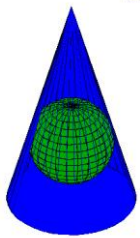
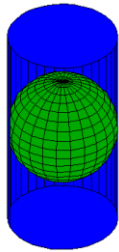


Perspectivas Obliquas:

Cavaleira e Militar

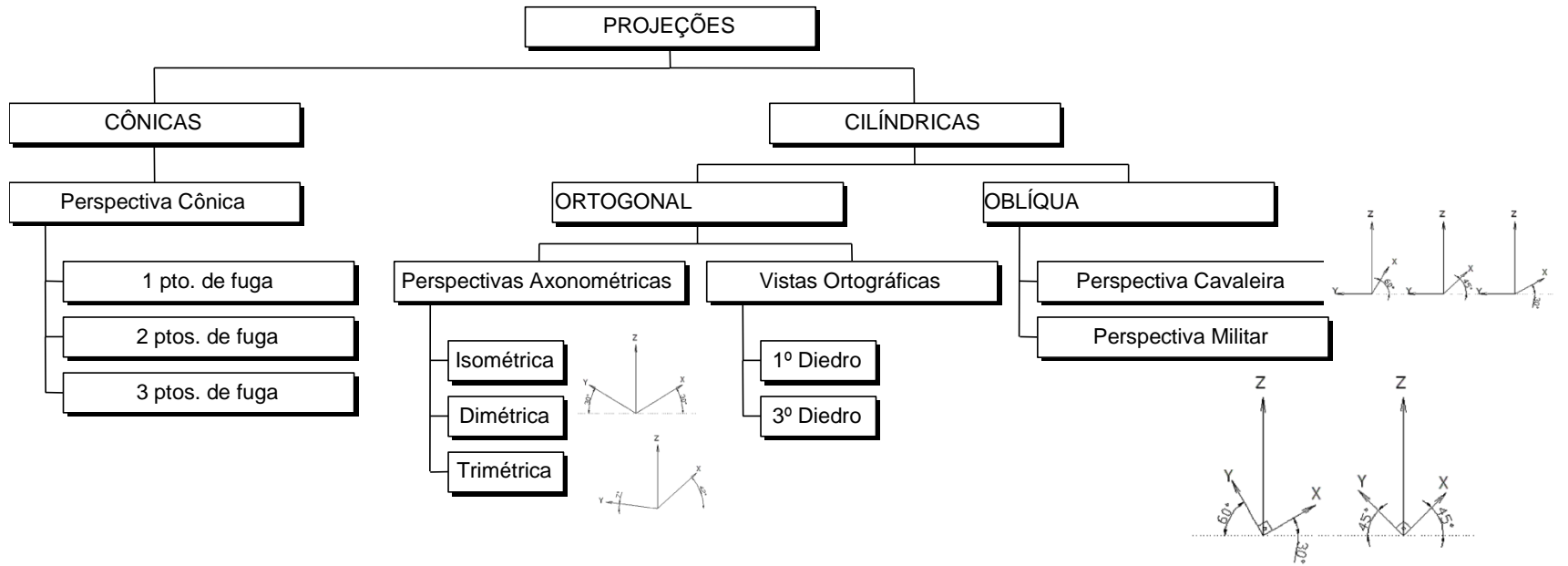
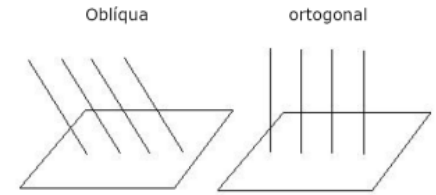
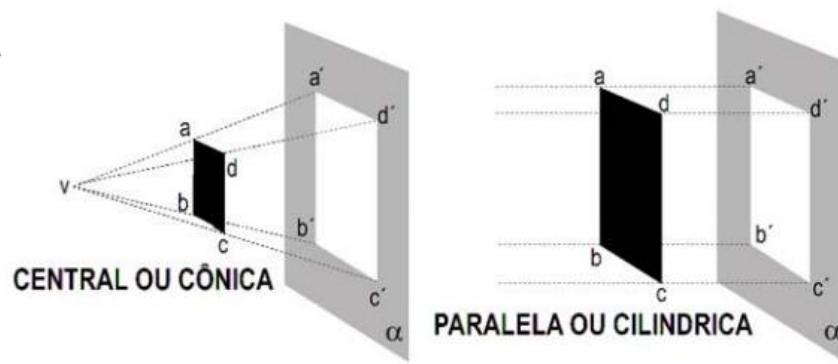


Peter H. Dana 9/2004

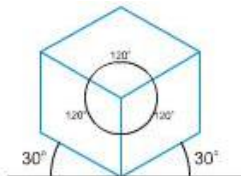


Peter H. Dana 9/2004

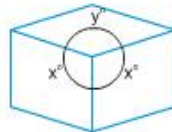
Conical Projection Surface Cylindrical Projection Surface



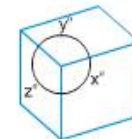
ISOMÉTRICA

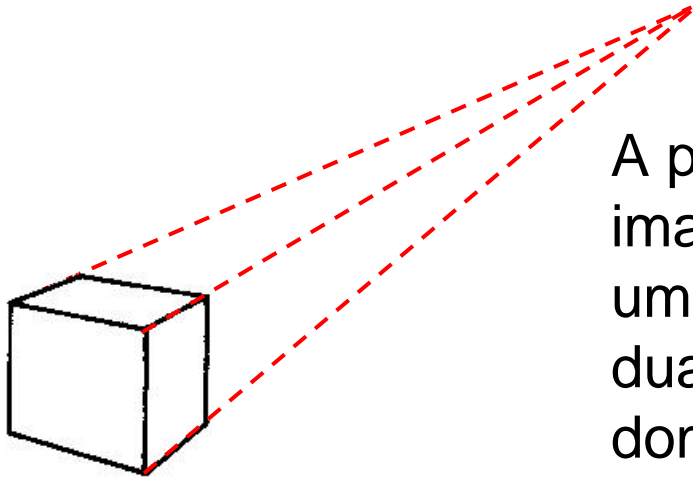


DIMÉTRICA

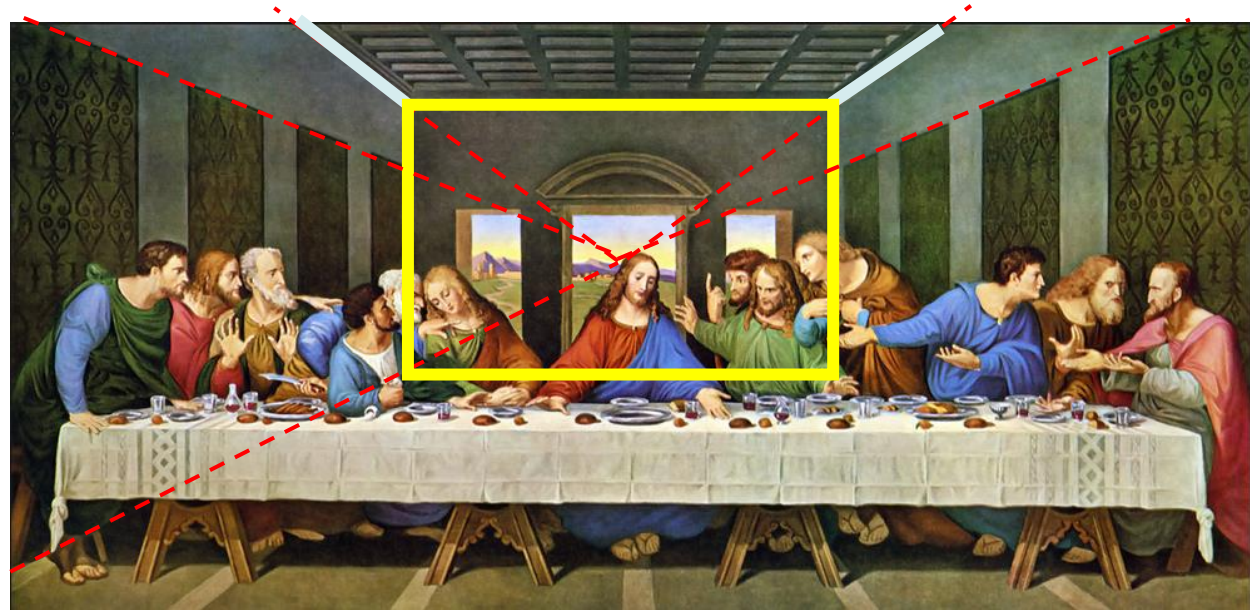
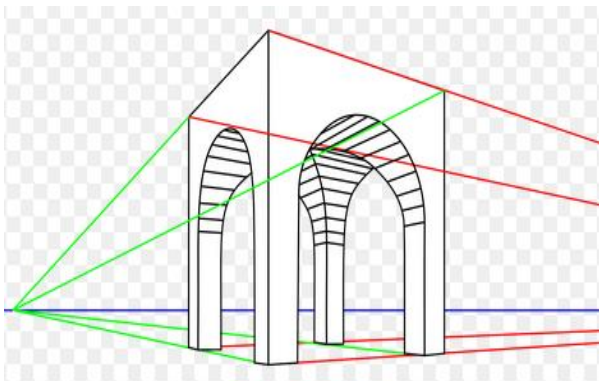


TRIMÉTRICA

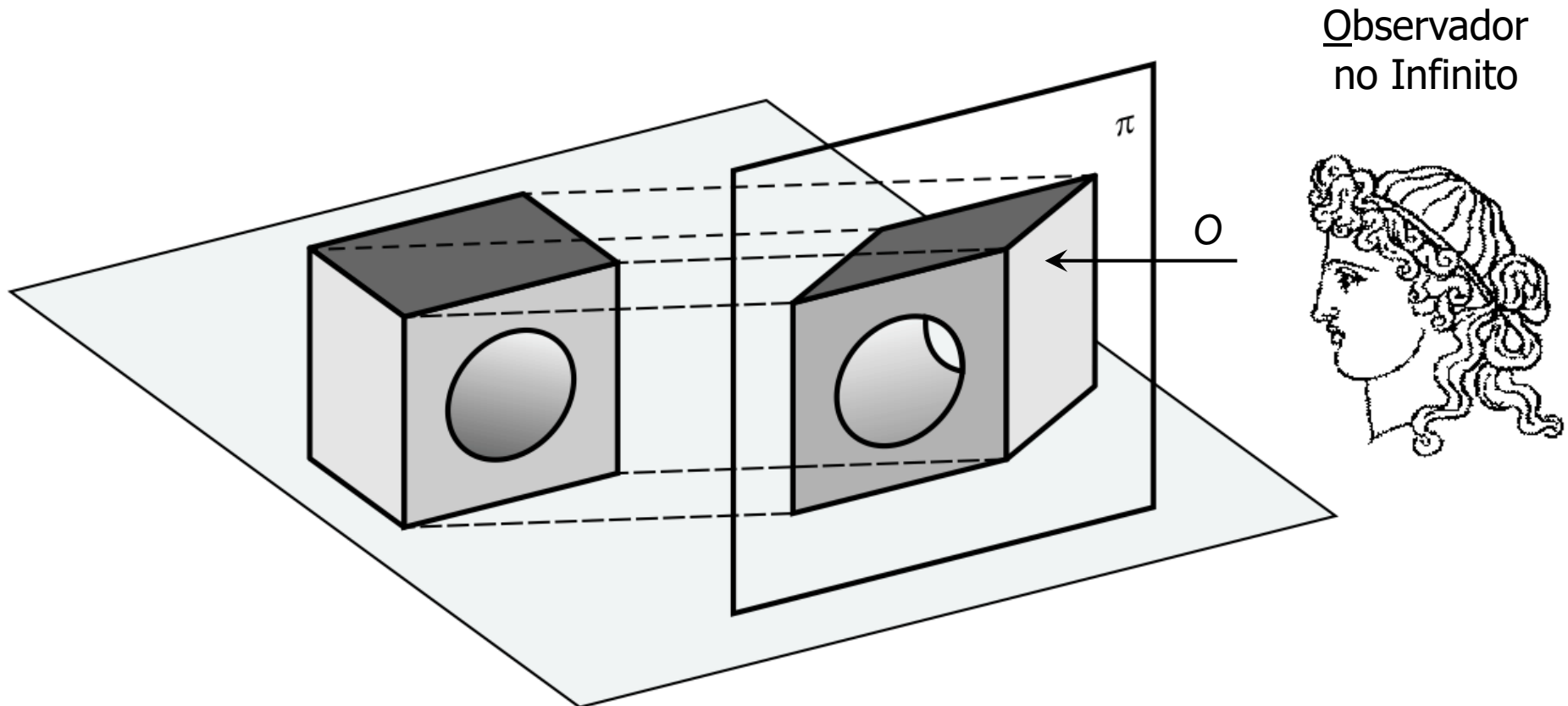




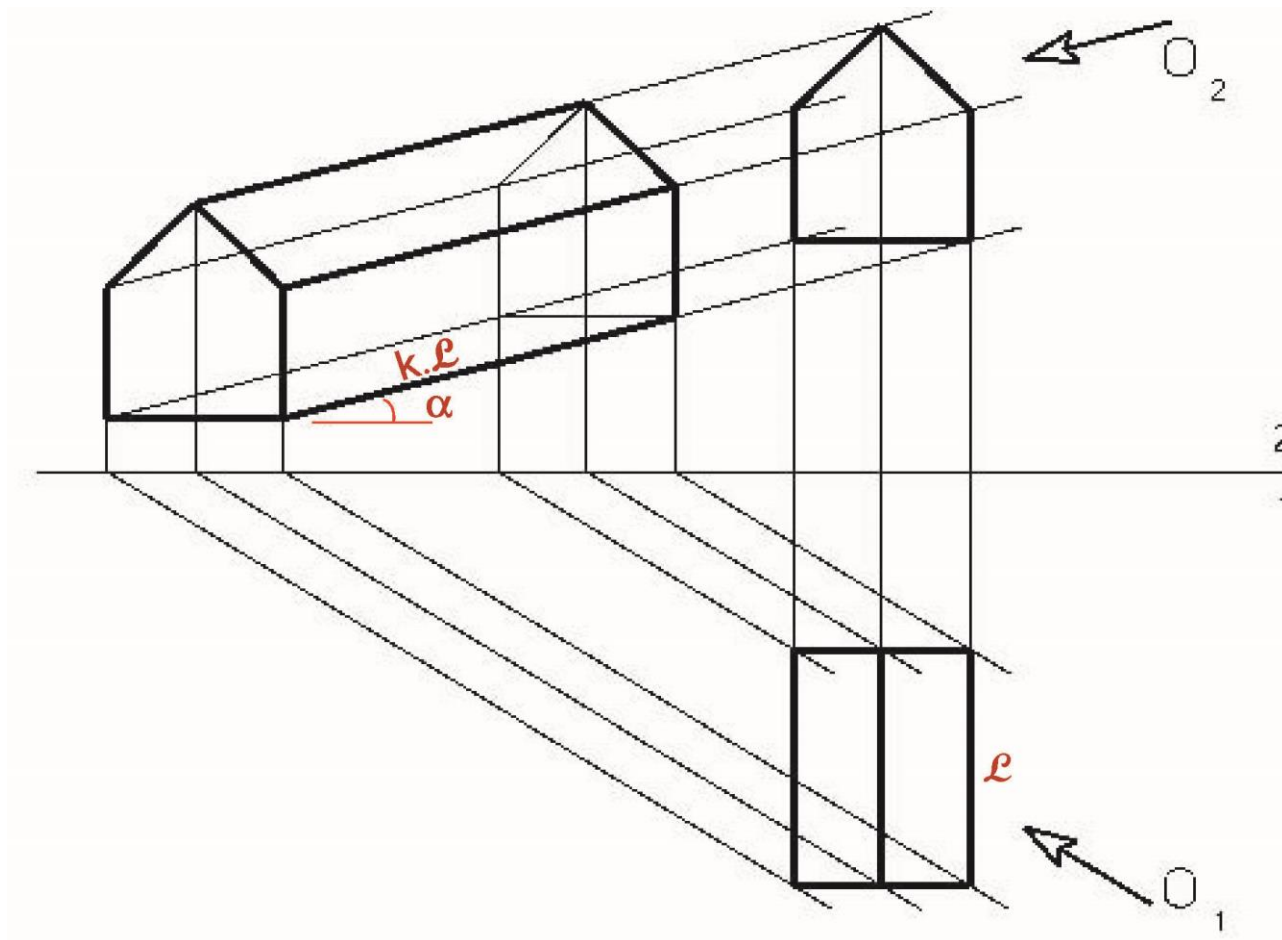
A projeção cônica é utilizada por ter uma imagem mais real do objeto. Pode ter um, dois ou três pontos de fuga, com duas ou nenhuma das direções dominantes paralelas.



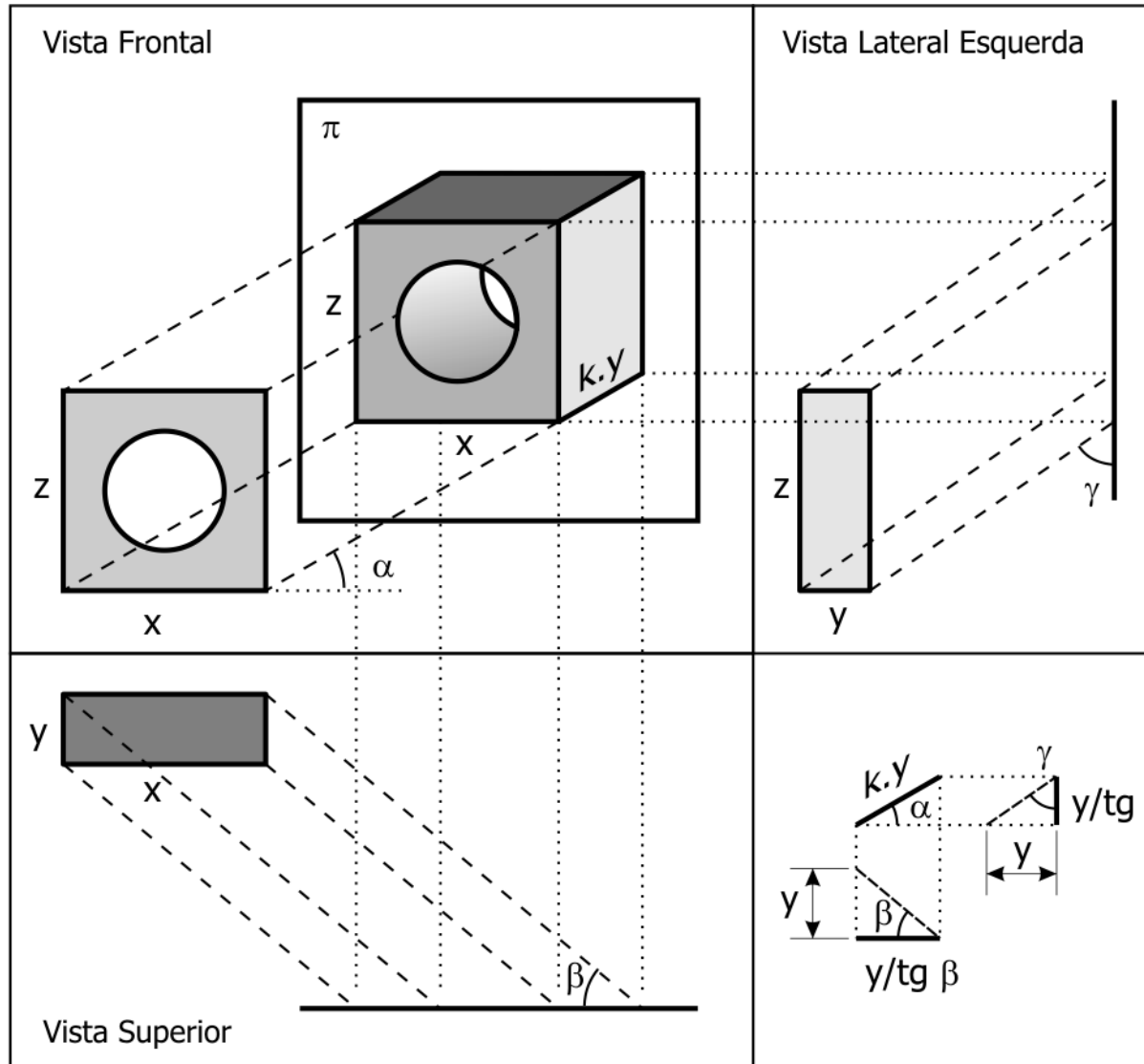
Perspectiva Cavaleira - projeção cilíndrica oblíqua



Perspectiva Cavaleira - ângulo α , coeficiente k e profundidade \mathcal{L}



Perspectiva Cavaleira – direção de projeção O decomposta nas coordenadas esféricas β e γ



Perspectiva Cavaleira - direção O (β e γ), α e k

α e k em função de β e γ :

$$\alpha = \arctg \left(\frac{\text{tg } \beta}{\text{tg } \gamma} \right)$$

$$k = \sqrt{\frac{\text{tg} \beta^2 + \text{tg} \gamma^2}{\text{tg} \beta^2 \cdot \text{tg} \gamma^2}}$$

β	γ	α	k
30°	30°	45°	2,45
30°	45°	30°	2
30°	60°	18,43°	1,83
45°	30°	60°	2
45°	45°	45°	1,41
45°	60°	30°	1,15
60°	30°	71,57°	1,83
60°	45°	60°	1,15
60°	60°	45°	0,82

β e γ em função de α e k :

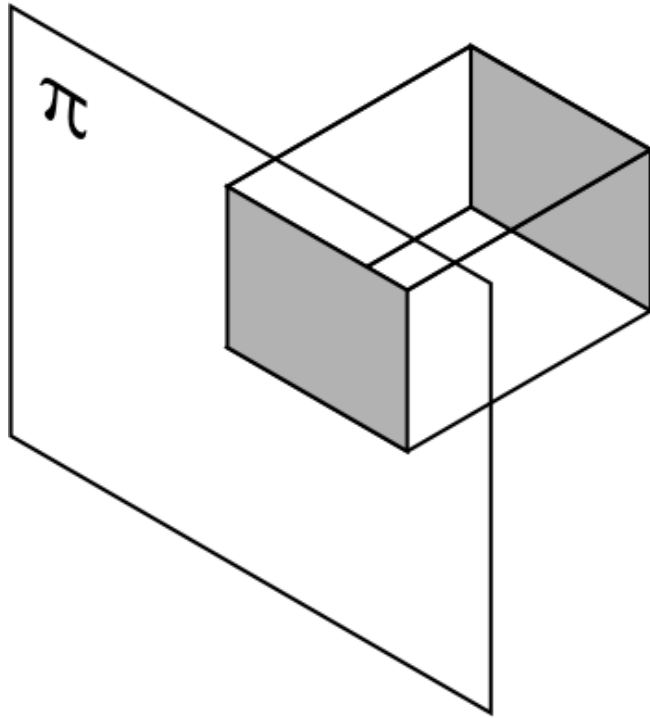
$$\beta = \arctg \left(\frac{1}{\cos \alpha \cdot k} \right)$$

$$\gamma = \arctg \left(\frac{1}{\text{sen } \alpha \cdot k} \right)$$

β	γ	α	k
66,6°	75,96°	30°	1/2
60°	71,57°	30°	2/3
49,1°	63,43°	30°	1
30°	45°	30°	2
70,5°	70,53°	45°	1/2
64,8°	64,76°	45°	2/3
54,7°	54,74°	45°	1
76°	66,59°	60°	1/2
71,6°	60°	60°	2/3
63,4°	49,11°	60°	1

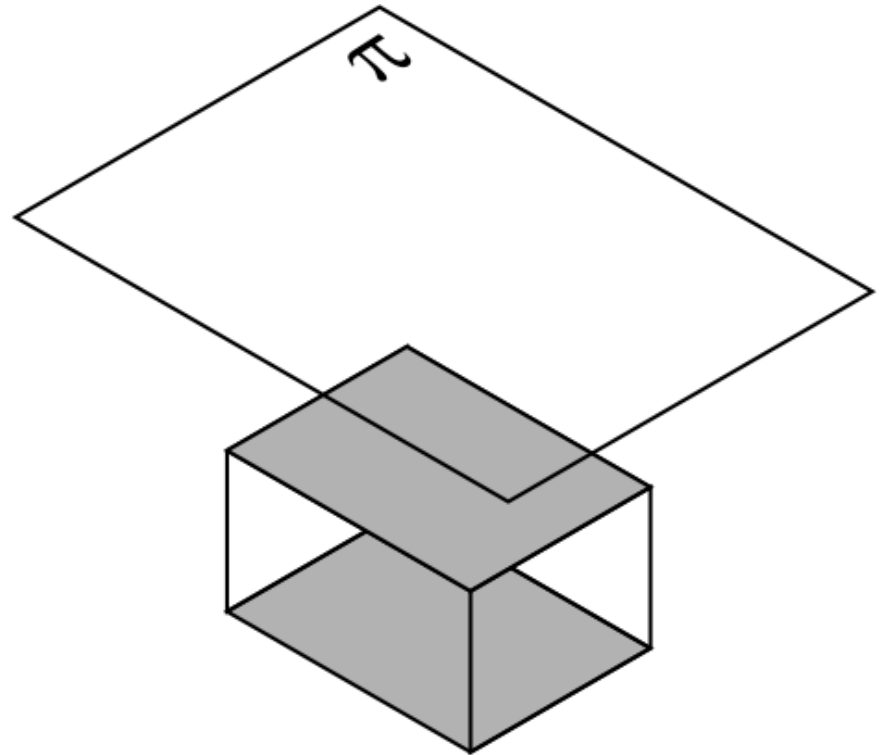
Pode-se obter qualquer combinação de k e α , bastando variar a direção O de projeção (decomposta em β e γ) adequadamente.

Perspectiva Obliqua - posição do plano de projeção



π VERTICAL

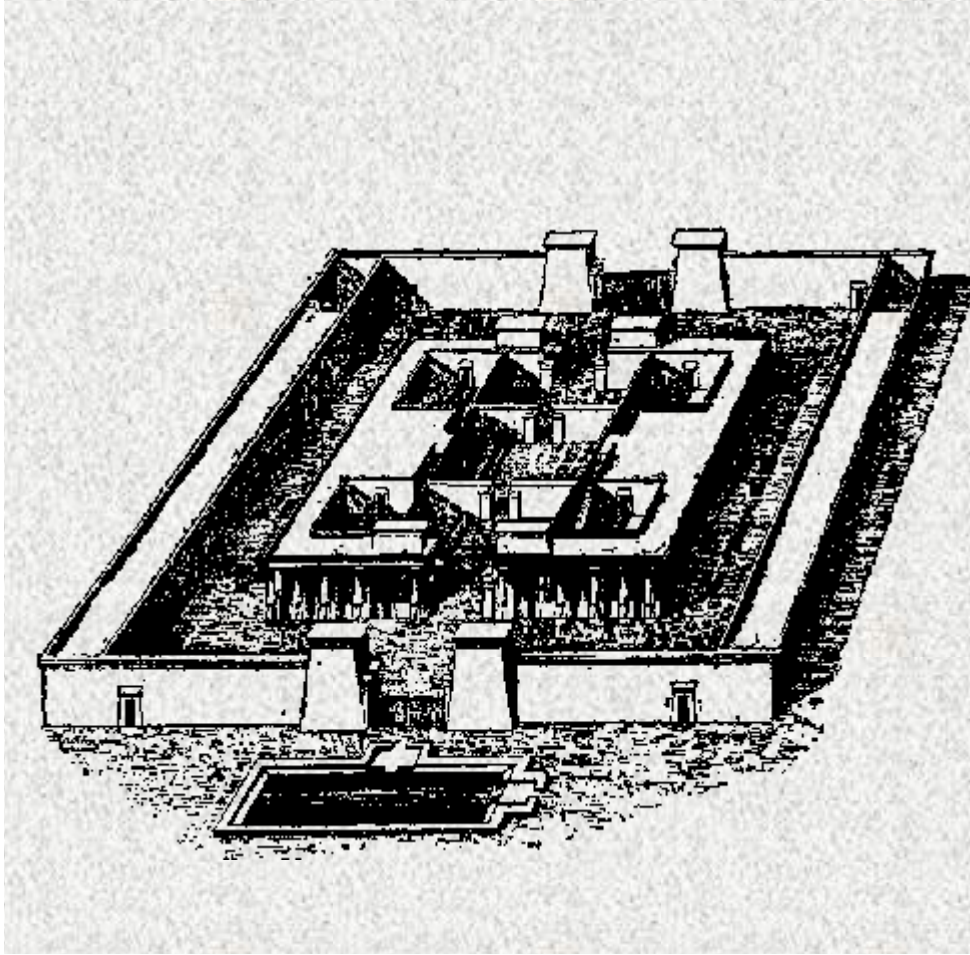
PERSPECTIVA
CAVALEIRA



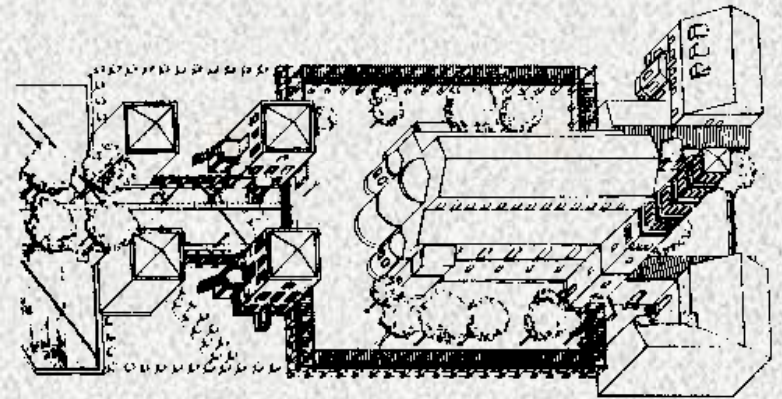
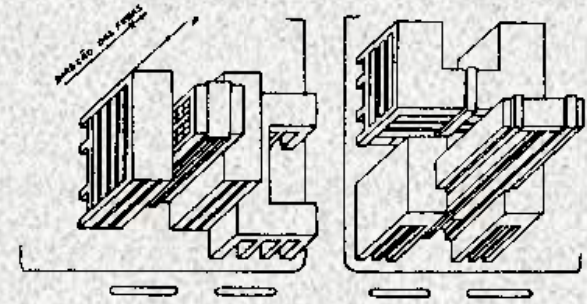
π HORIZONTAL

PERSPECTIVA
MILITAR

Perspectiva Obliqua - posição do plano de projeção



CAVALEIRA

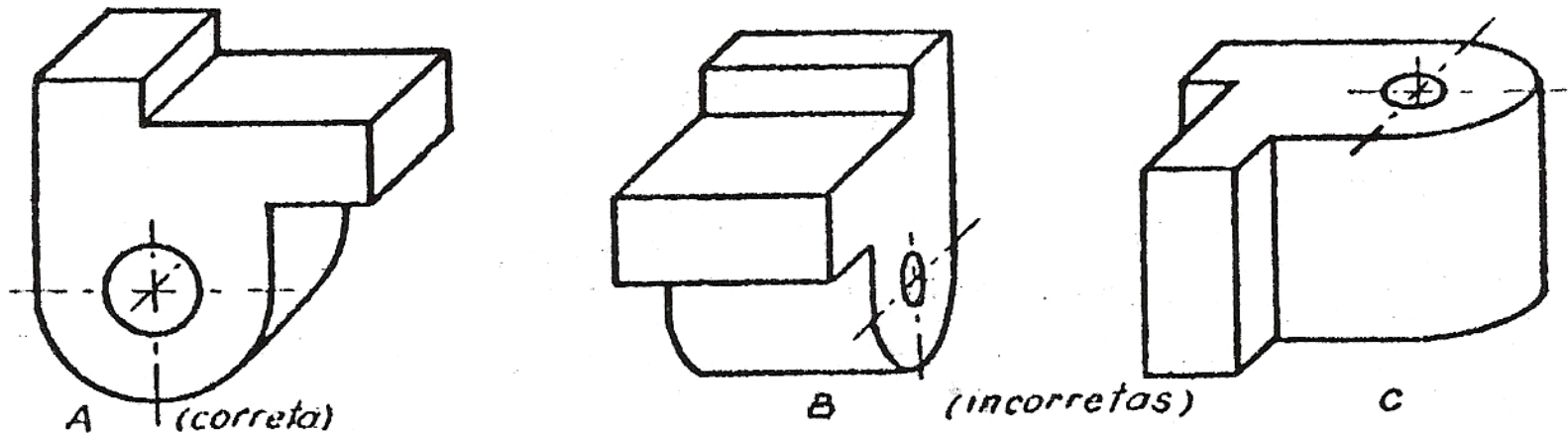


MILITAR - Vão de Pássaro

Perspectiva Cavaleira - regras de posicionamento

Regra 1:

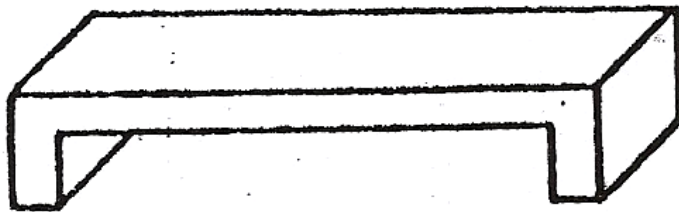
“O objeto deve ser colocado com o contorno irregular paralelo ao plano de projeção”.



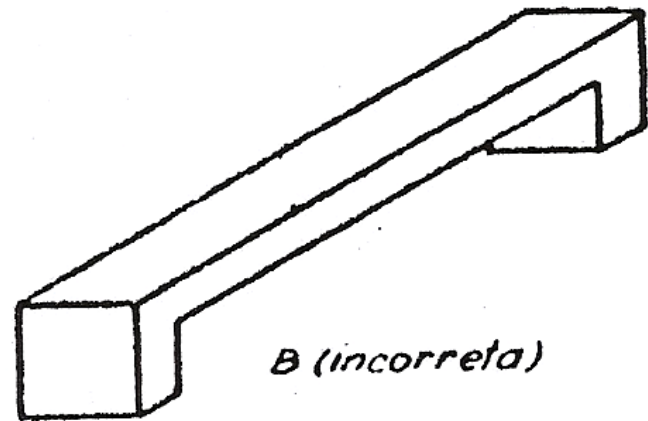
Perspectiva Cavaleira - regras de posicionamento

Regra 2:

“A maior dimensão do objeto deve ser, de preferência, colocada paralela ao plano de projeção”.



A (correta)



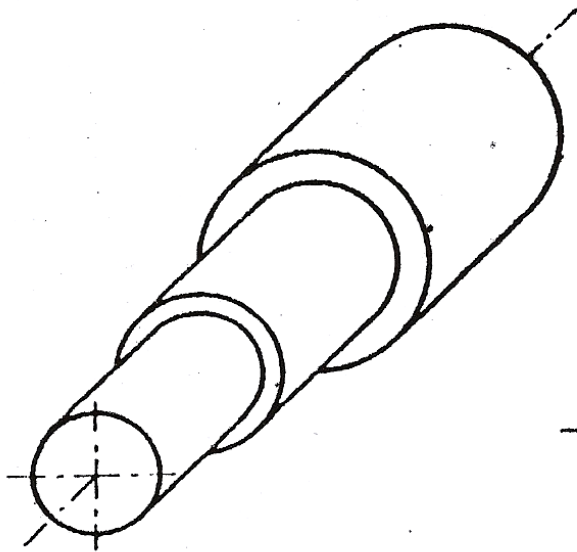
B (incorreta)

Perspectiva Cavaleira - regras de posicionamento

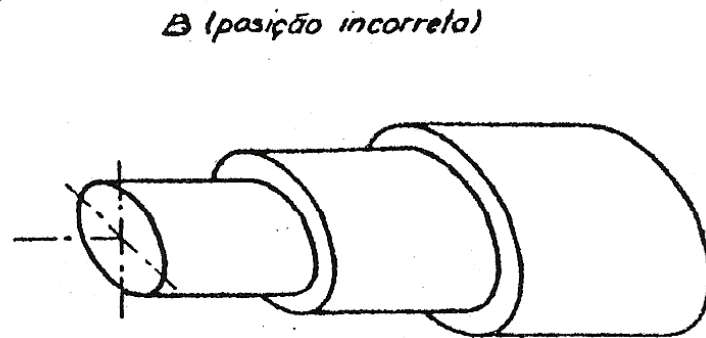
Regra 3:

“No caso de conflito entre as regras anteriores, prevalece a regra 1”

É mais vantajoso ter-se a face irregular sem deformação do que evitar o mau aspecto da perspectiva decorrente da não observância da 2^a. Regra.

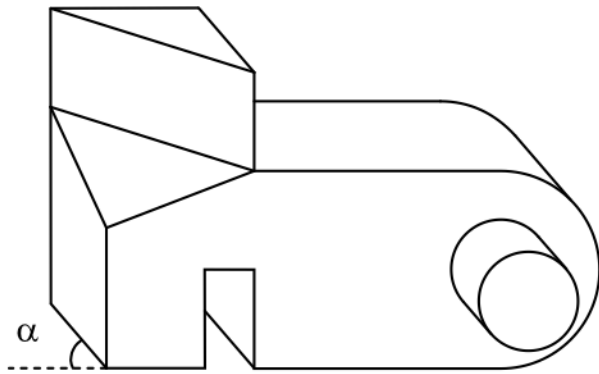


A (posição correta)

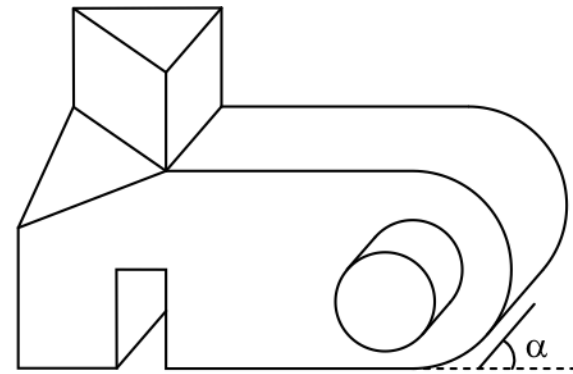


B (posição incorreta)

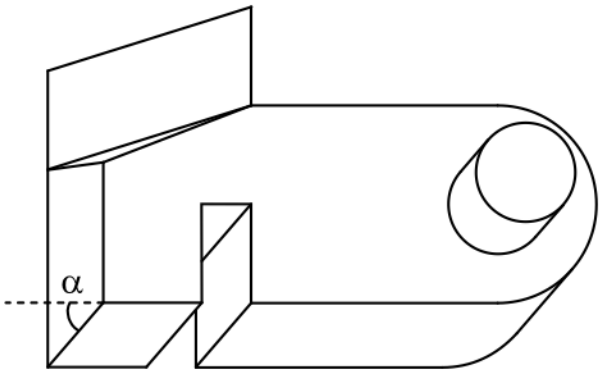
Perspectiva Cavaleira - posições de visualização (quadrantes)



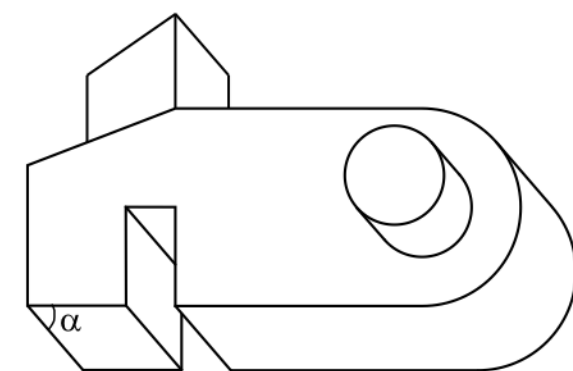
2° quadrante
Frontal, superior e lateral esquerda



1° quadrante
Frontal, superior e lateral direita



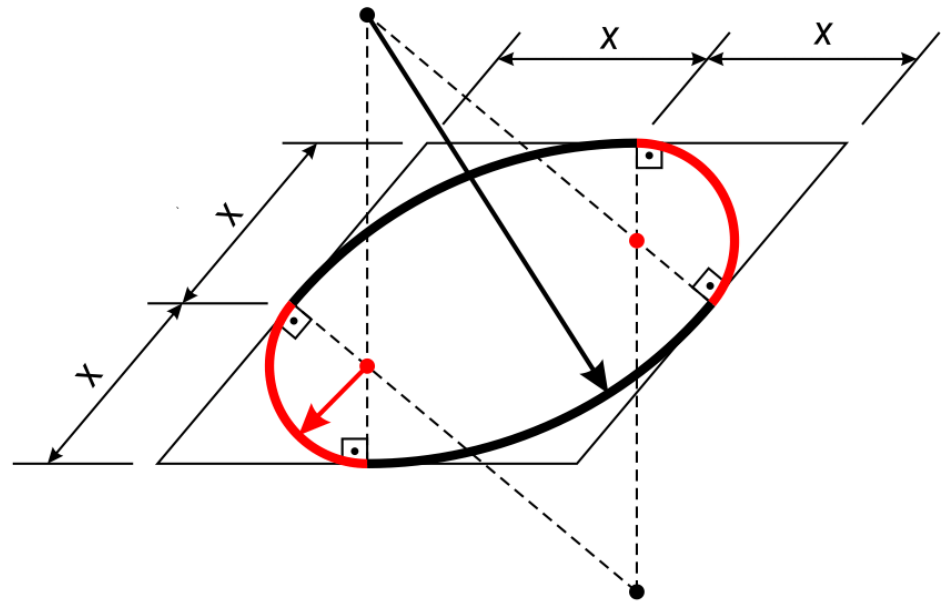
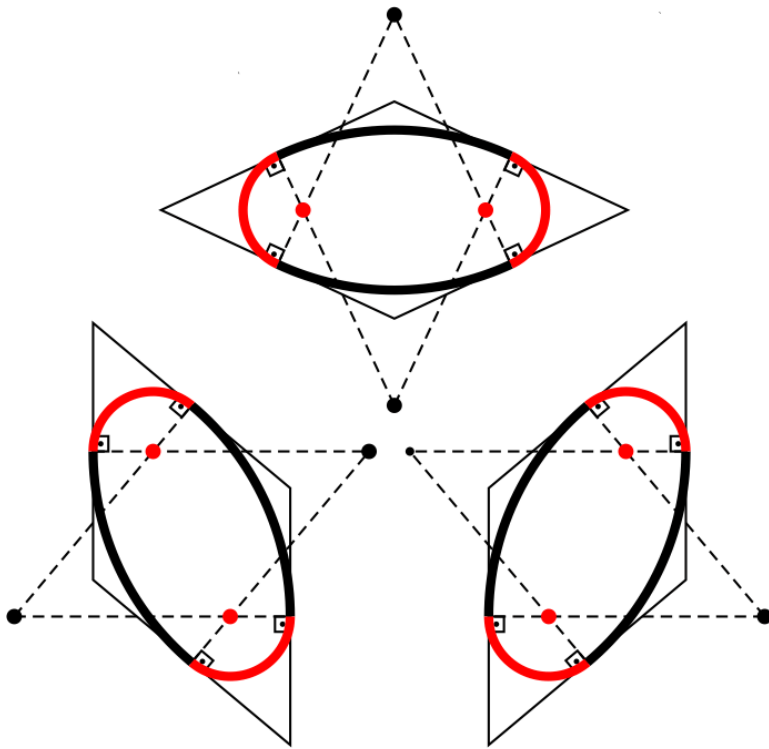
3° quadrante
Frontal, inferior e lateral esquerda



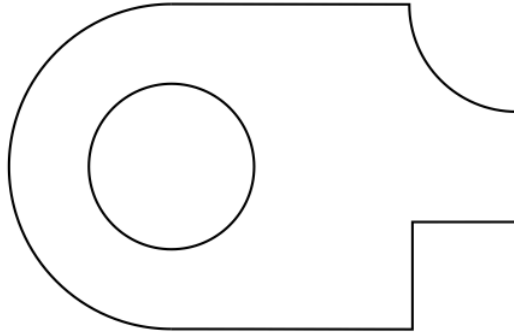
4° quadrante
Frontal, inferior e lateral direita

Perspectiva Cavaleira - desenho

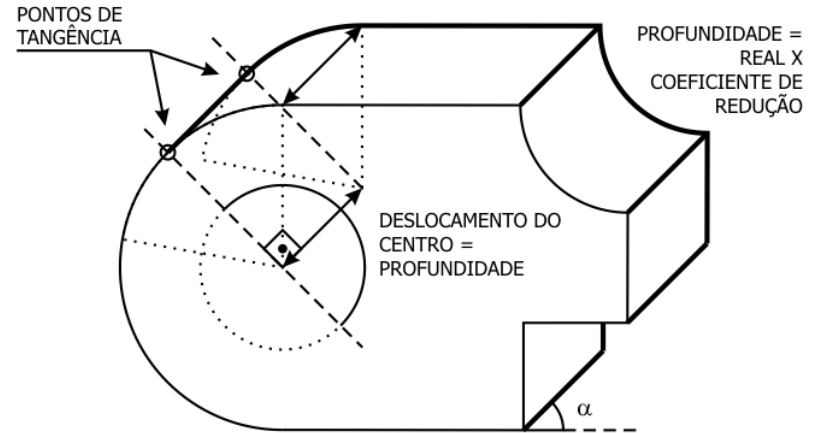
FALSA ELIPSE PARA QUALQUER ÂNGULO: SE POSSÍVEL DEVE SER EVITADA NA PERSPECTIVA CAVALEIRA



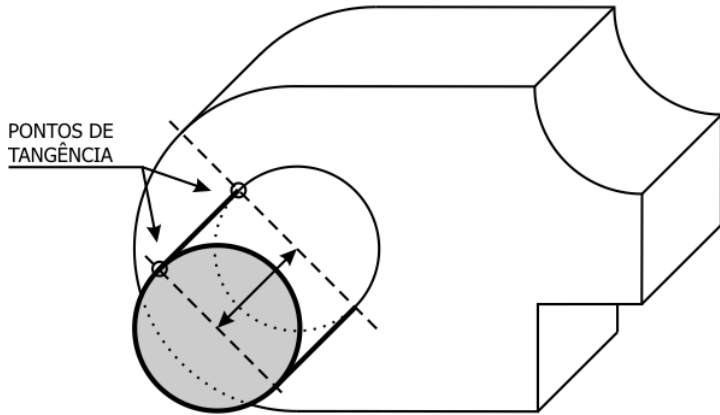
Perspectiva Cavaleira - desenho



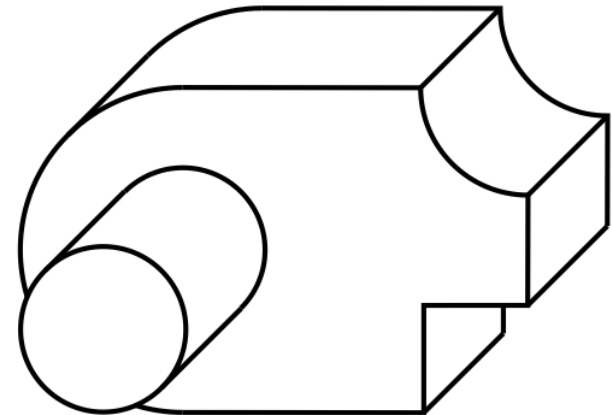
1) Face base.



2) Face posterior



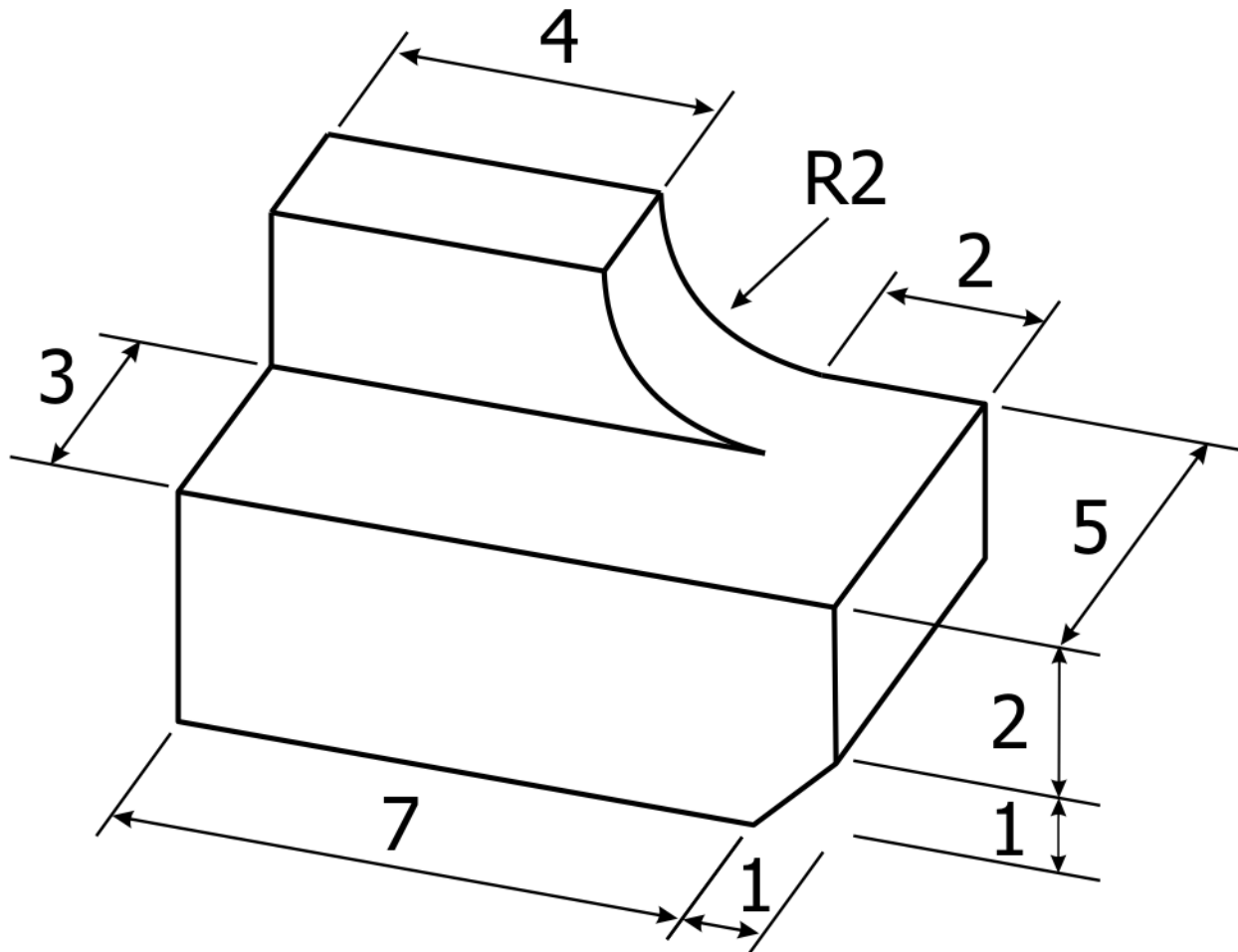
3) Face anterior



4) Perspectiva cavaleira pronta.

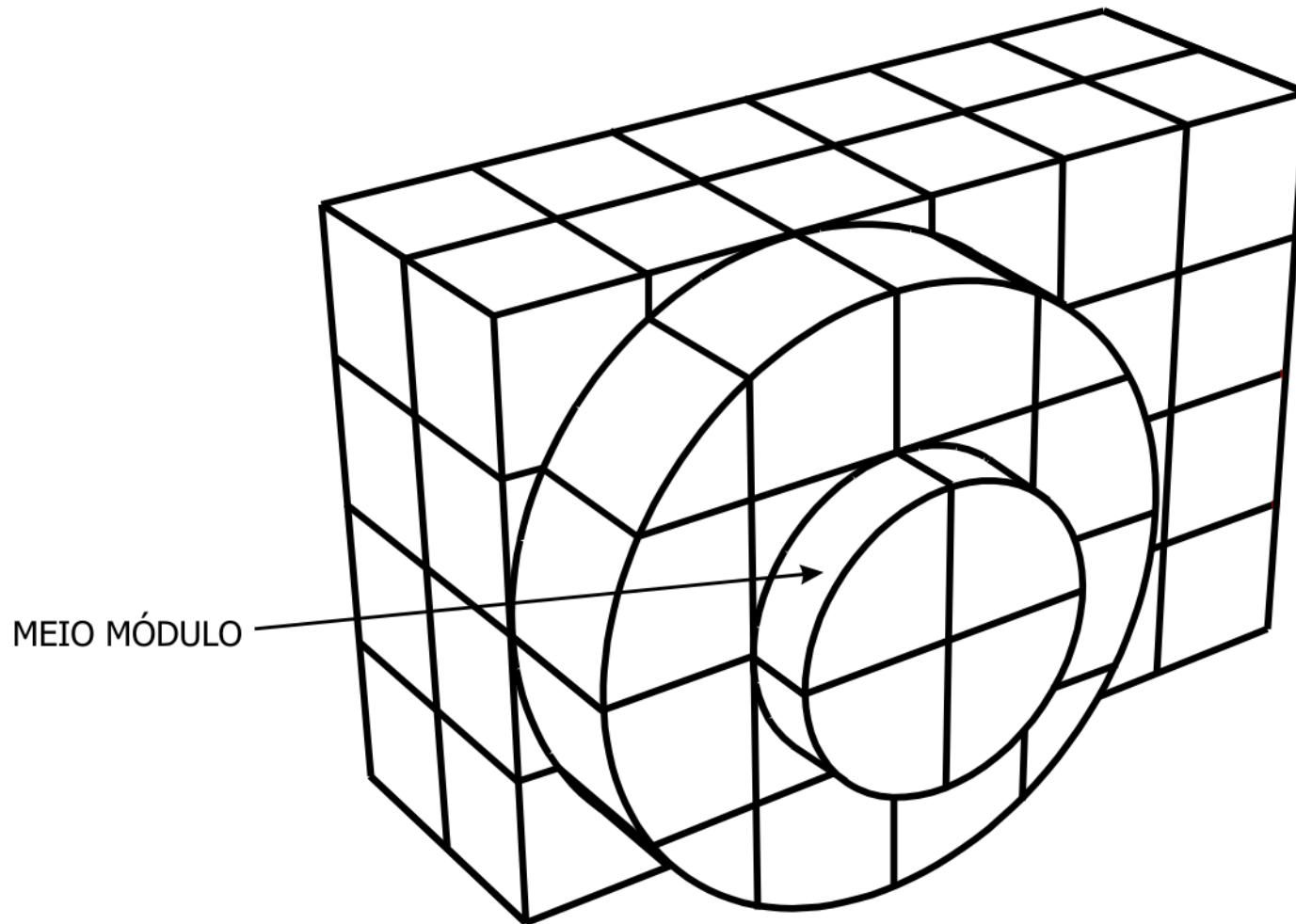
Perspectiva Cavaleira - exercício

Desenhar a perspectiva cavaleira da peça para um $k = 2/3$ e $\alpha = 45^\circ$



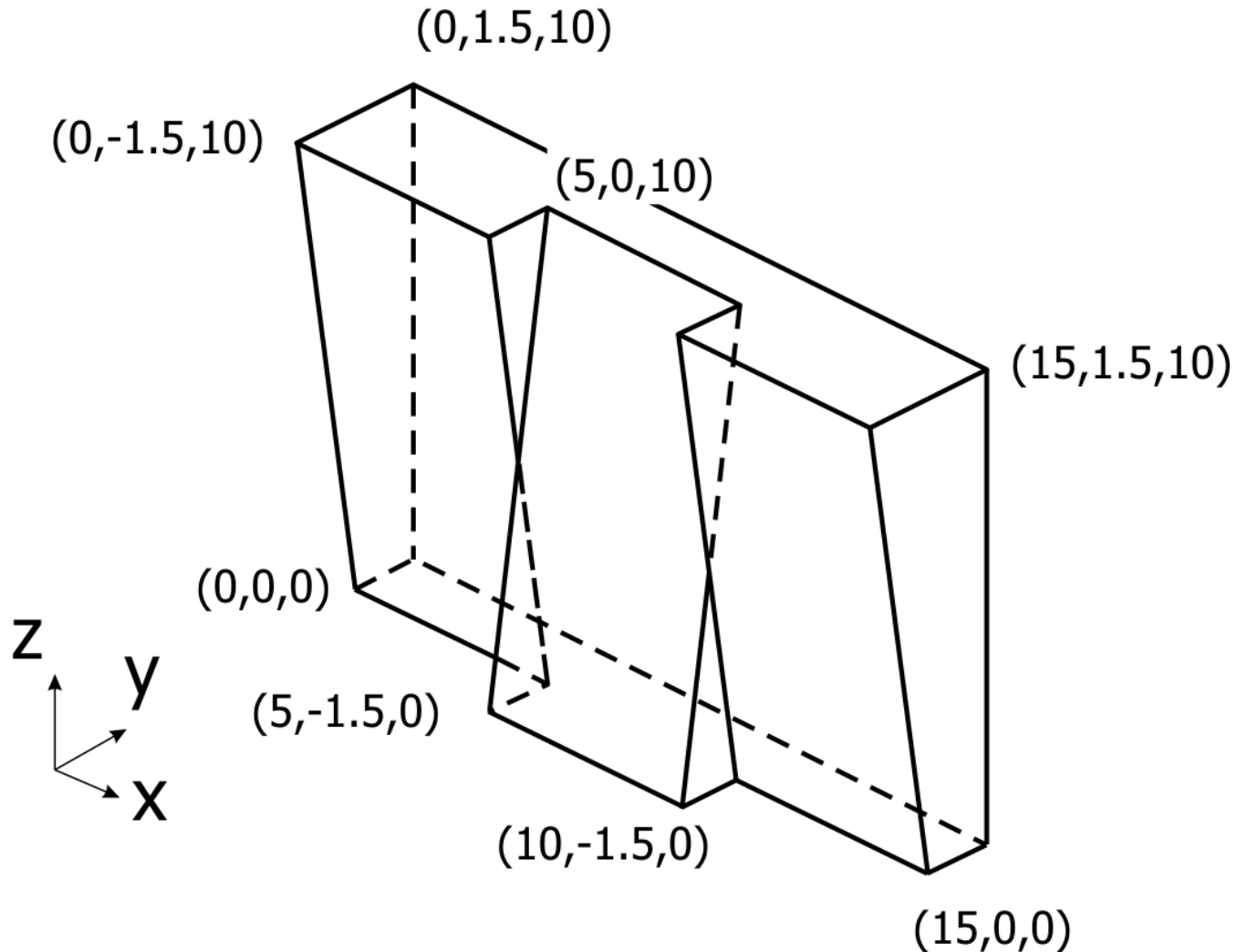
Perspectiva Cavaleira - exercício

Para $k=1/2$ e um α escolhido, desenhe a seguinte peça no 2º quadrante



Perspectiva Cavaleira - exercício

Marque em tracejado um plano auxiliar e desenha a peça que está representada pelas suas coordenadas para um $\alpha=30^\circ$ e um k escolhido



Perspectiva Cavaleira - exercício

Desenhe a perspectiva cavaleira da peça seguinte com $\alpha=60^\circ$ e $k=3/4$, a partir das vistas (medir nas vistas)

