

DESENHO TÉCNICO MECÂNICO I (SEM0564)

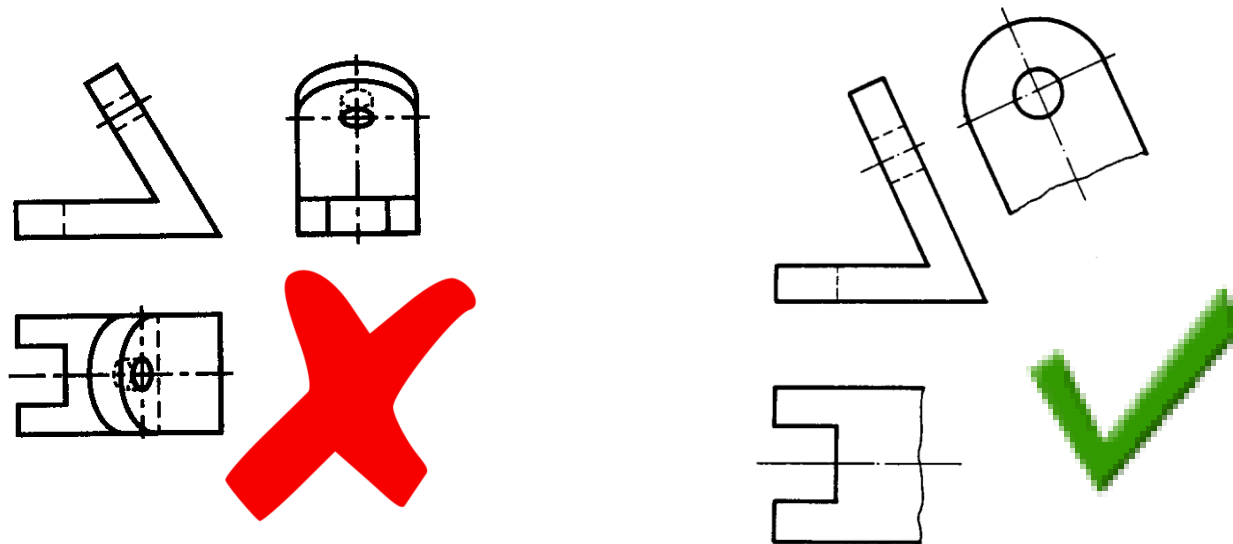
Aula 03 –

- 1 Vistas auxiliares,*
- 2 Projeção de peças com rotação,*
- 3 Vistas especiais,*
- 4 Vistas localizadas*
- 5 Vistas simplificadas.*

1.0 - VISTAS AUXILIARES ou projeção ortogonal especial

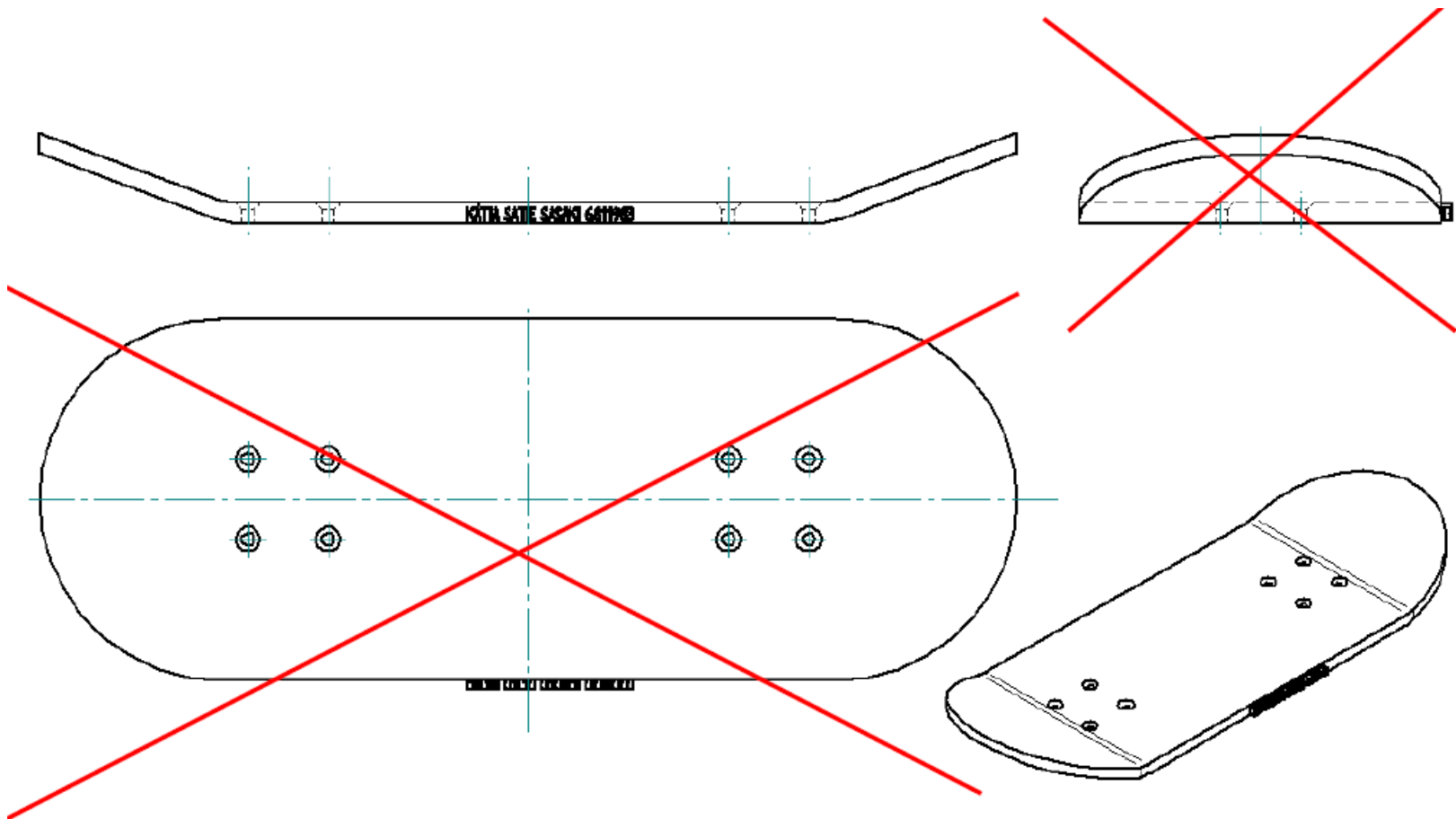
1.1 O que são VISTAS AUXILIARES?

São vistas que possibilitam mostrar faces oblíquas de peças de maneira que não fiquem distorcidas.



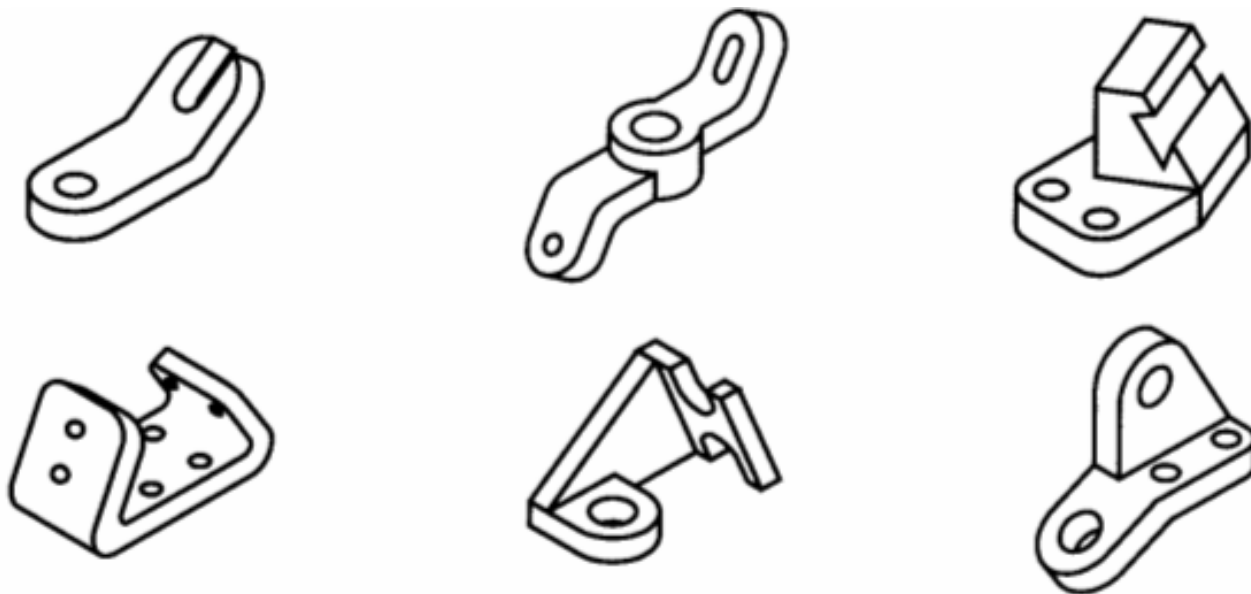
Imagens: Leitura e Interpretação de Desenho Técnico Mecânico. Mecânica. Telecurso 2000.

Exemplo que deveria ter sido representado com **vistas auxiliares**:



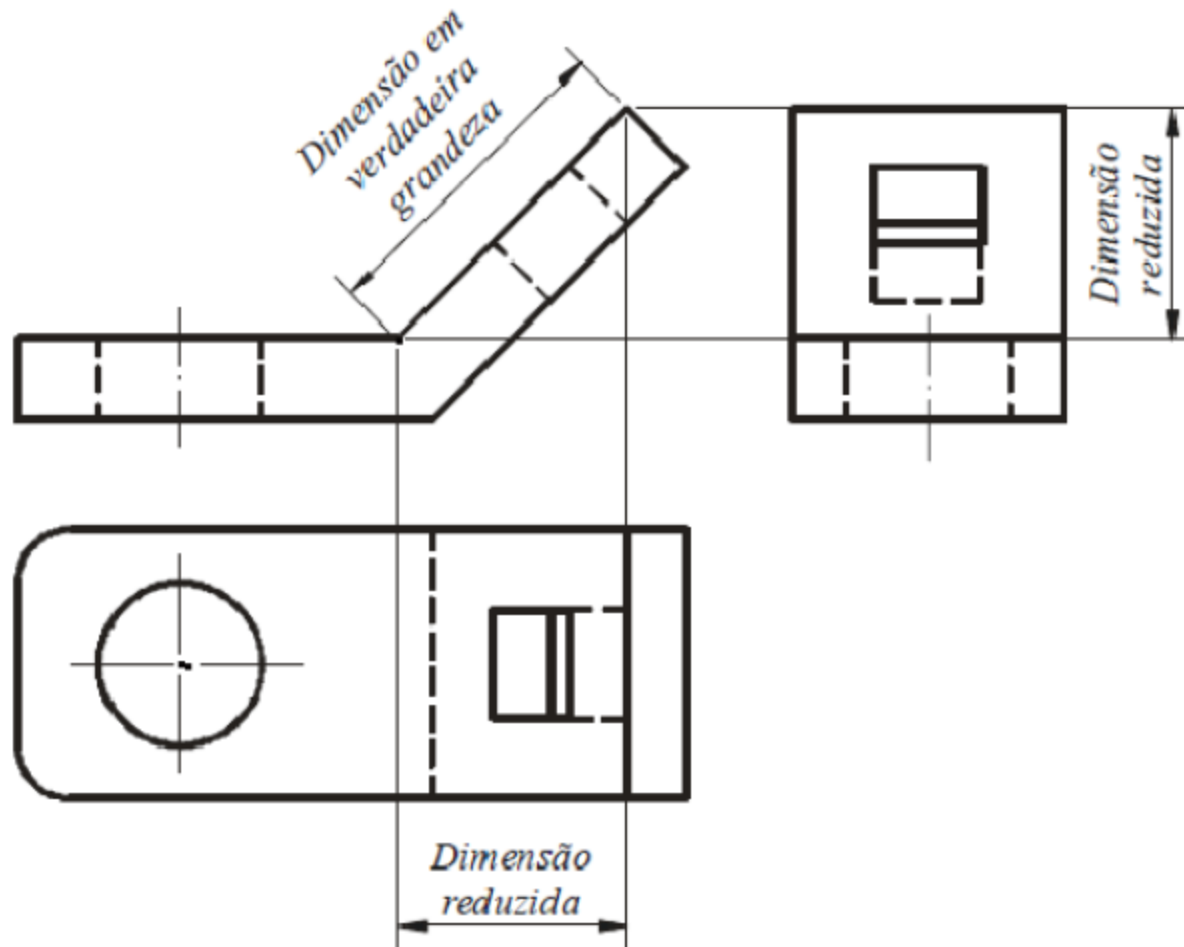
1.2 Onde usar as VISTAS AUXILIARES?

É necessário usar as VISTAS AUXILIARES em peças cujas projeções ortogonais ficam distorcidas devido a uma (ou mais) face(s) oblíqua(s) ou onde se deseja representar uma vista em verdadeira grandeza.



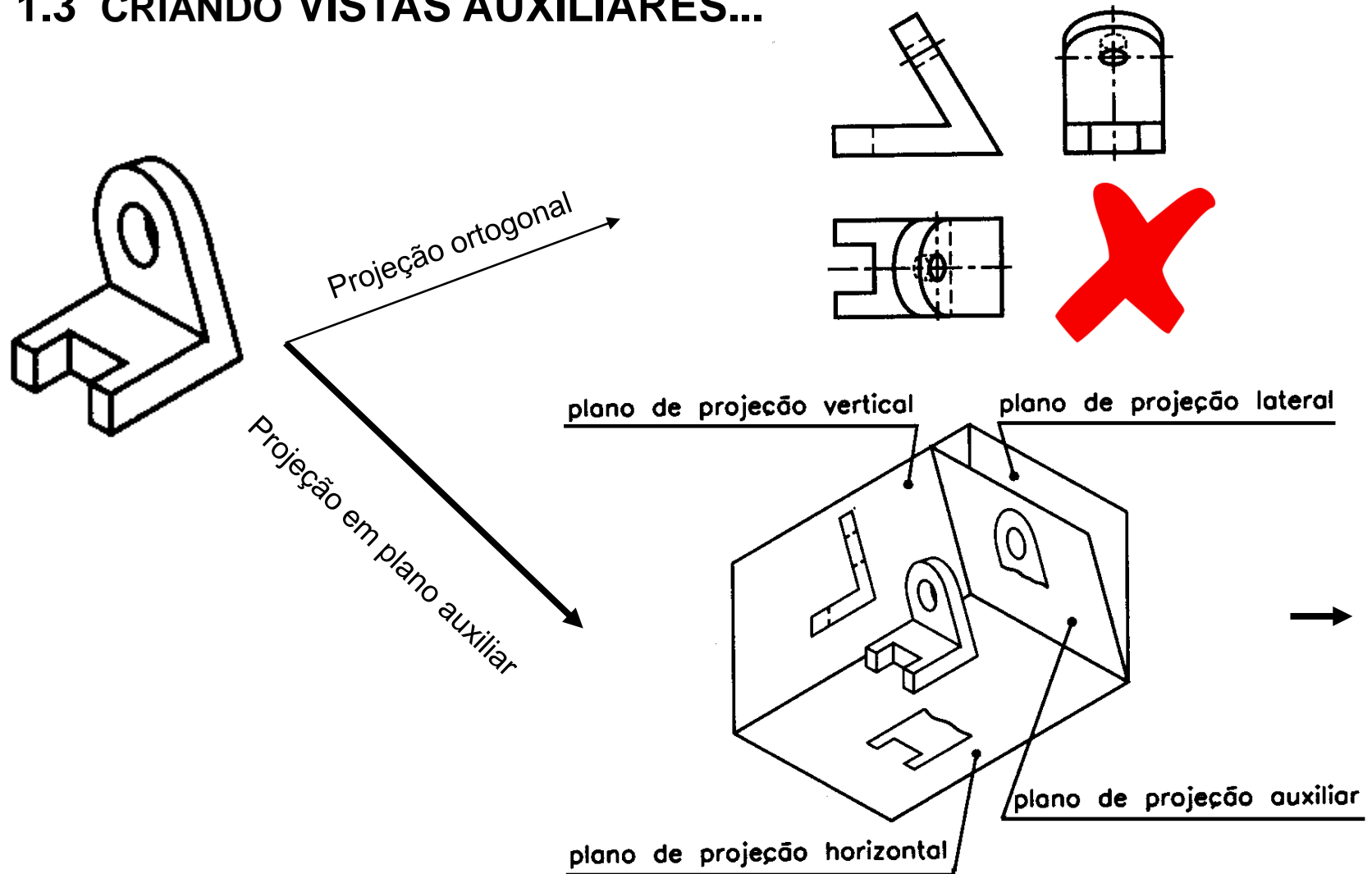
Imagens: Leitura e Interpretação de Desenho Técnico Mecânico. Mecânica. Telecurso 2000.

1.2 Onde usar as VISTAS AUXILIARES? - EXEMPLO



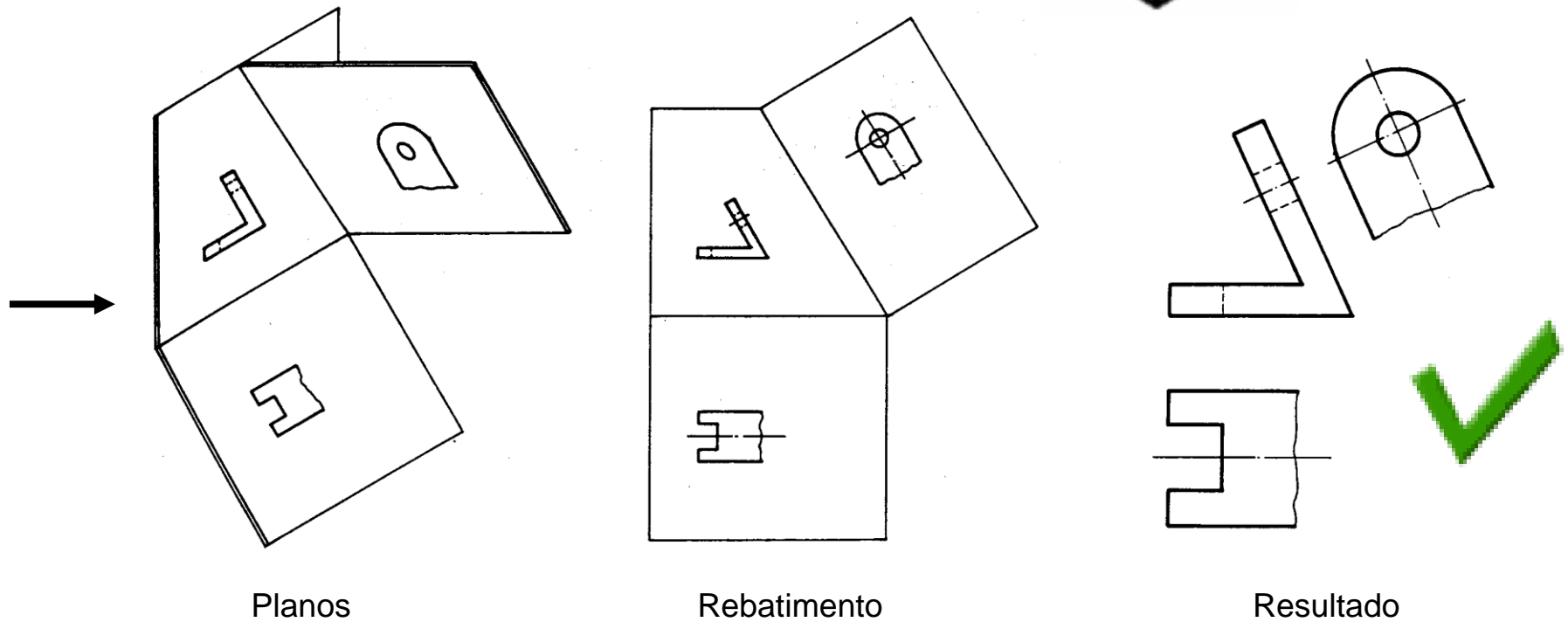
Imagens: Leitura e Interpretação de Desenho Técnico Mecânico. Mecânica. Telecurso 2000.

1.3 CRIANDO VISTAS AUXILIARES...



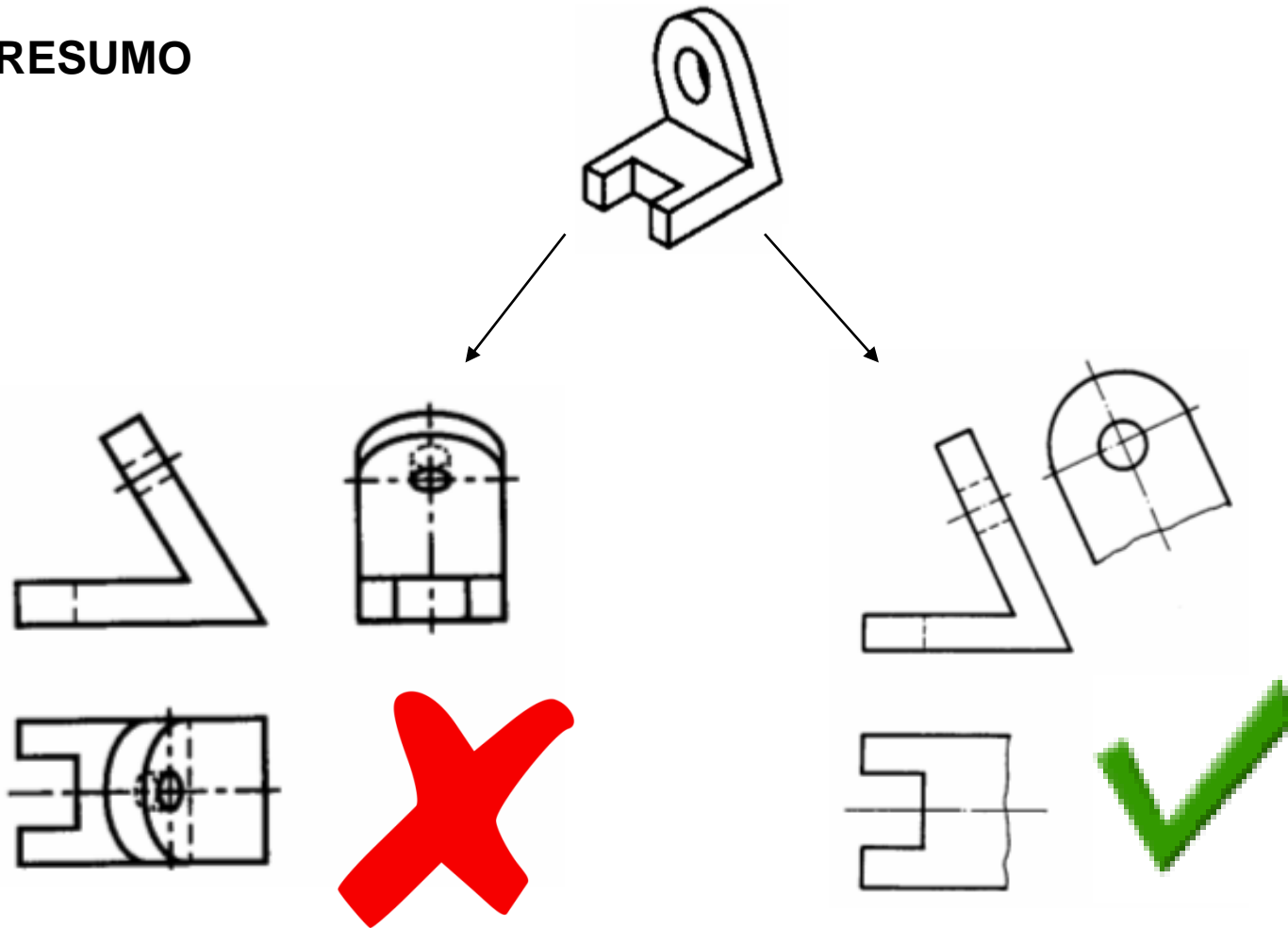
Imagens: Leitura e Interpretação de Desenho Técnico Mecânico. Mecânica. Telecurso 2000.

...REBATIMENTO DO PLANO AUXILIAR...



Imagens: Leitura e Interpretação de Desenho Técnico Mecânico. Mecânica. Telecurso 2000.

...RESUMO

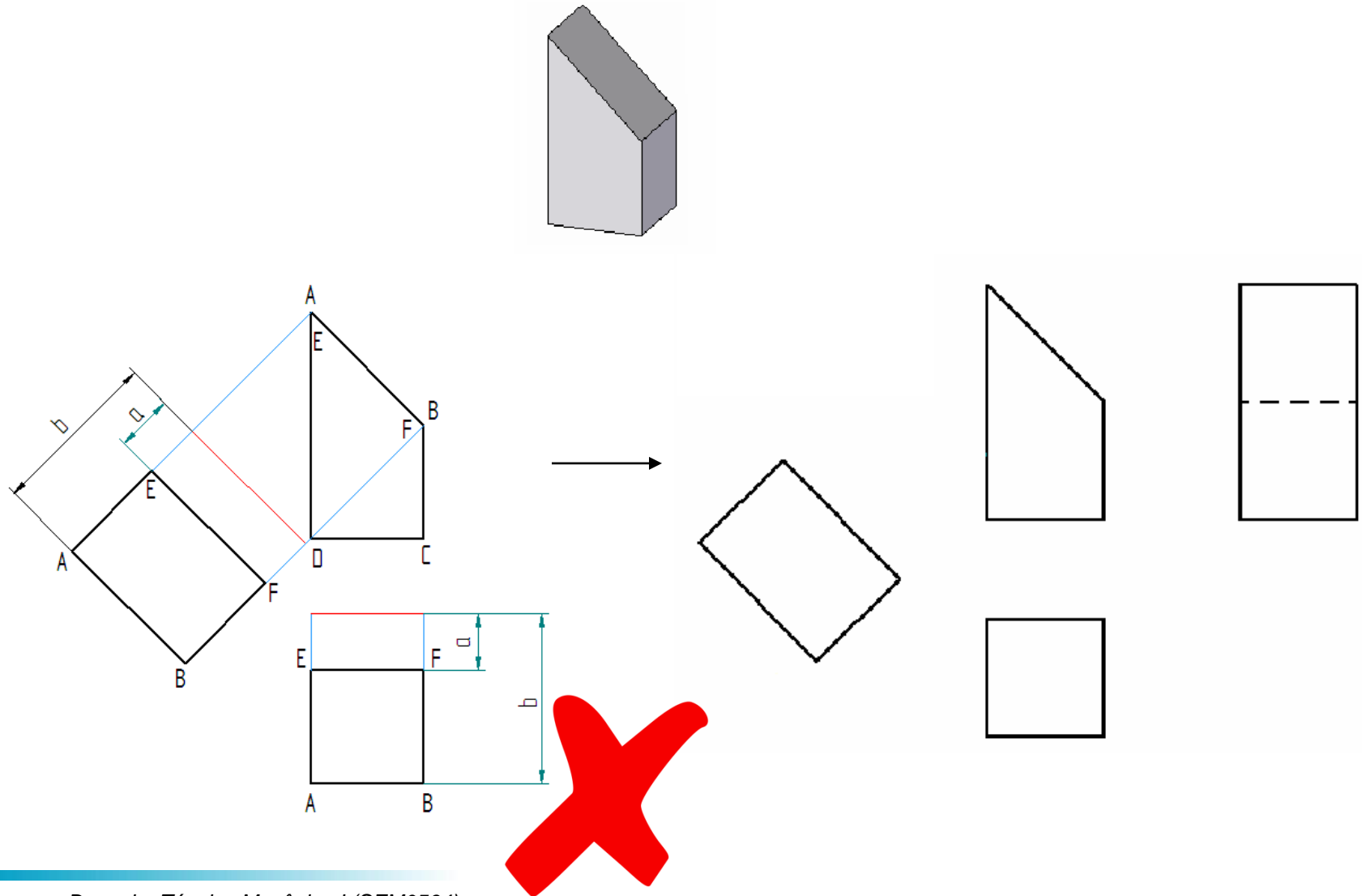


Projeção – plano ortogonal

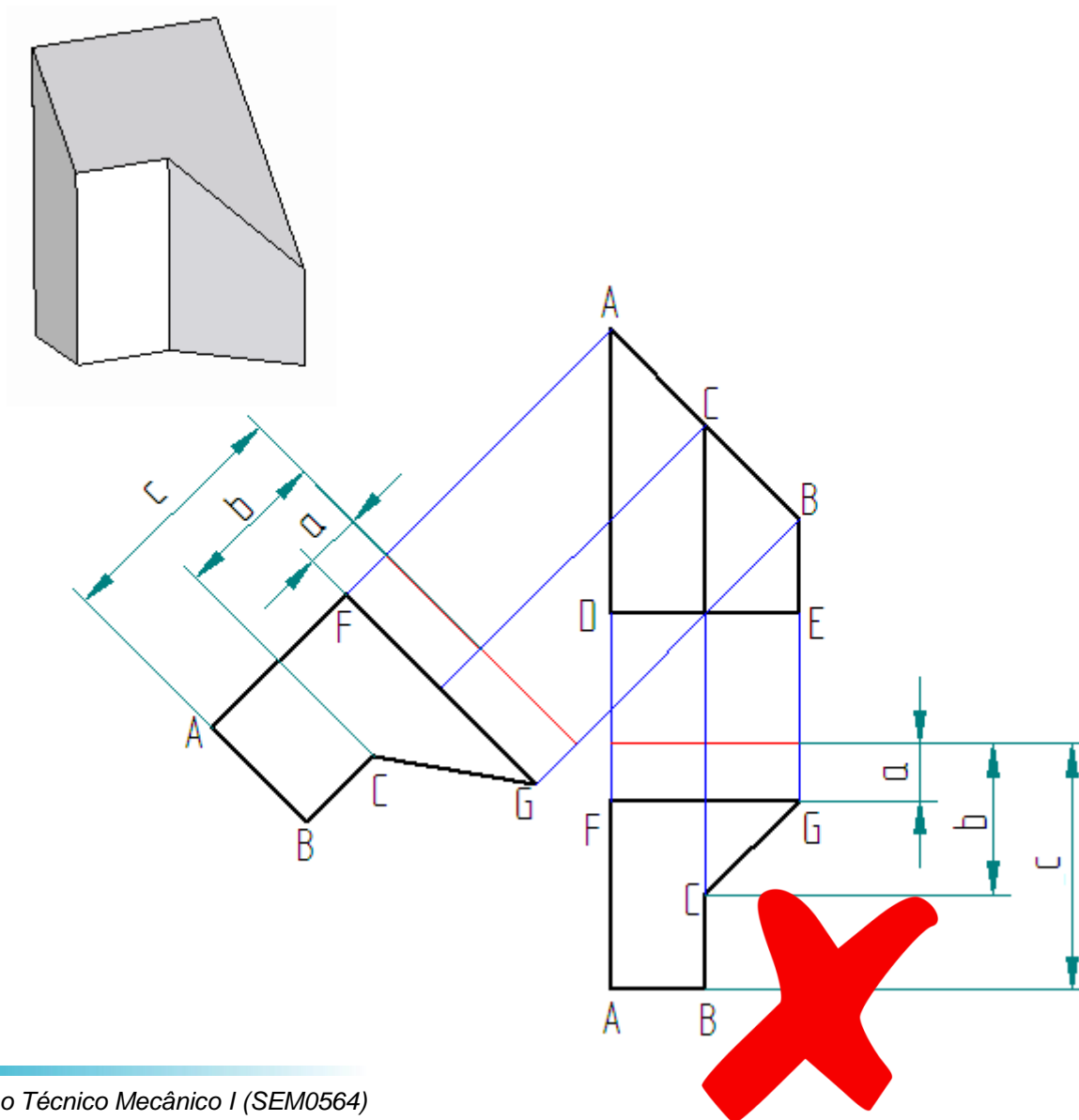
Projeção usando plano auxiliar

Imagens: Leitura e Interpretação de Desenho Técnico Mecânico. Mecânica. Telecurso 2000.

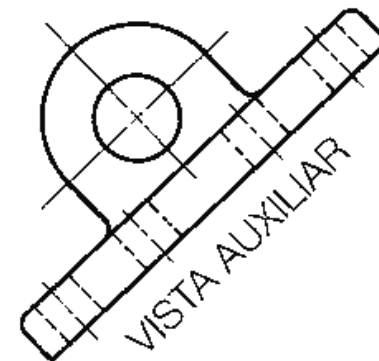
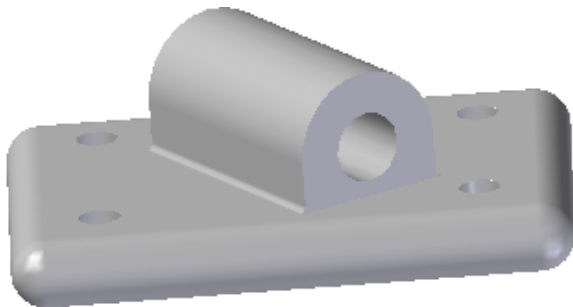
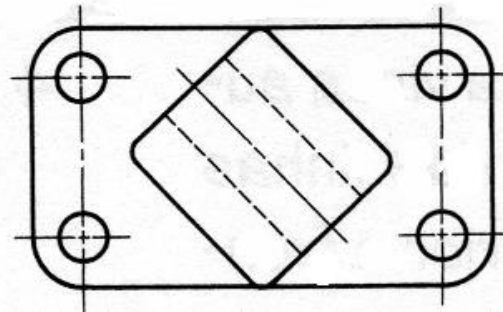
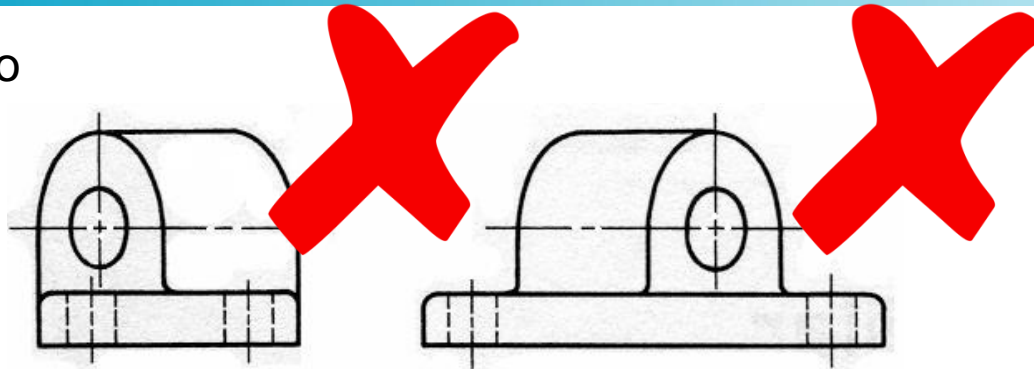
1.4 Como desenhar uma VISTA AUXILIAR?



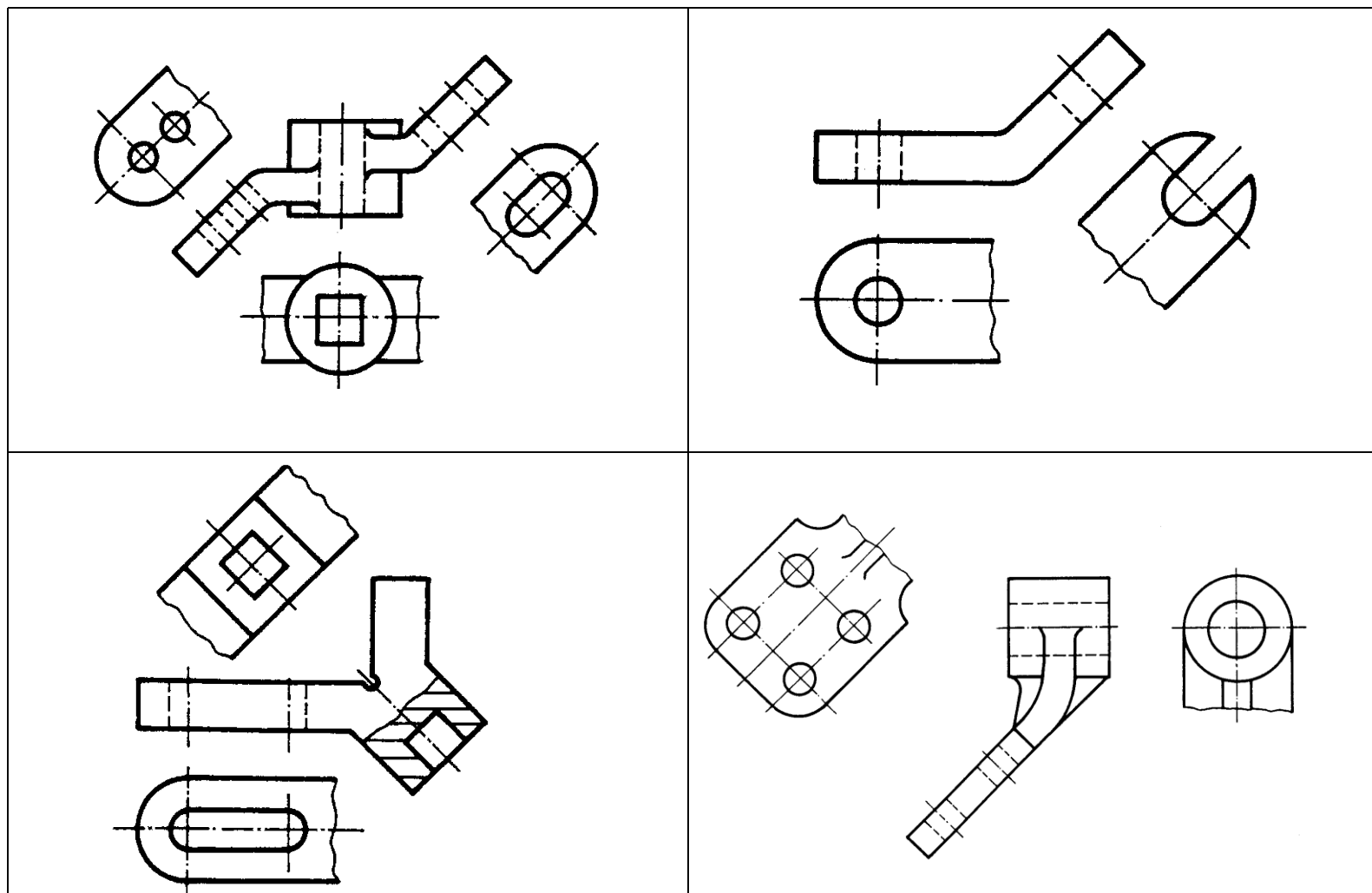
Exemplo



Exemplo



Exemplos

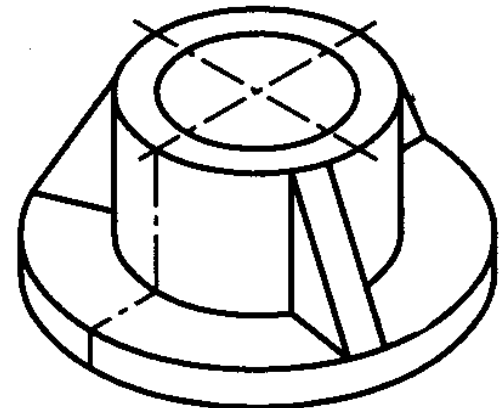
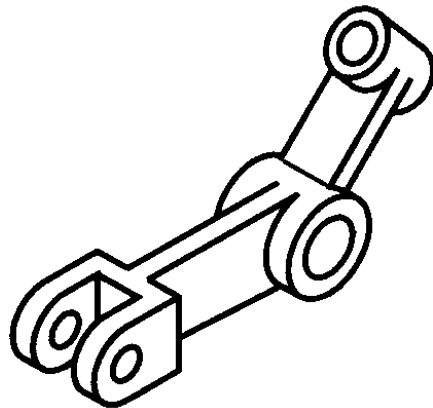


Fonte: Apostila Desenho Mecânico. Desenho com instrumentos. Convênio SENAI/São Paulo

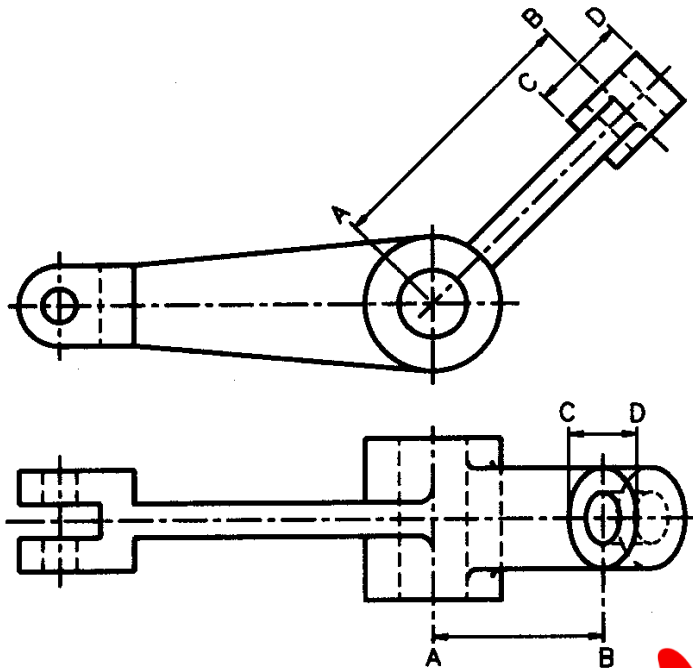
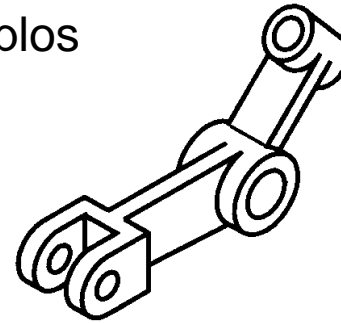
2.0 – Projeção de peças com rotação

2.1 O que é projetar uma vista com rotação?

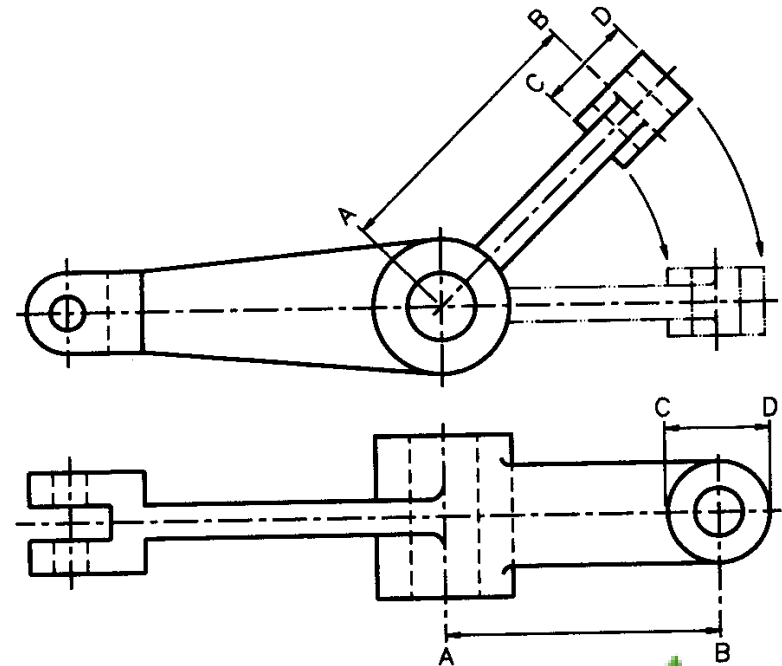
É rotacionar virtualmente um ou mais elementos de uma peça a fim de que as projeções ortogonais não fiquem distorcidas, sendo necessário existir um eixo de rotação na peça.



2.2 Projeção com rotação: exemplos



Normal: *inadequado*

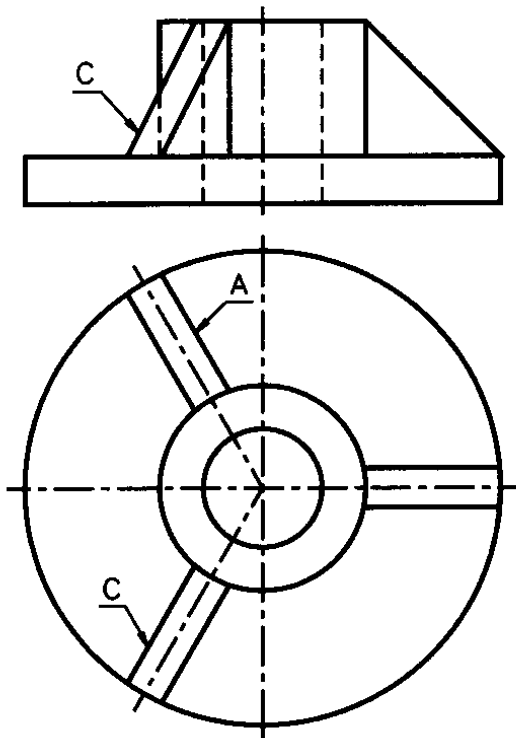
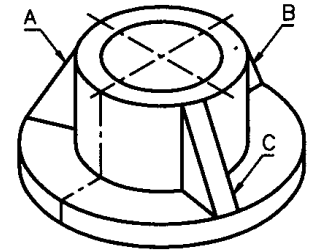


com Rotação

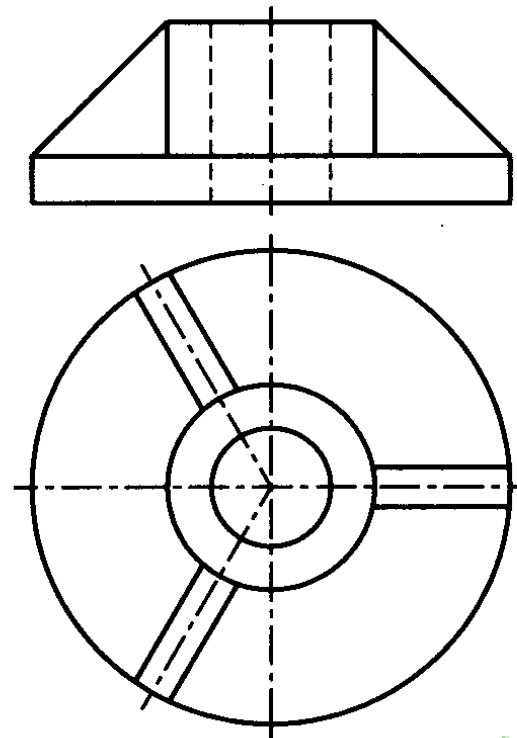


Fonte: Apostila Desenho Mecânico. Desenho com instrumentos. Convênio SENAI/São Paulo

Projeção com rotação: exemplo



Normal: *inadequado*



com Rotação

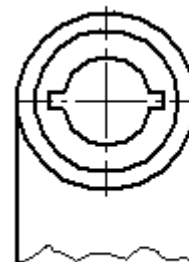
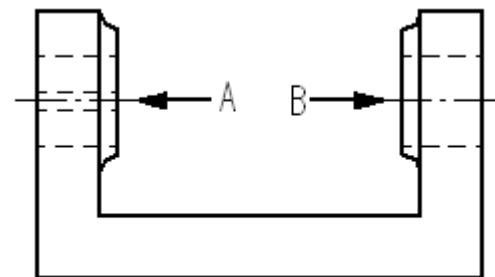
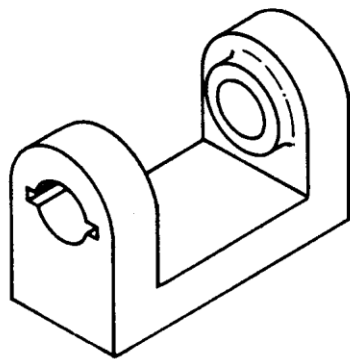


Fonte: Apostila Desenho Mecânico. Desenho com instrumentos. Convênio SENAI/São Paulo

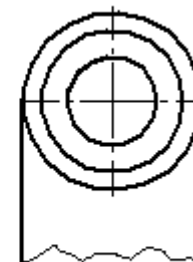
3.0 – Vistas Especiais

3.1 O que são VISTAS ESPECIAIS?

São projeções com posição do observador indicada por setas e letras quando não representadas na posição normal de rebatimento.

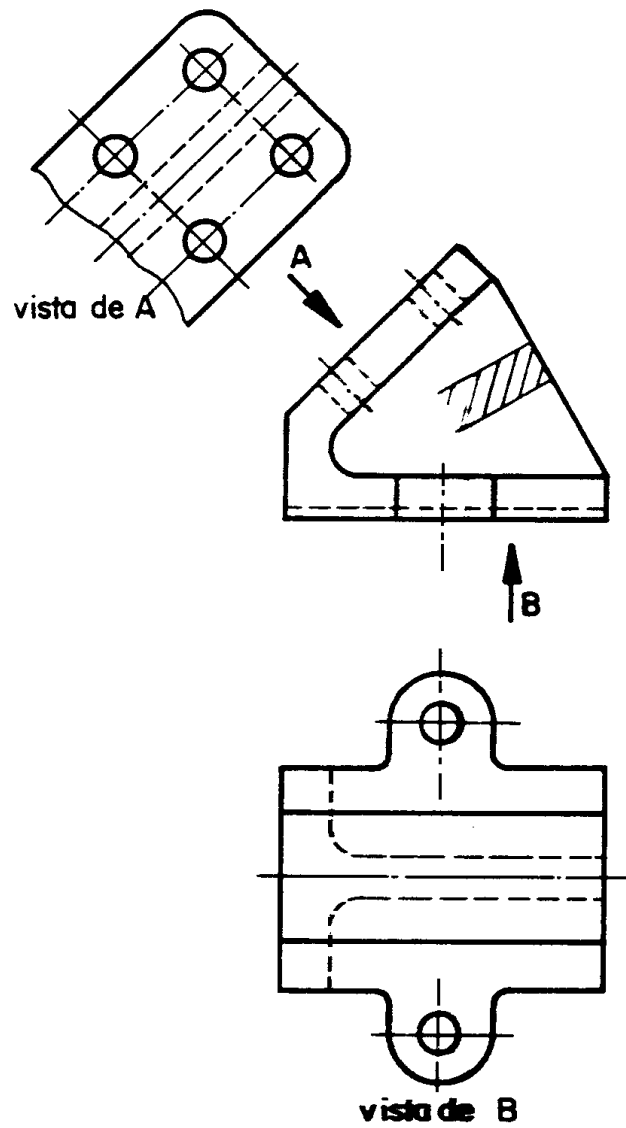
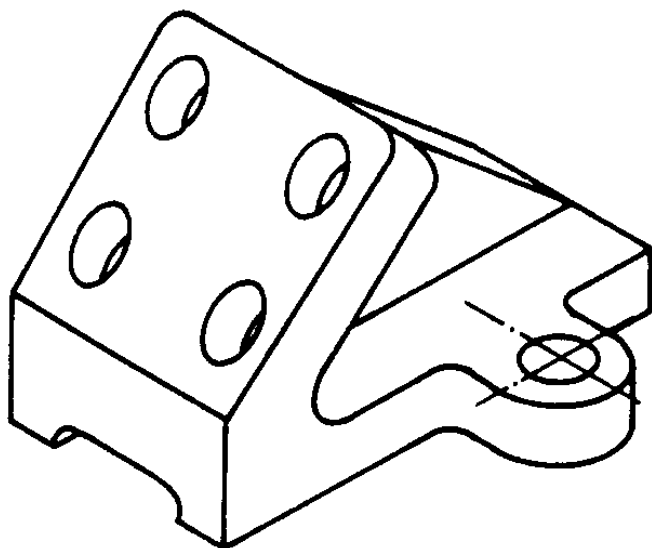


vista de A



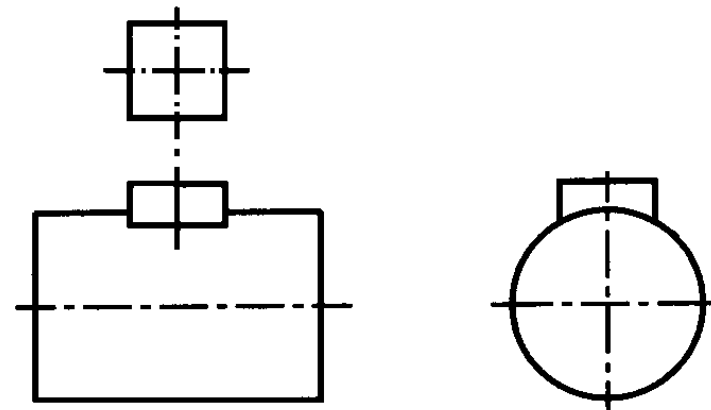
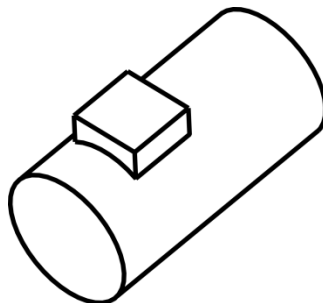
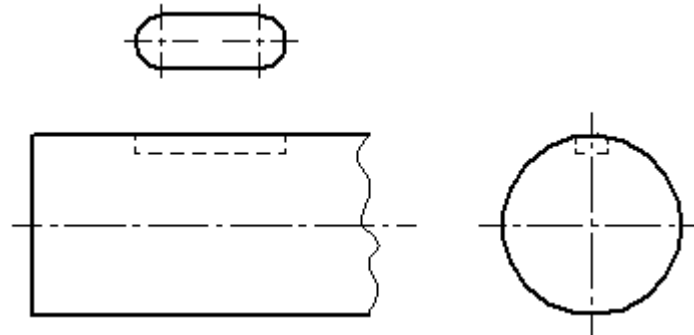
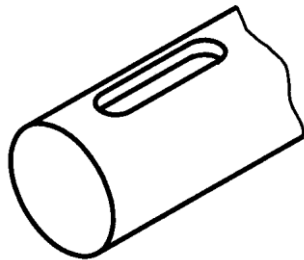
vista de B

3.2 Exemplos



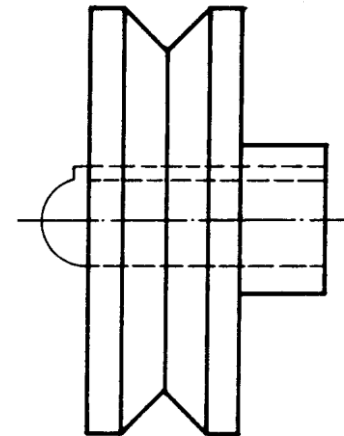
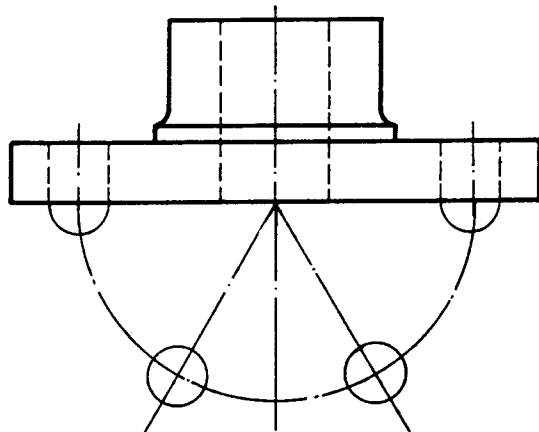
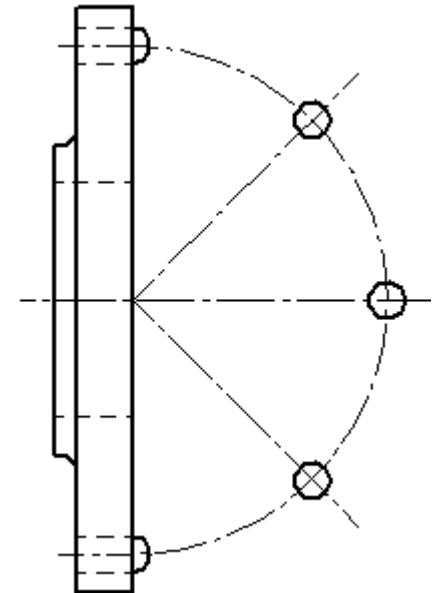
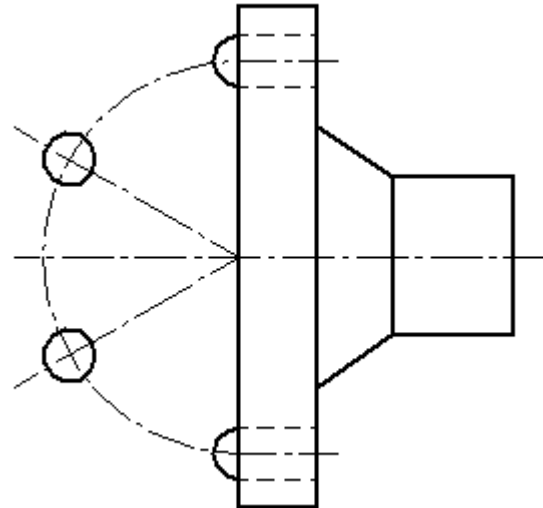
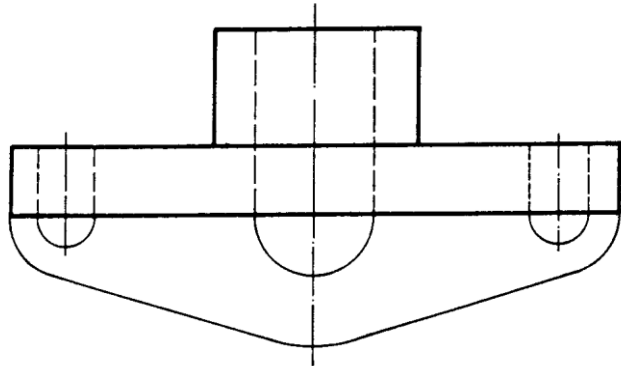
Fonte: Apostila Desenho Mecânico. Desenho com instrumentos. Convênio SENAI/São Paulo

4.0 Vistas Localizadas



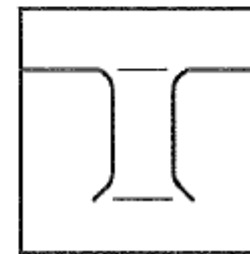
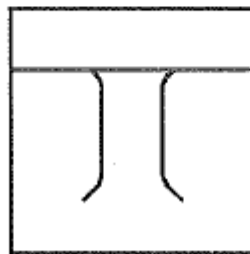
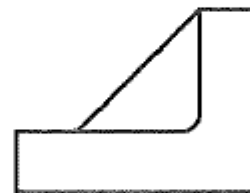
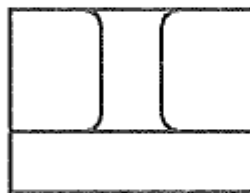
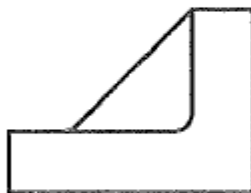
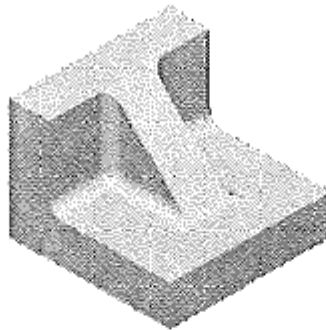
5 Vistas Simplificadas

Utilizadas somente quando não acarretar dúvidas.

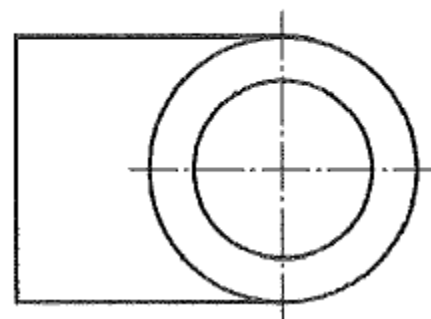
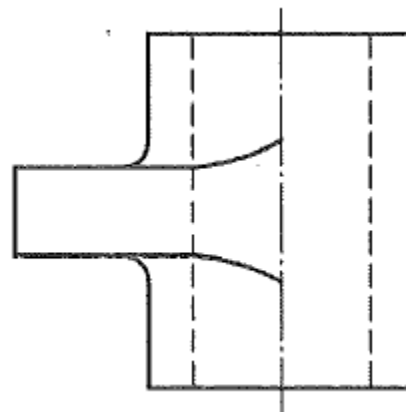
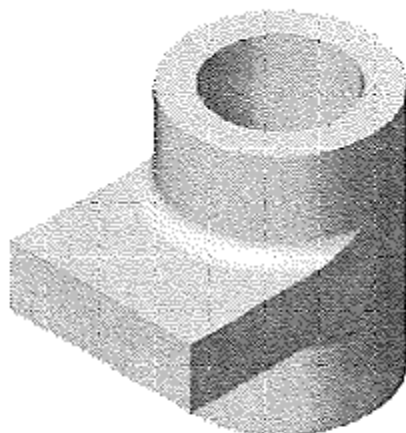


6 Interseções

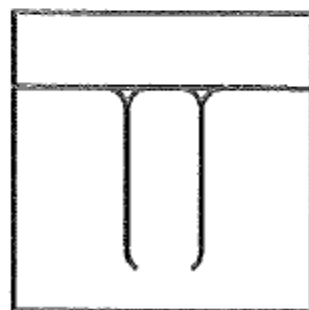
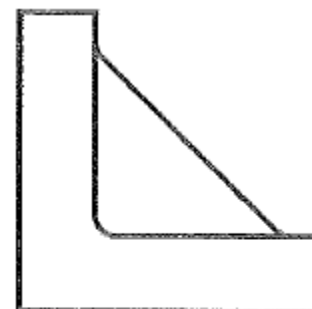
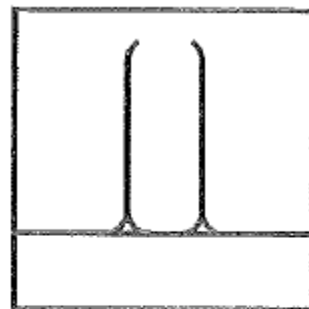
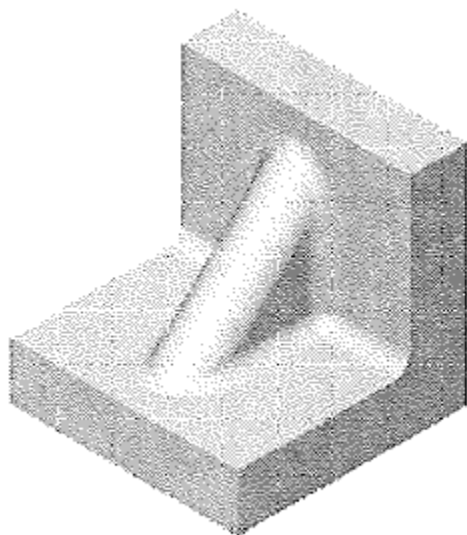
Superfície plana com superfície plana.



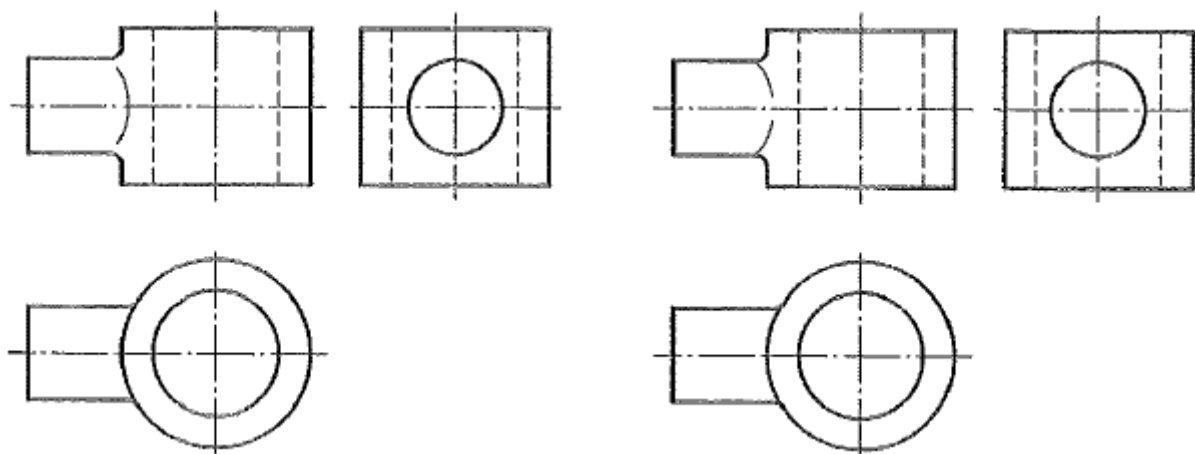
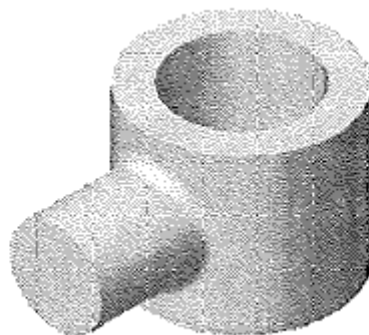
Superfície plana com superfície cilíndrica.



Superfície cilíndrica com superfície plana.



Superfície cilíndrica com superfície cilíndrica.



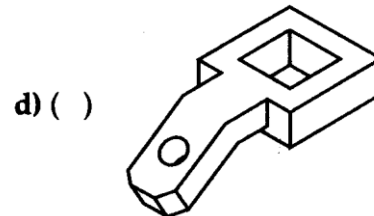
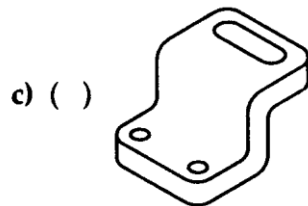
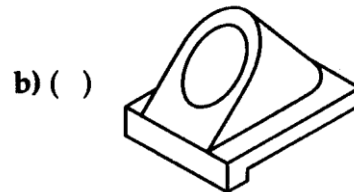
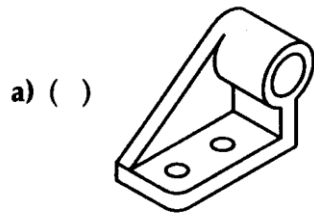
Fonte: Desenho Técnico Mecânico. Silva et al (2009) – Editora da UFSC

Exercício 3.1

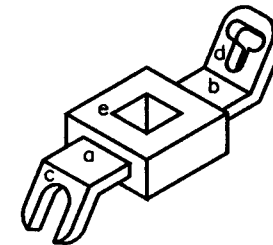
Nome: _____

Nº _____ Turma _____

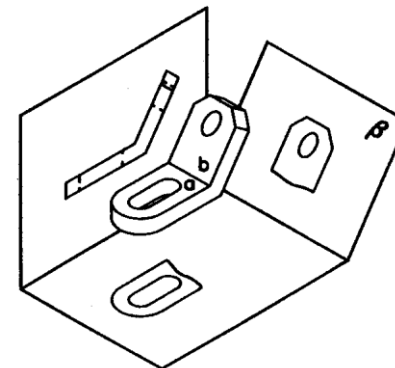
a - identifique as peças com faces oblíquas



b - identifique as faces oblíquas



d - identifique a face oblíqua;
que nome recebe o plano inclinado β .

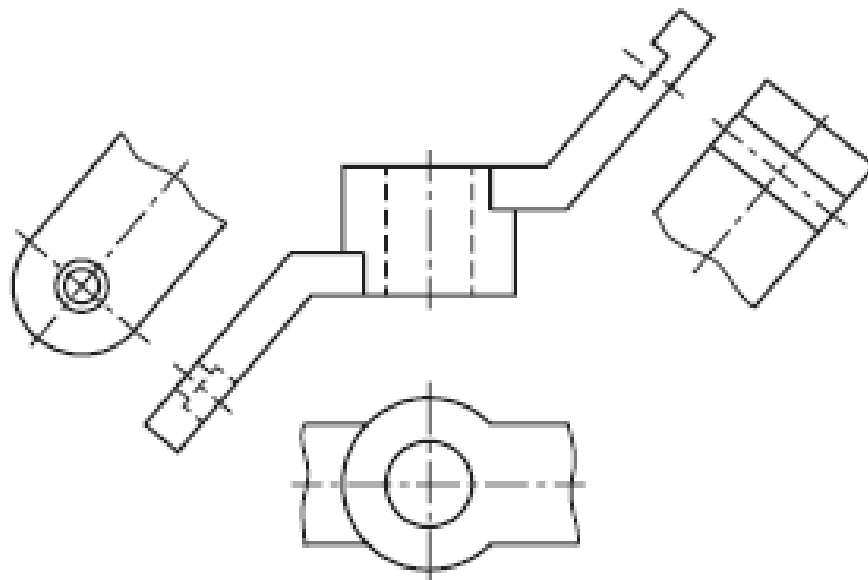


c – Escolha a alternativa que completa a frase corretamente: A projeção ortográfica de peças com faces oblíquas, nos planos: vertical, horizontal e lateral.....

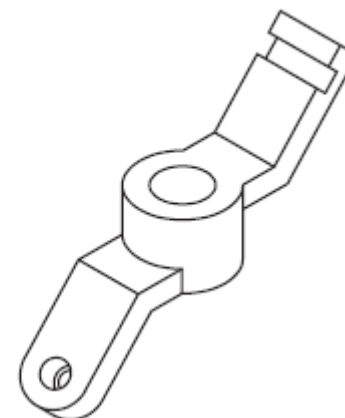
- reproduz a peça em verdadeira grandeza.
- representa as partes oblíquas deformadas.

Fonte: Apostila completa sobre desenho técnico. Telecurso 2000.

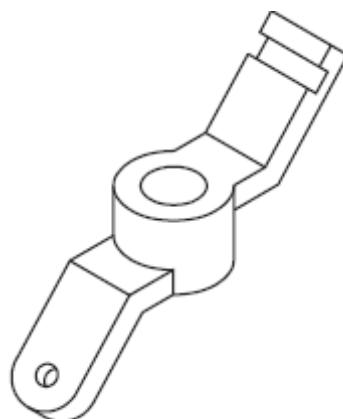
Exercício 3.2 - A qual peça correspondem as vistas abaixo?



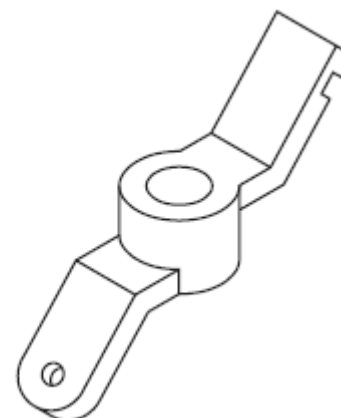
a) ()



c) ()

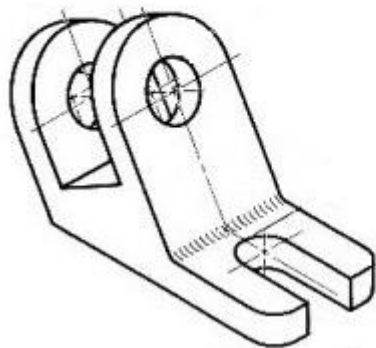
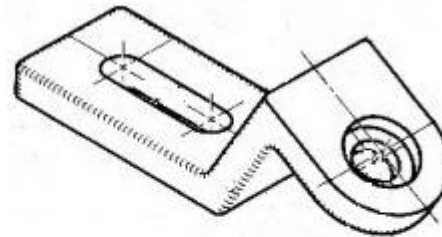
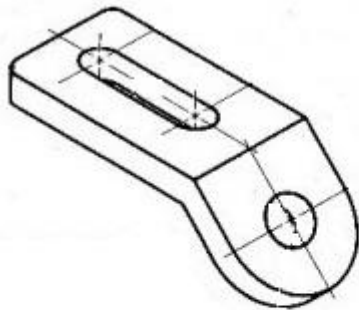


b) ()



Fonte: Apostila completa sobre desenho técnico. Telecurso 2000.

Exercício 3.3 – Faça o croqui das vistas necessárias, incluindo as auxiliares.

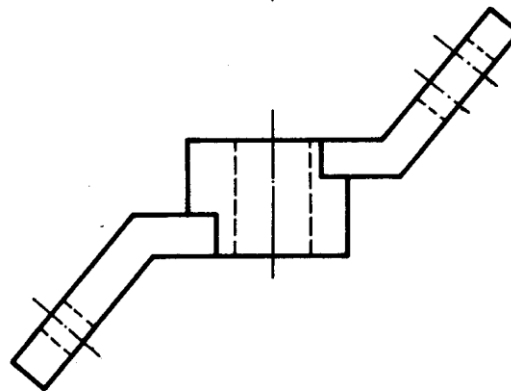
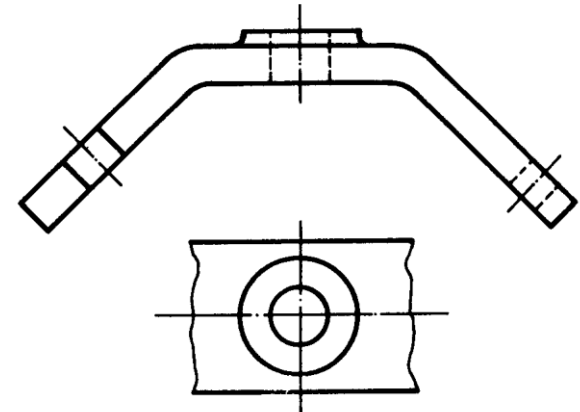
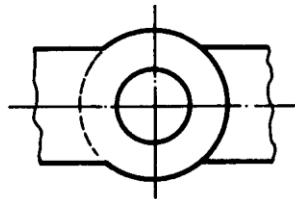
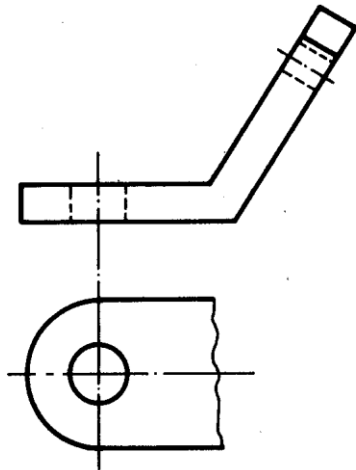


Exercício 3.4 – Complete as projeções desenhando as vistas auxiliares.

Obs: considerar as extremidades das peças arredondadas.

Nome: _____

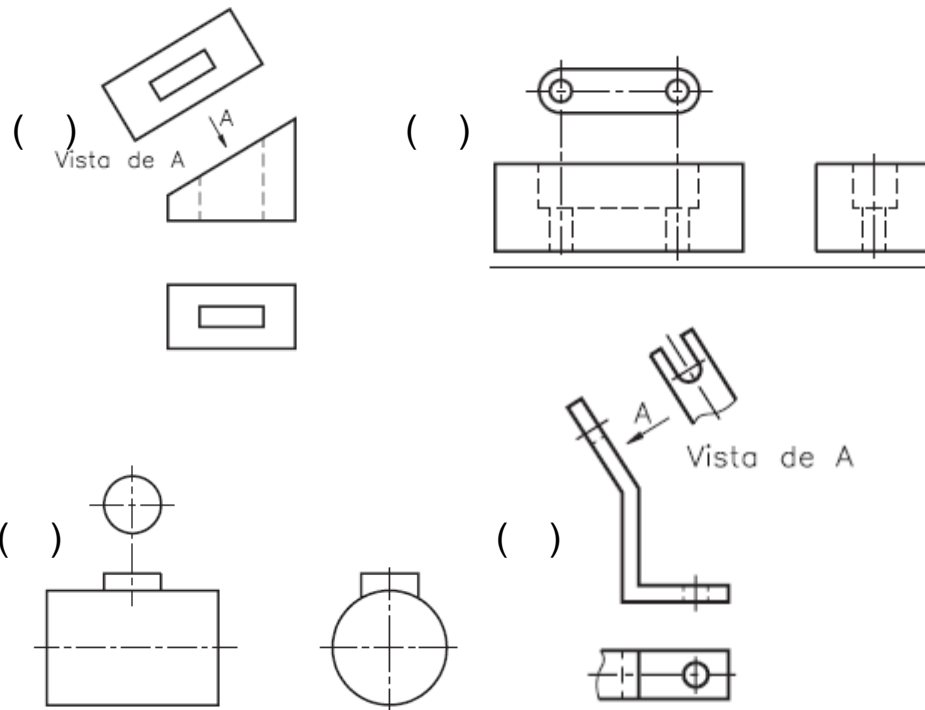
Nº _____ Turma _____



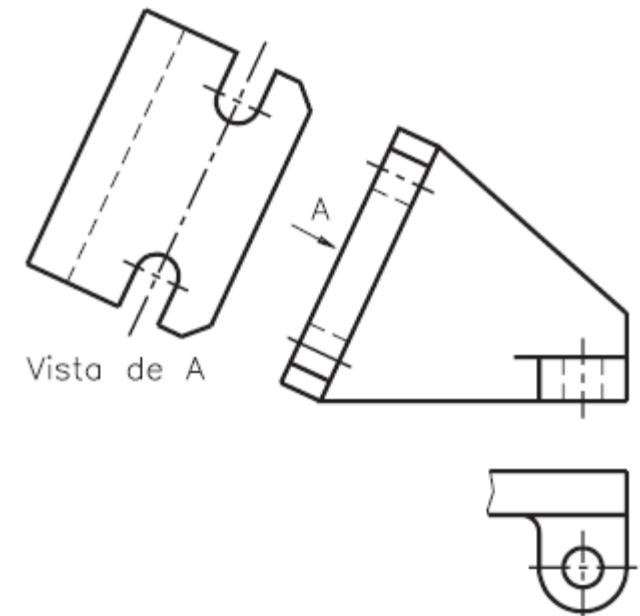
Fonte: Apostila completa sobre desenho técnico. Telecurso 2000.

Exercício 3.5

a) Identifique as peças com vista localizada:



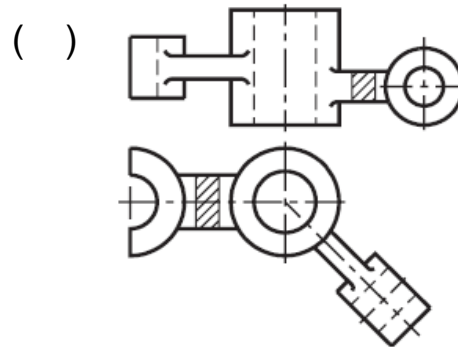
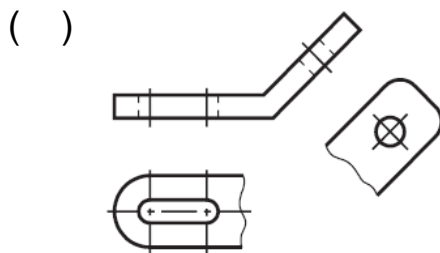
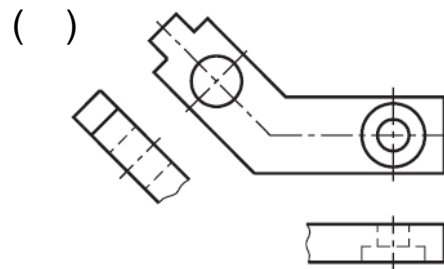
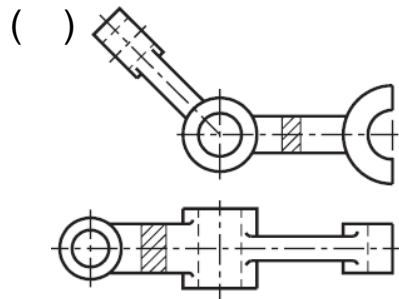
b) Assinale a alternativa que indica as vistas utilizadas:



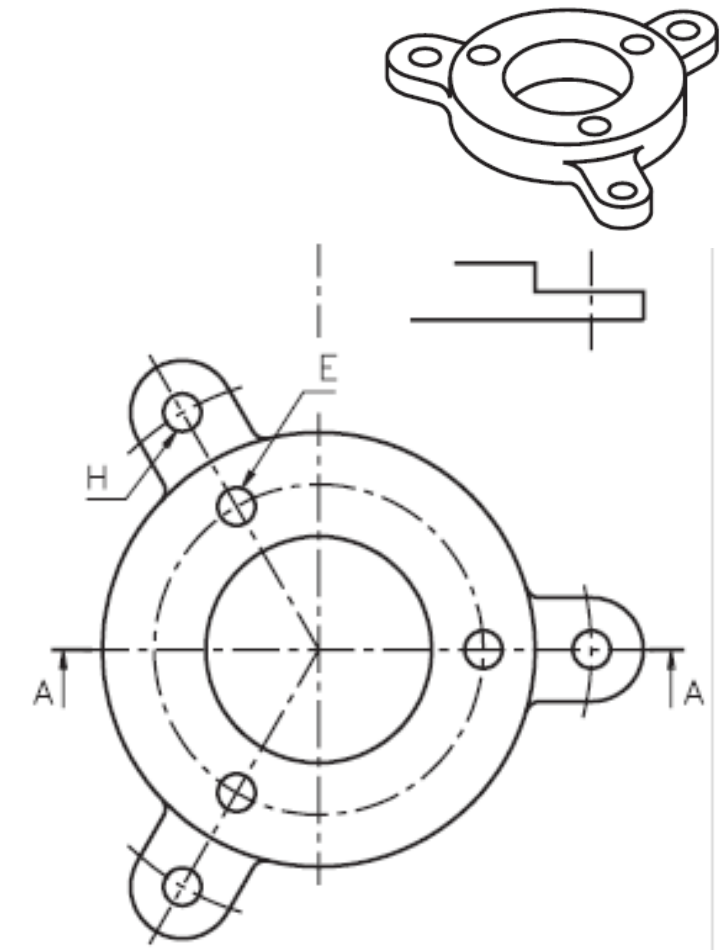
- () Vista frontal, vista superior, vista especial;
- () Vista frontal, vista superior, vista auxiliar;
- () Vista frontal, vista especial, vista especial;
- () Vista frontal, vista especial, vista inclinada

Exercício 3.6

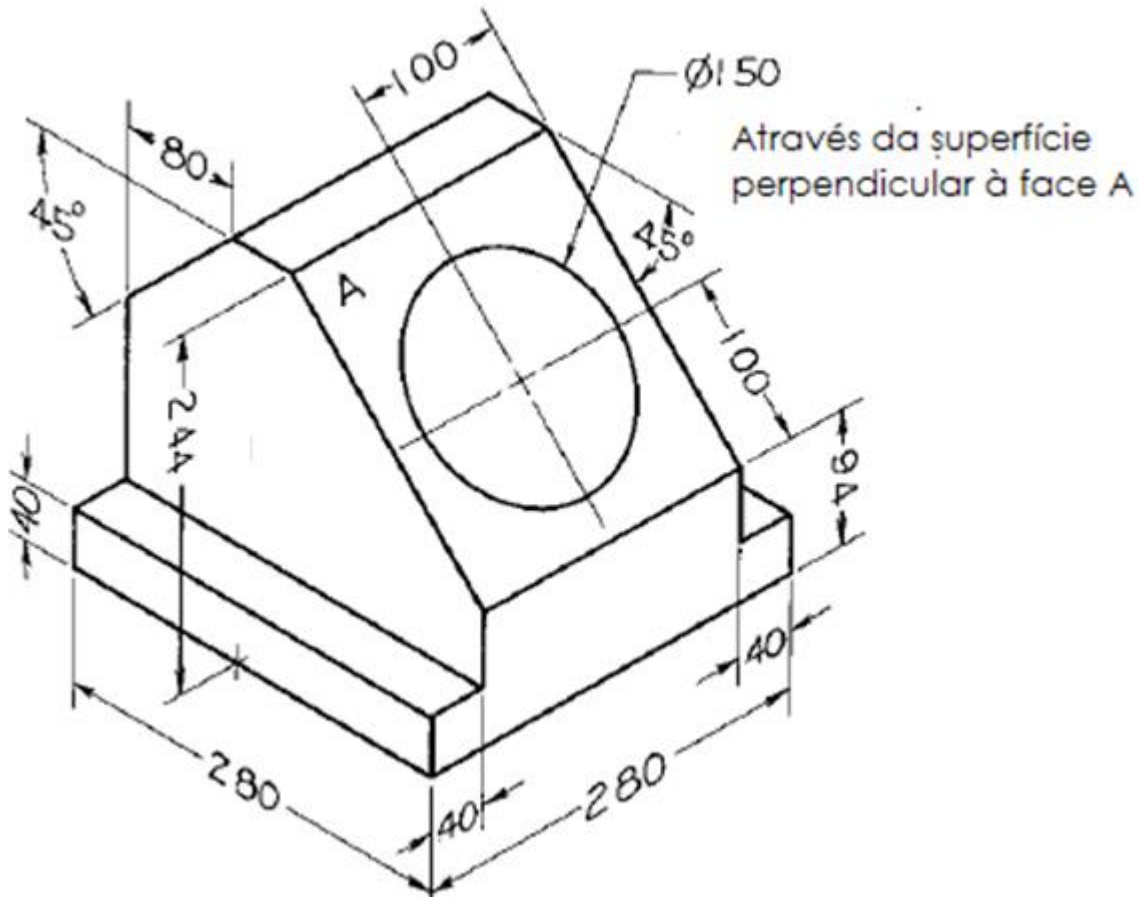
a) Identifique as peças rotacionadas:



b) Complete a projeção:



Exercício 3.7 – Faça o croqui das vistas necessárias.



Fonte ftp://ftp.prenhall.com/pub/esm/general_engineering.s-046/giesecke/pdf/Chapt08%20.pdf