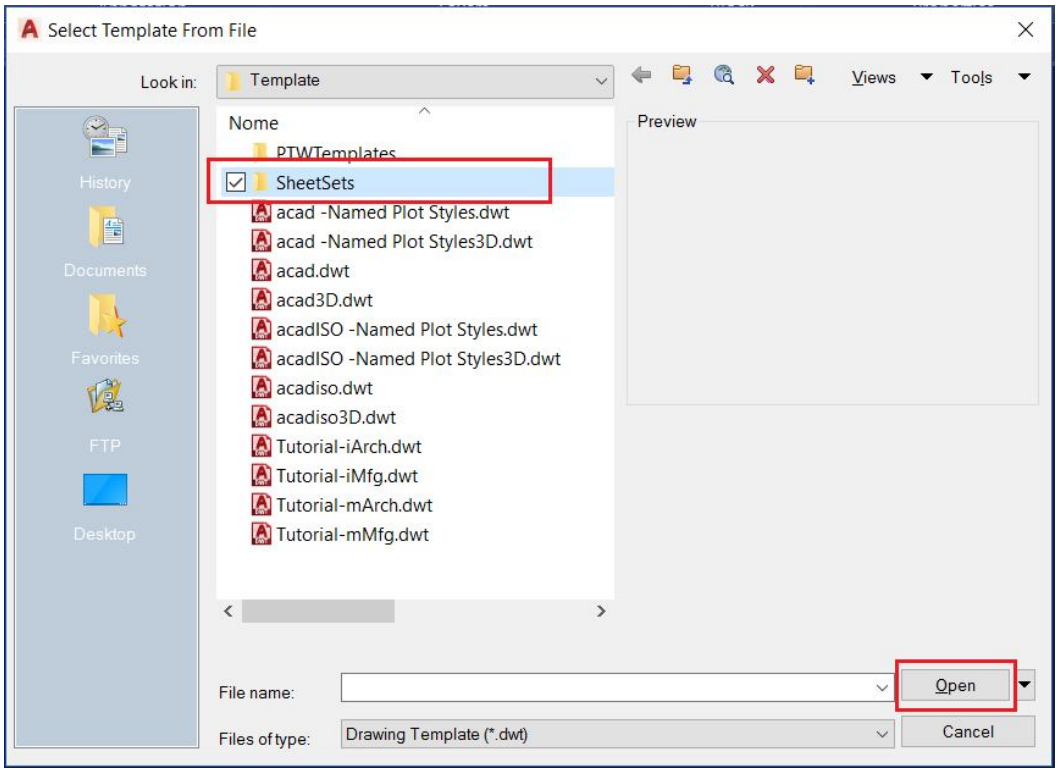

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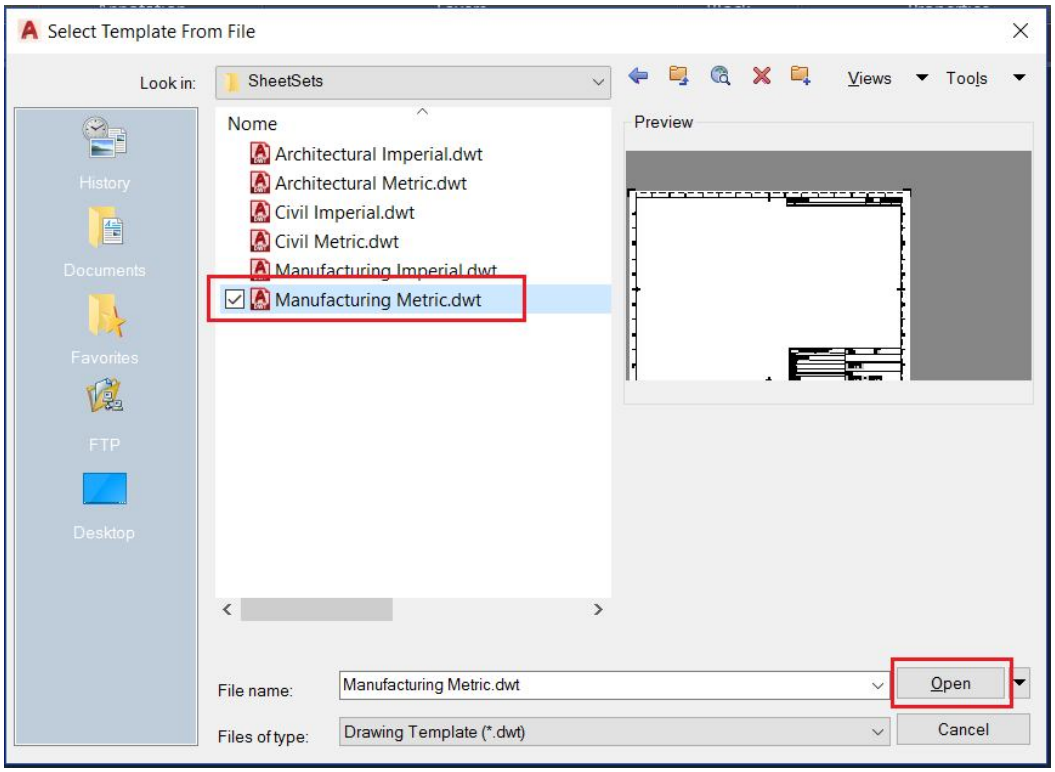
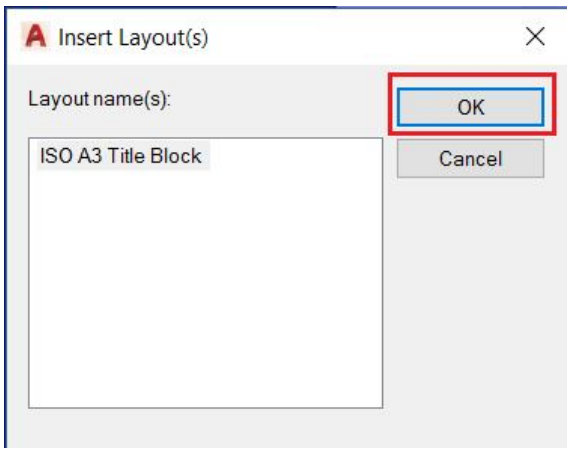
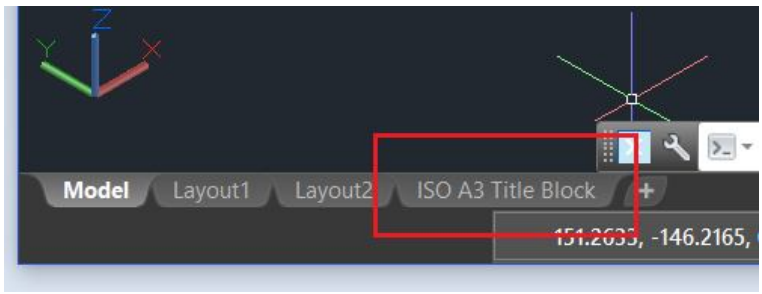


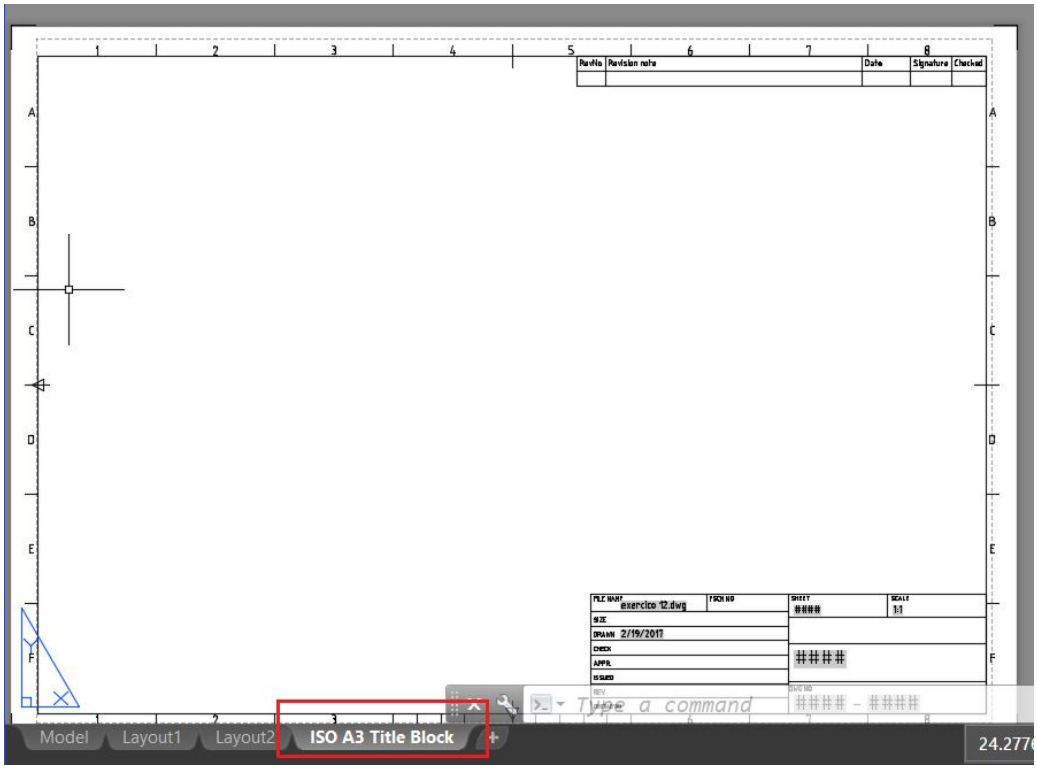
Etapa 45:



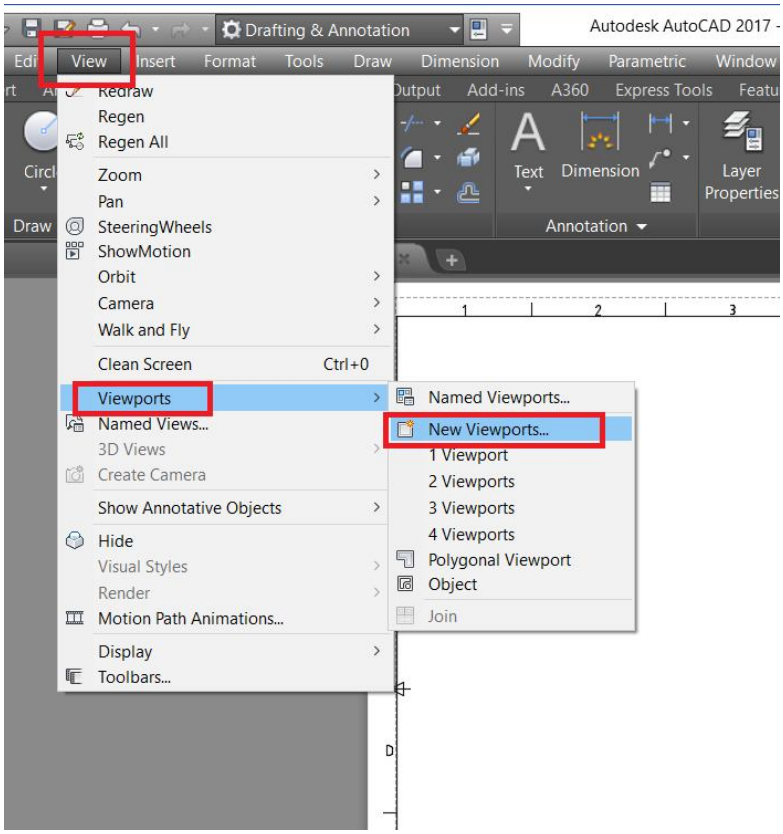
Etapa 46:



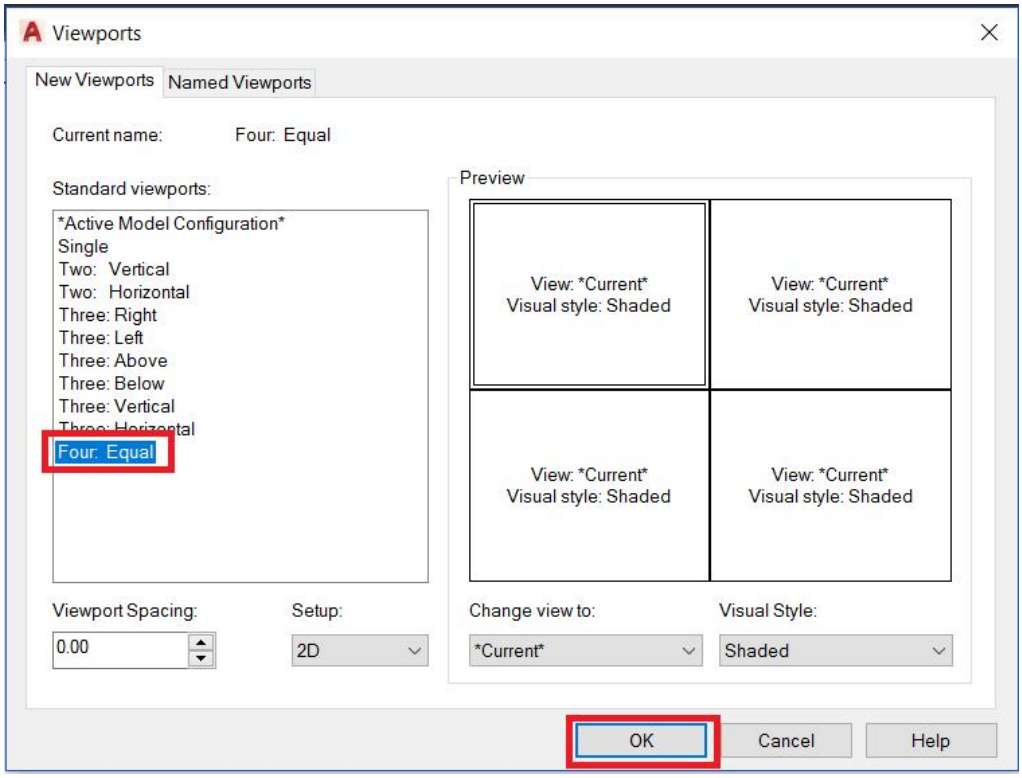
Etapa 47:



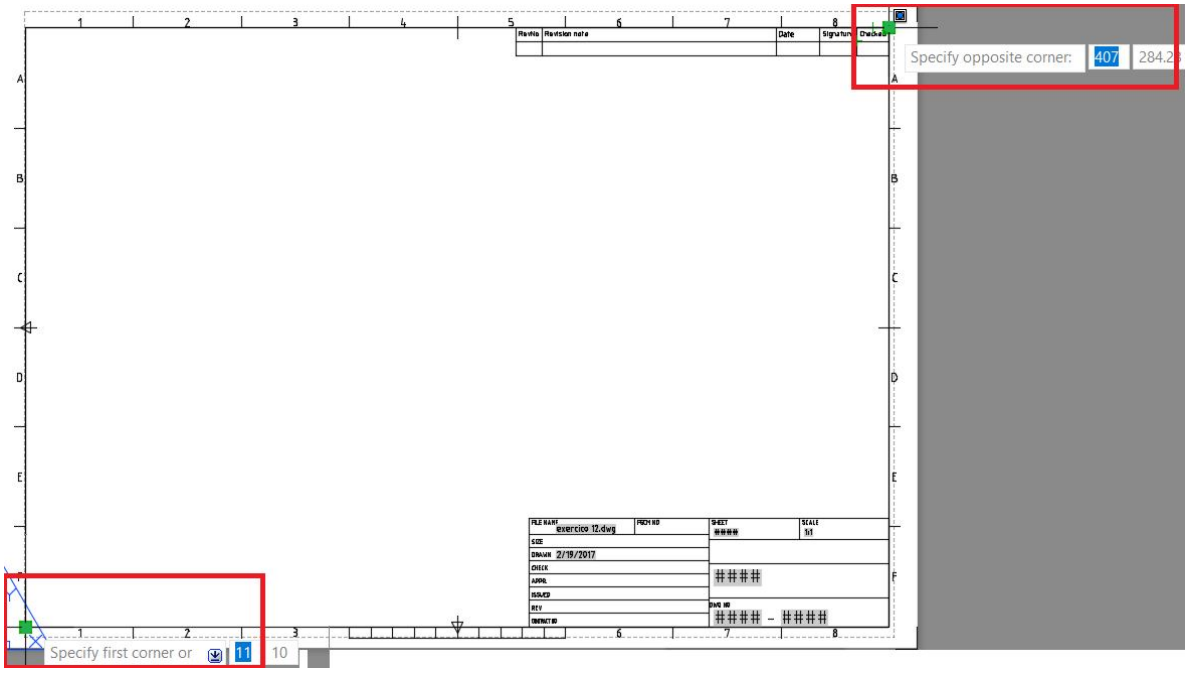
Etapa 48:



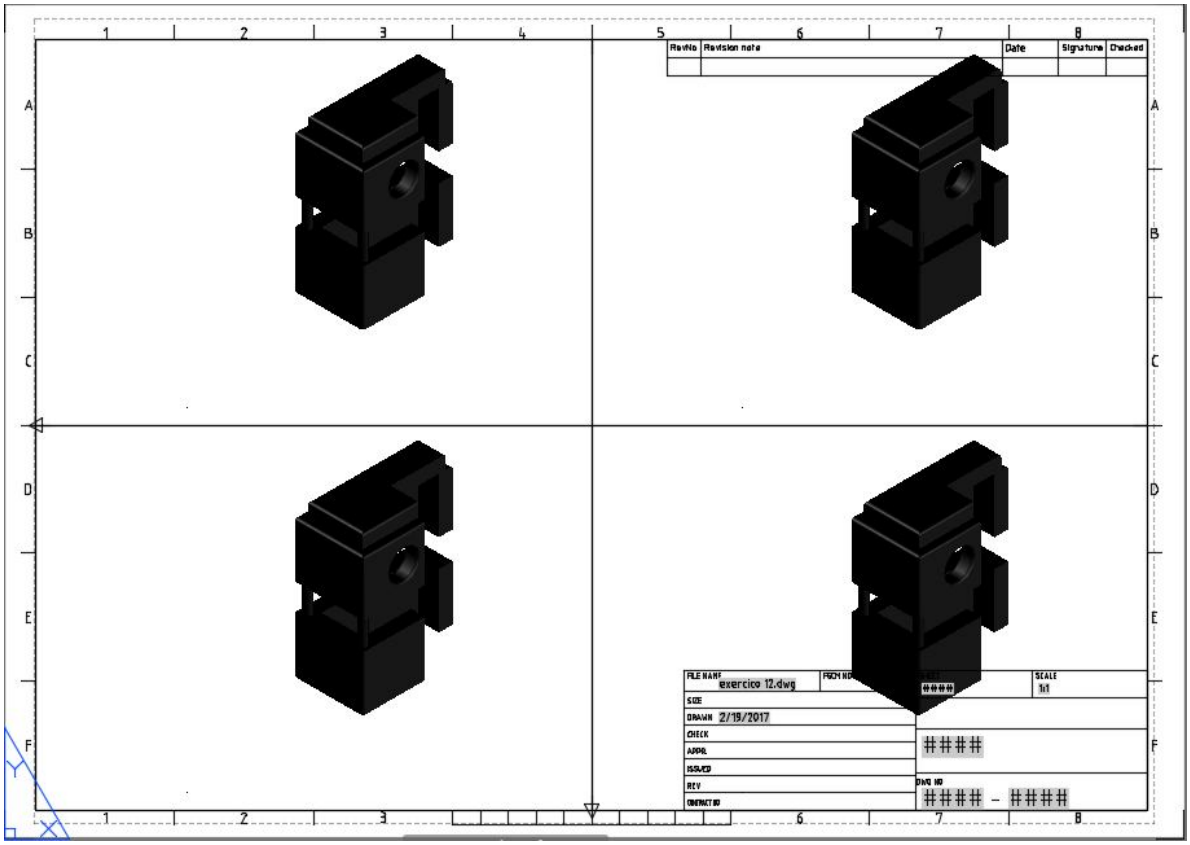
Etapa 49:



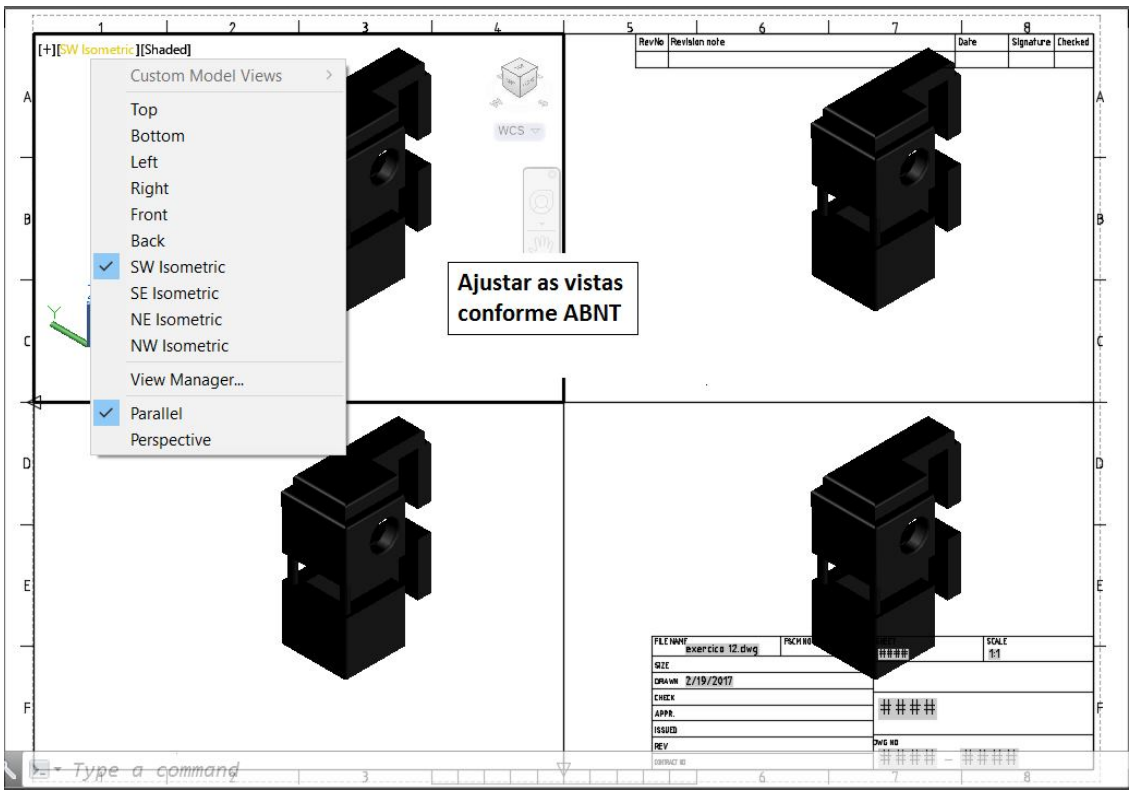
Etapa 50:



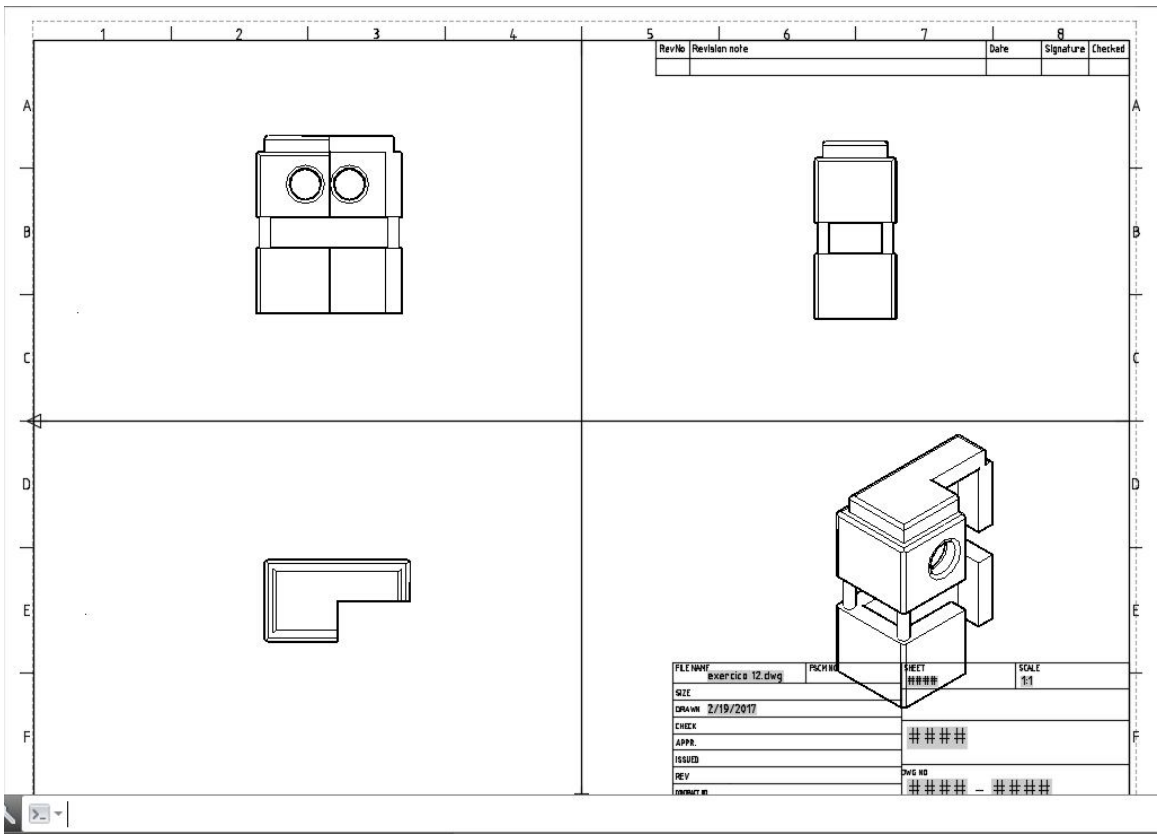
Etapa 51:



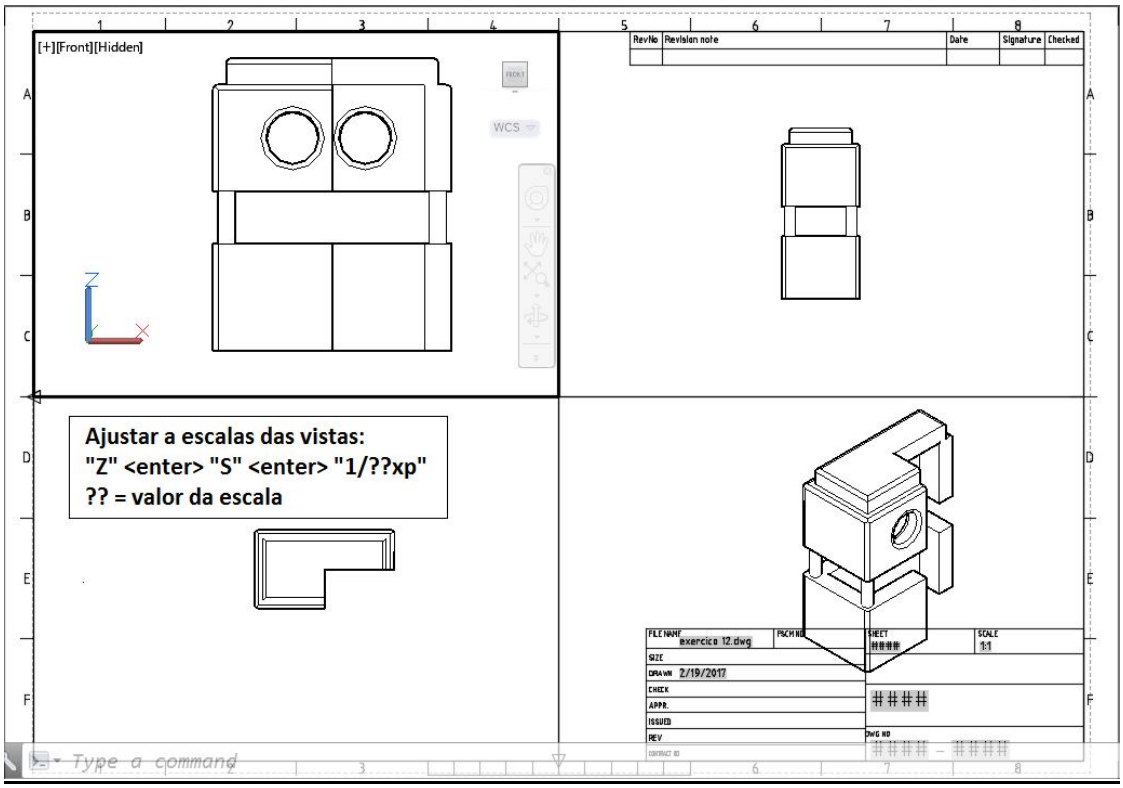
Etapa 52:



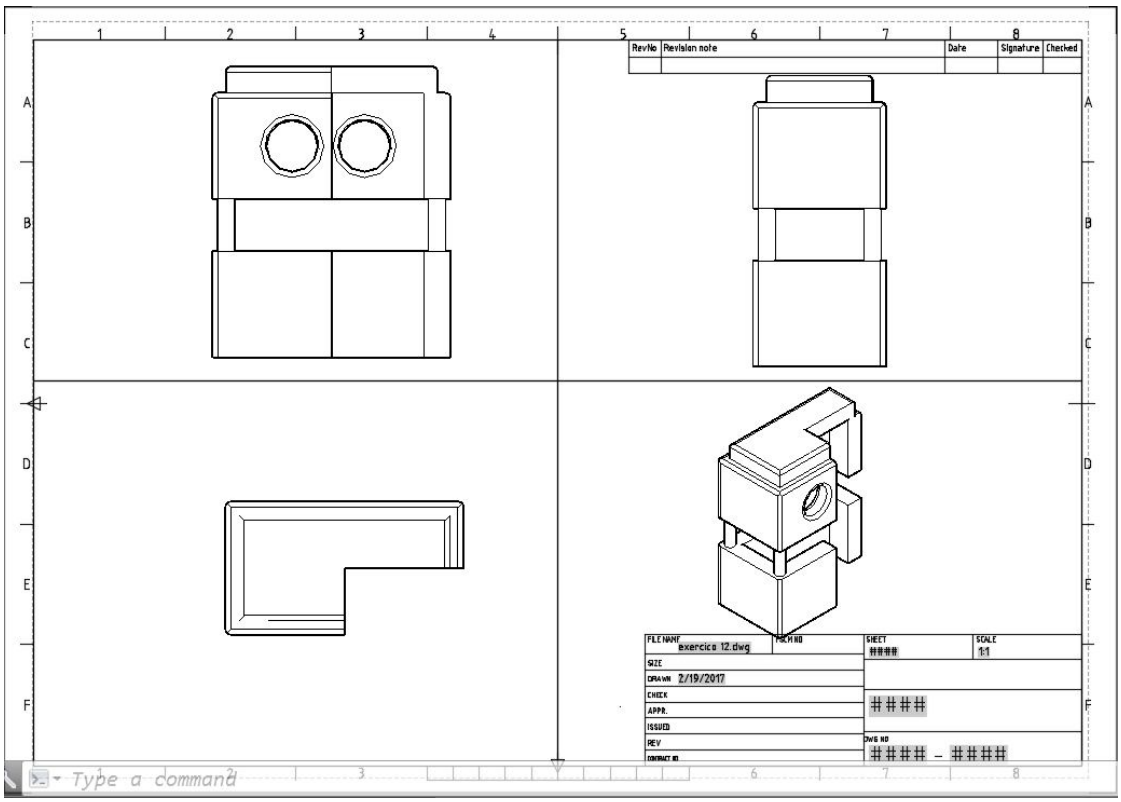
Etapa 53:



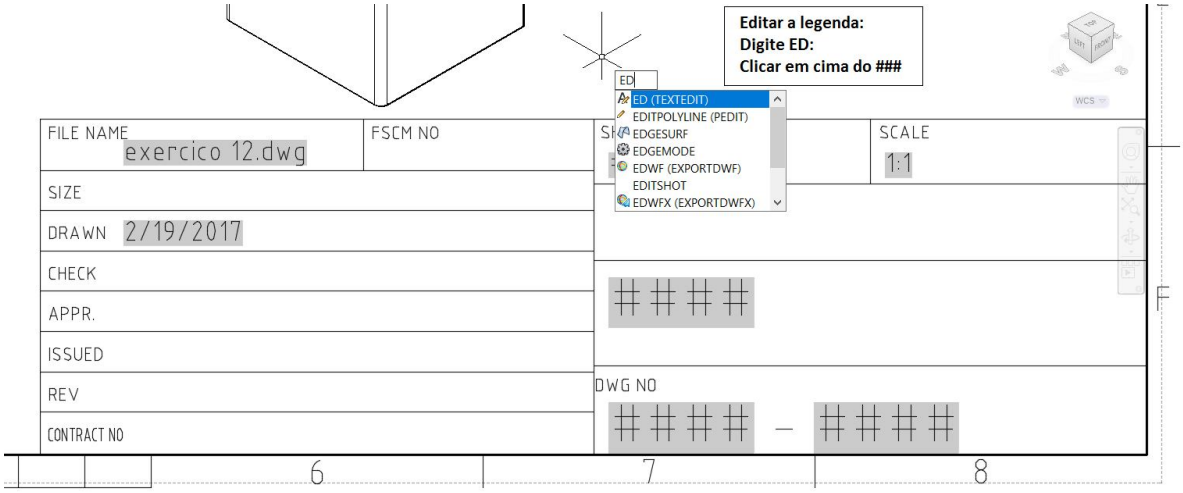
Etapa 54:



Etapa 55:

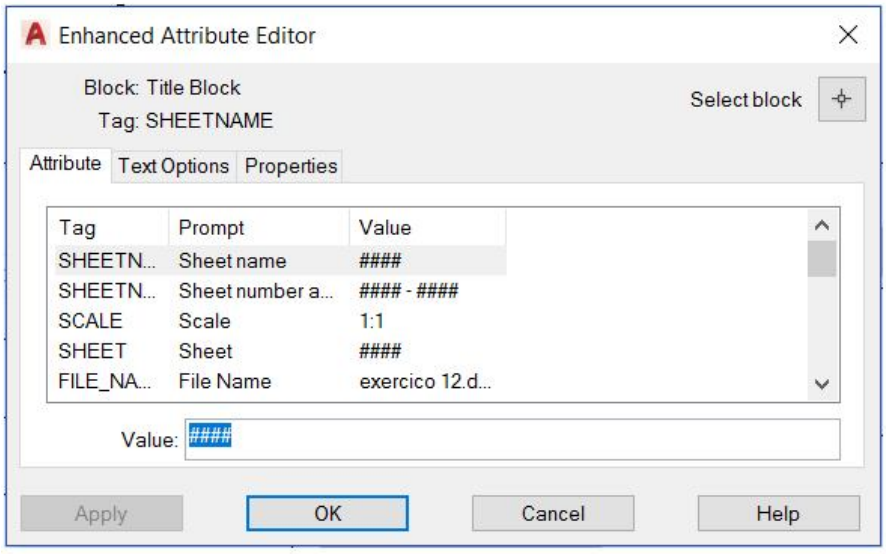


Etapa 56:

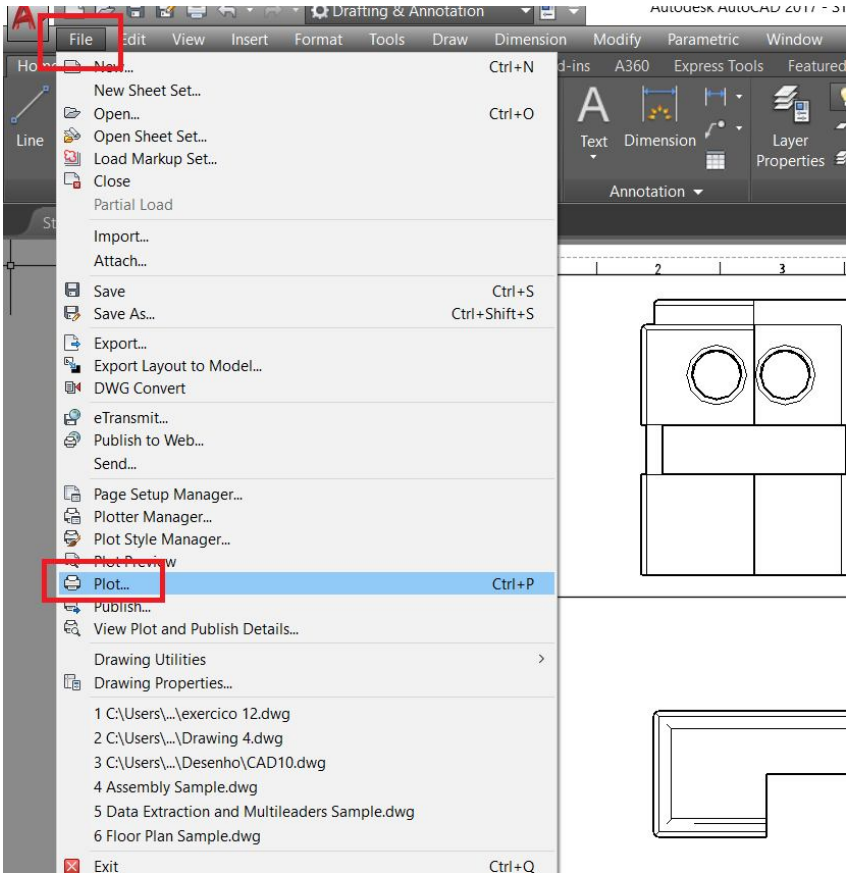


Etapa 57:

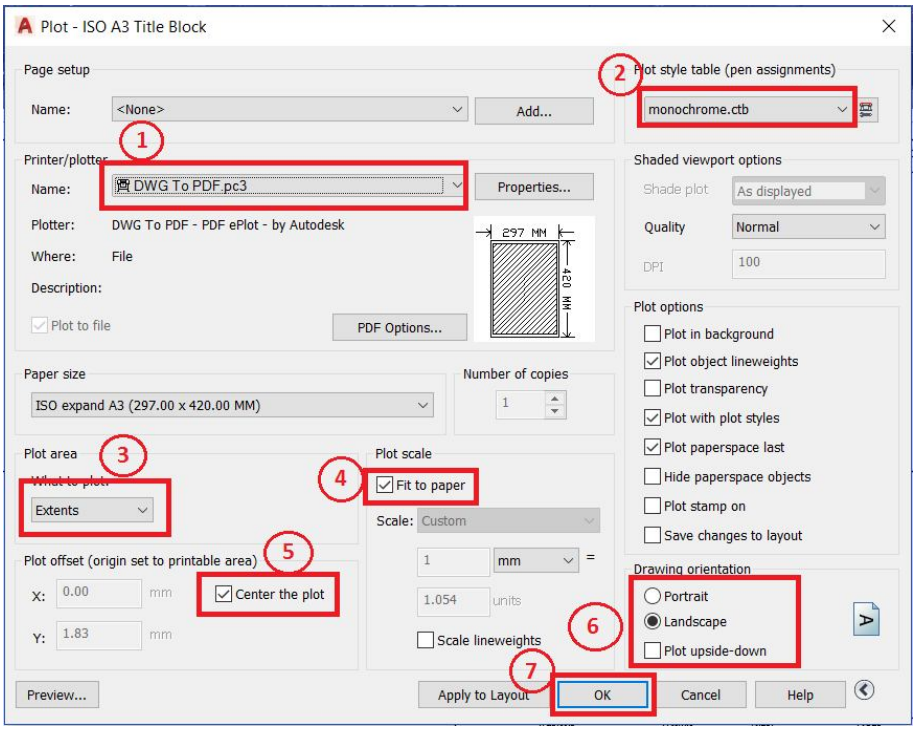
Preencher os campos com o valor desejado, "enter" pula para a próxima linha e "esc" finaliza o comando.



Etapa 58:



Etapa 59:



Etapa 60: