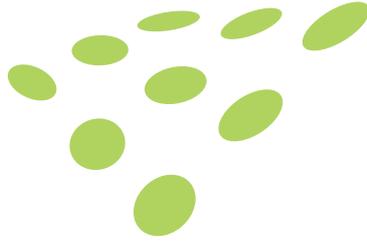
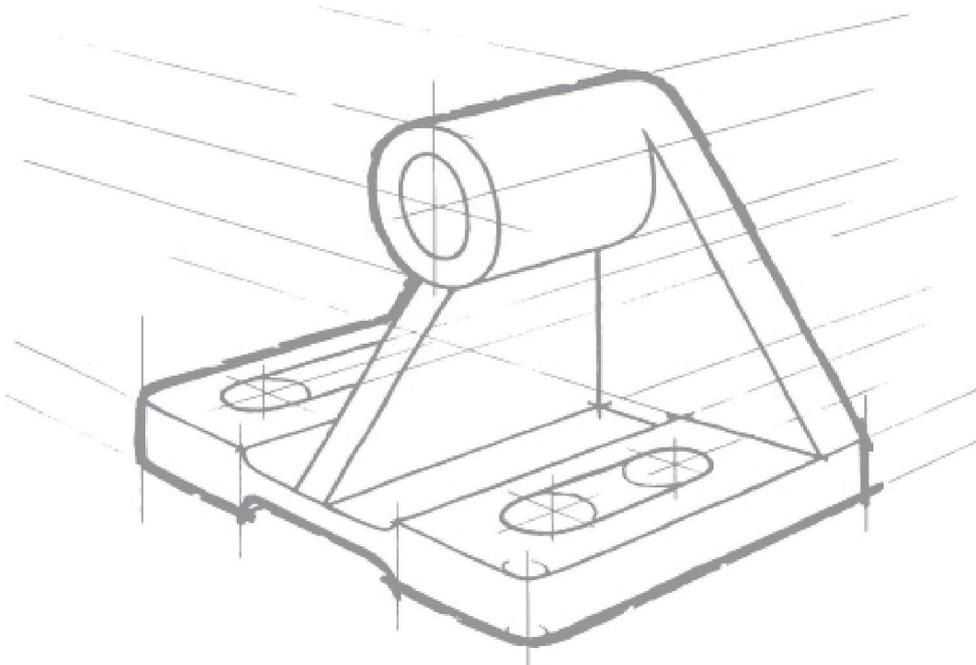
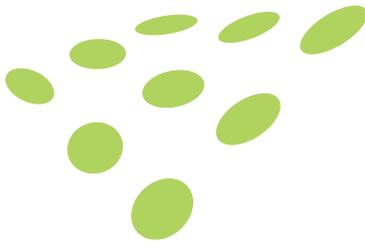


Capítulo 03



# Perspectiva Isométrica

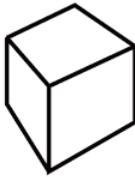




# Desenho em Perspectiva

Quando olhamos para um objeto, temos a sensação de profundidade e relevo. Para transmitir essa idéia ao desenho, é necessário recorrer a um modo especial de representação gráfica: a perspectiva. Ela representa graficamente as três dimensões de um objeto em um único plano, de maneira a transmitir a idéia de profundidade e relevo.

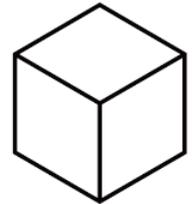
Existem diferentes tipos de perspectiva. Veja como fica a representação de um cubo em três tipos diferentes de perspectiva:



perspectiva cônica



perspectiva cavaleira



perspectiva isométrica

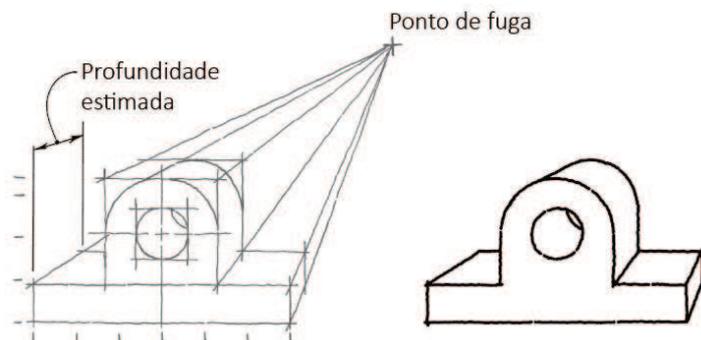
## Perspectiva Cônica

A perspectiva cônica é a forma de representação em perspectiva que mais se assemelha com a percepção que nossos olhos tem de perspectiva. Ela altera as dimensões e a inclinação das arestas de modo a representar a conicidade em direção a um ou mais pontos de fuga.

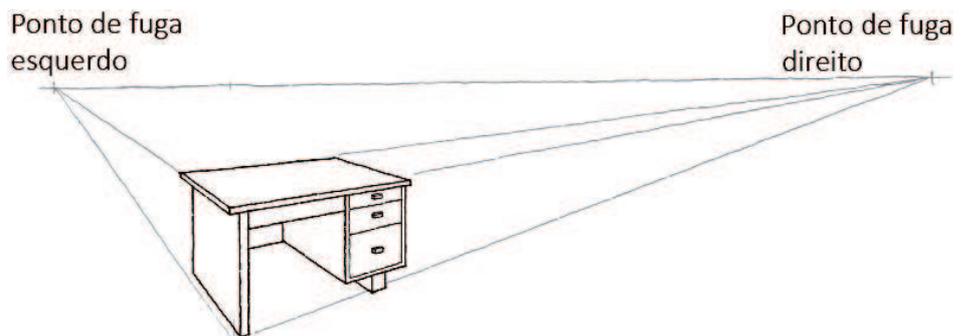
Em desenho mecânico esse tipo de representação em perspectiva não é usual pois representa o componente de forma bastante deformada, ou seja, não em verdadeira grandeza.

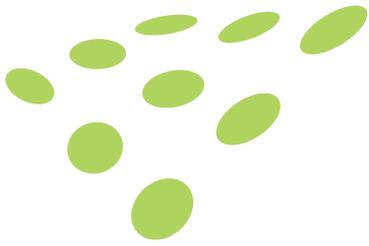
### Exemplos de representações em perspectiva cônica

1 ponto de fuga:



2 pontos de fuga:

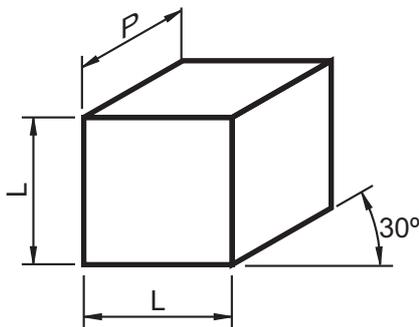




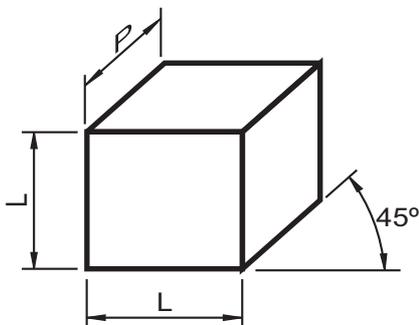
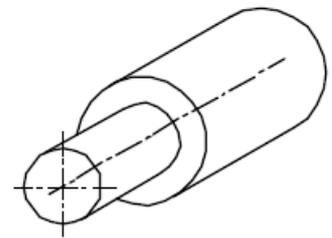
# Desenho em Perspectiva

## Perspectiva Cavaleira

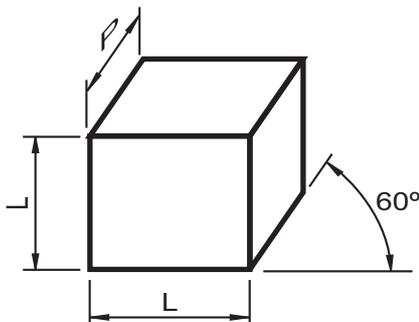
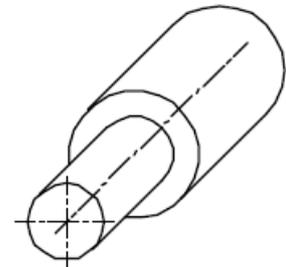
Na representação em perspectiva cavaleira a face frontal da peça é representada em verdadeira grandeza. Ou seja, todas as arestas tem a dimensão e a inclinação real, mas as arestas que representam a profundidade sofrem alteração. Existem três tipos de representar essa profundidade, são eles, inclinar as arestas perpendiculares da profundidade 30°, 45° ou 60°, conforme pode ser visto abaixo.



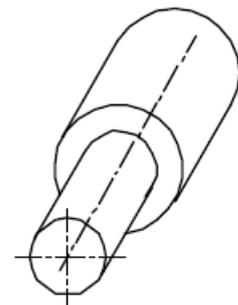
$$P = 2 / 3 L$$

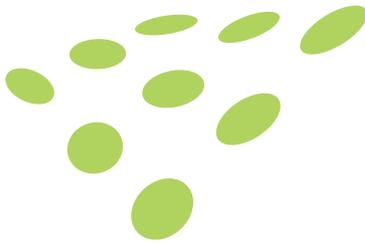


$$P = 1 / 2 L$$



$$P = 1 / 3 L$$





# Desenho em Perspectiva

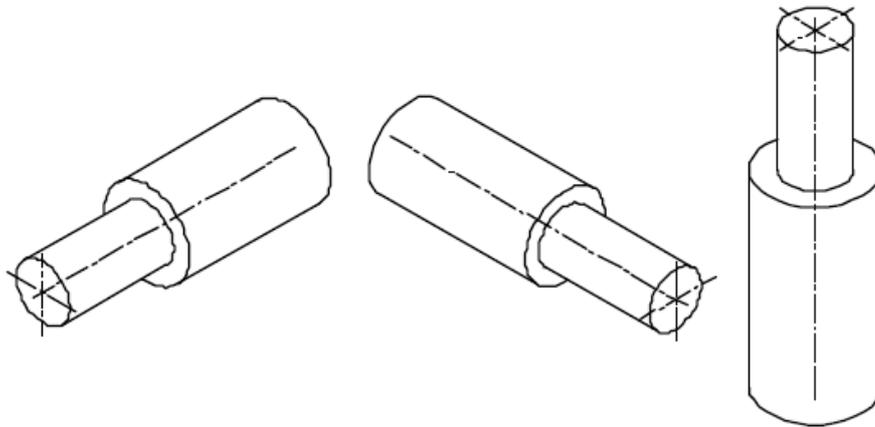
## Perspectiva Isométrica

Cada tipo de perspectiva (Cônica, Cavaleira e Isométrica) mostra o objeto de um jeito. A perspectiva isométrica é a que representa o objeto de forma menos deformada pois mantém as mesmas proporções do comprimento, da largura e da altura do objeto representado.

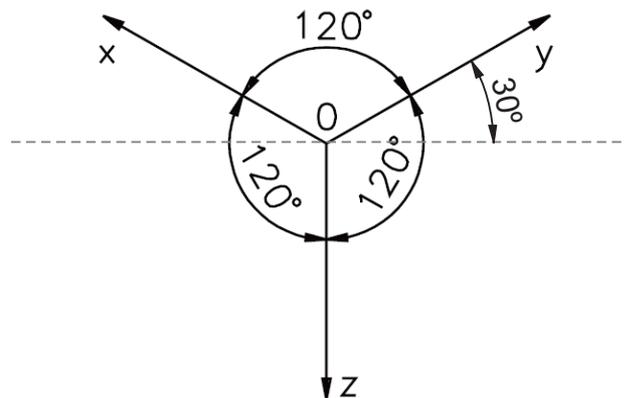
Devido a isso, a representação em perspectiva isométrica é a forma mais utilizada em desenho técnico mecânico.

Desenhos em perspectiva isométrica são feitos, geralmente, em folhas de papel reticulado com o objetivo de representar um esboços de peça existente ou para rascunhar uma peça nova.

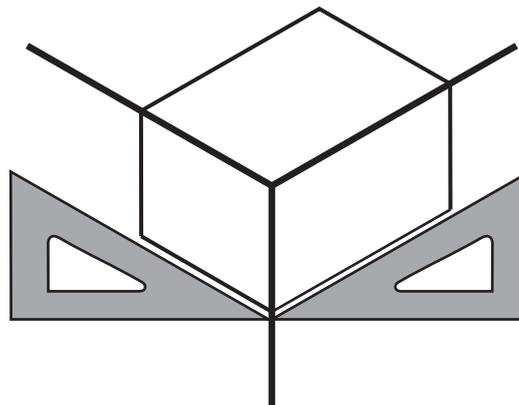
### Exemplos de representações em perspectiva isométrica

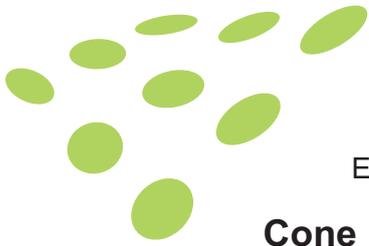


### Ângulos de desenho



### Desenhando perspectivas isométricas com esquadros



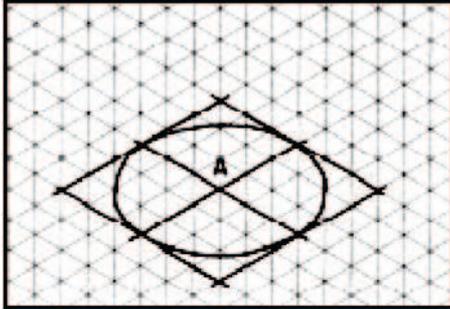


# Perspectiva isométrica

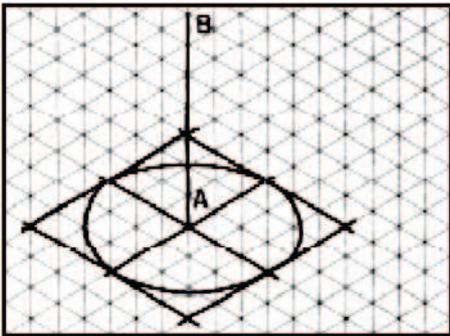
Exemplos de desenhos isométricos utilizando papel reticulado

## Cone

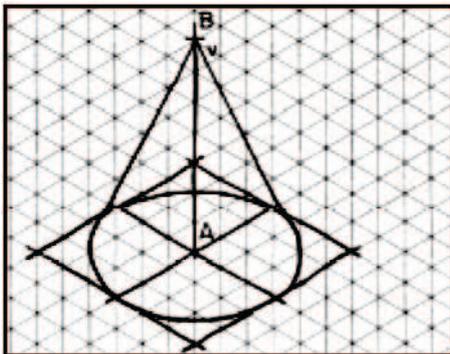
**1ª fase** - Trace a perspectiva isométrica do círculo na face superior e marque um ponto A no cruzamento das linhas que dividem o quadrado auxiliar.



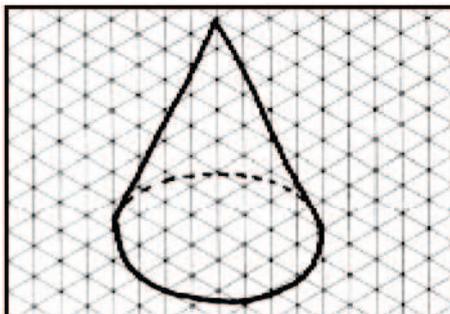
**2ª fase** - A partir do ponto A, trace a perpendicular AB.



**3ª fase** - Ligue o ponto B ao círculo por meio de duas linhas conforme imagem abaixo.

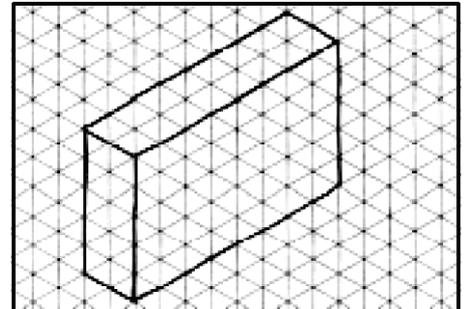


**4ª fase** - Apague as linhas de construção e reforçe o contorno do cone.

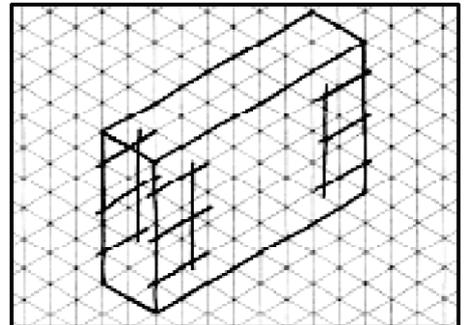


## Peça prismática

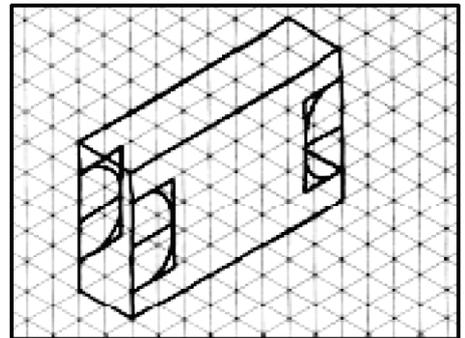
**1ª fase** - Trace o prisma auxiliar respeitando o comprimento, a largura e a altura aproximados do prisma com elementos arredondados.



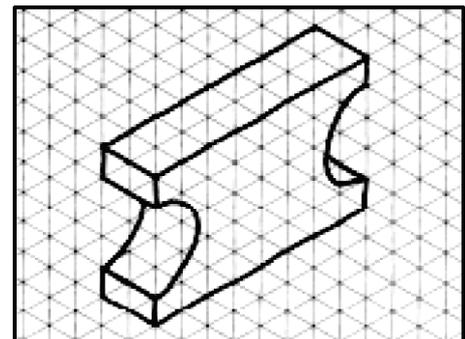
**2ª fase** - Marque, na face anterior e na face posterior, os semiquadrados que auxiliam o traçado dos semicírculos.

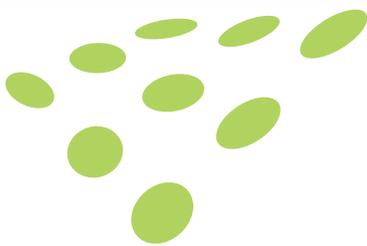


**3ª fase** - Trace os semicírculos que determinam os elementos arredondados, na face anterior e na face posterior do modelo.

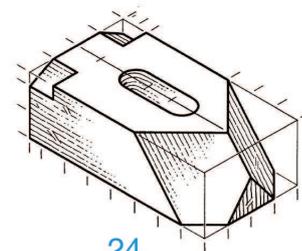
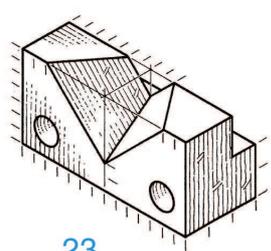
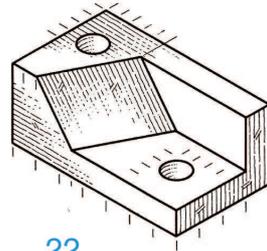
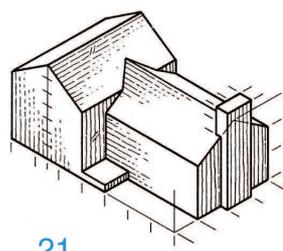
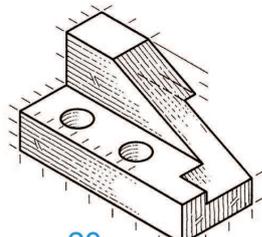
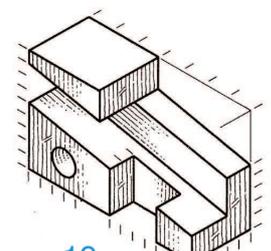
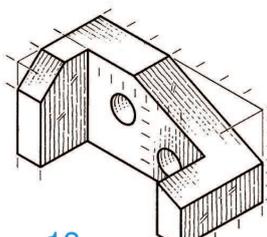
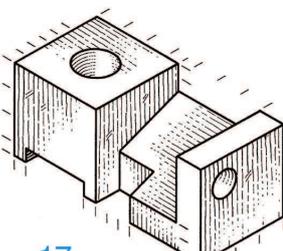
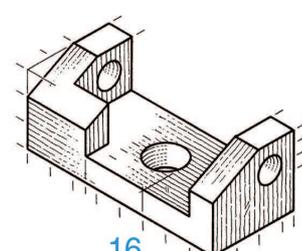
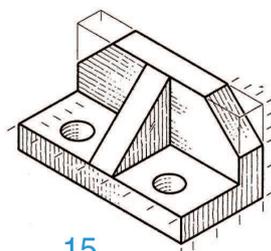
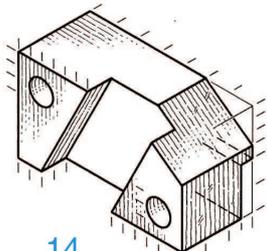
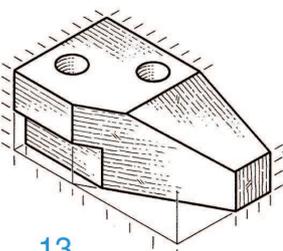
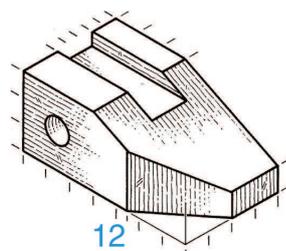
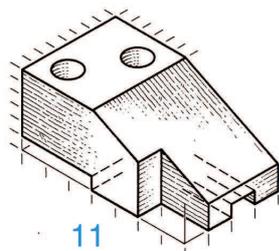
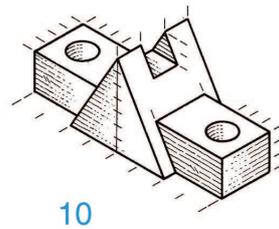
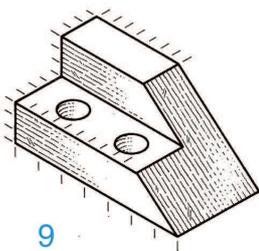
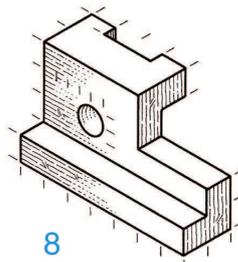
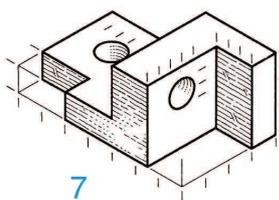
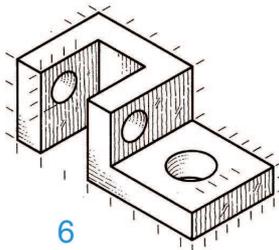
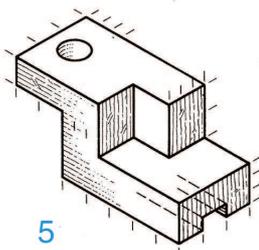
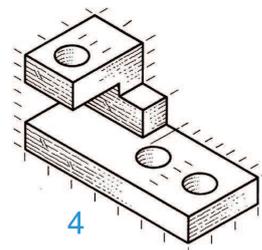
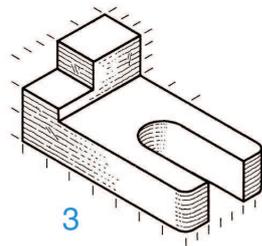
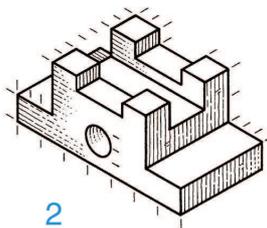
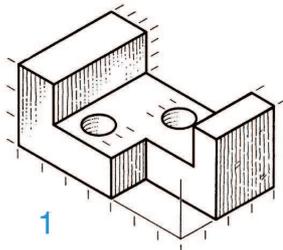


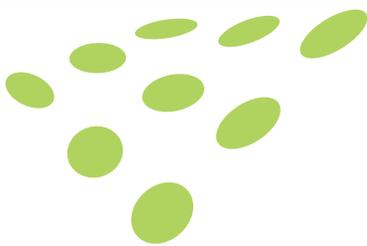
**4ª fase** - Apague as linhas de construção e reforçe o contorno do traçado.



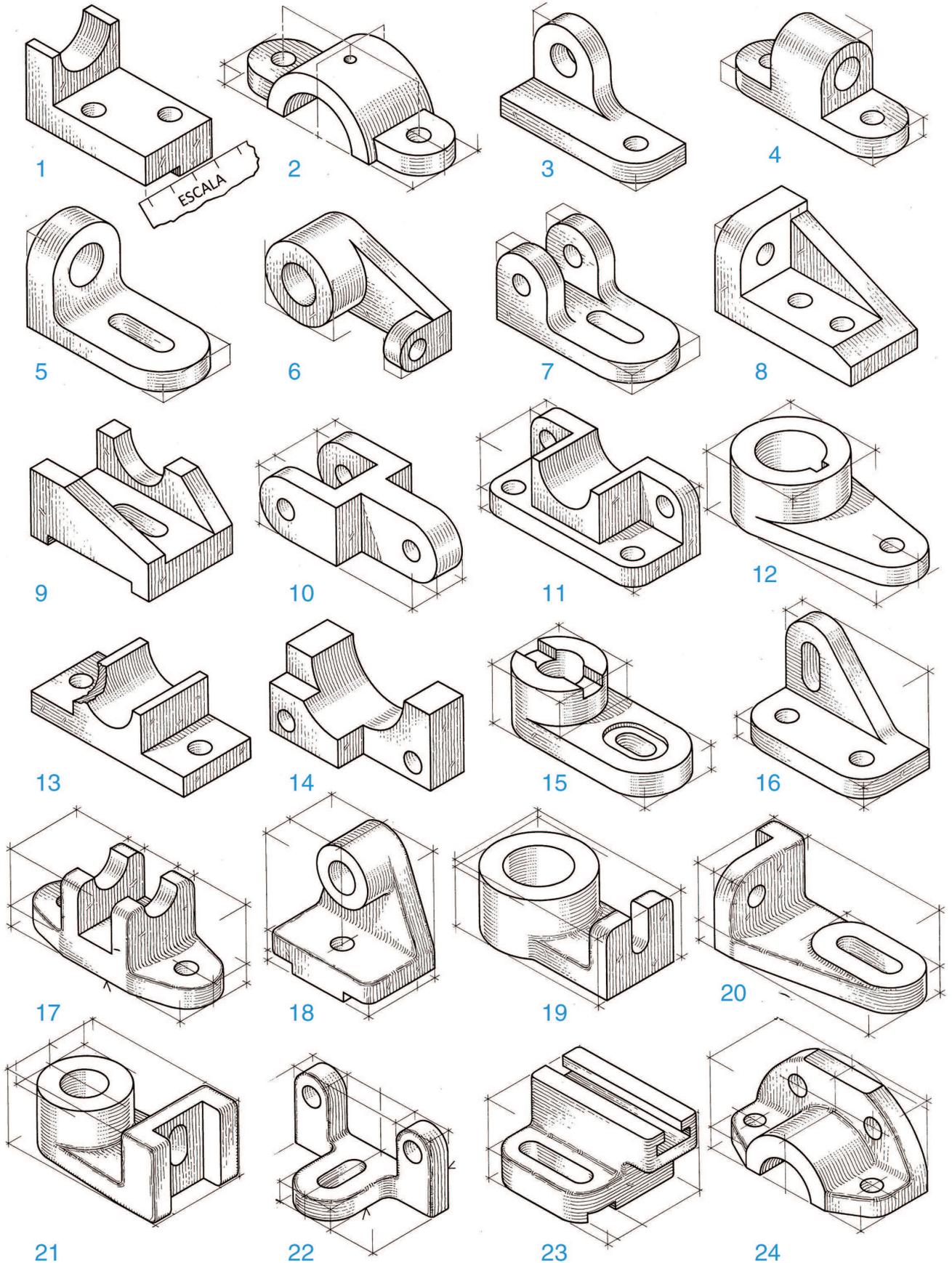


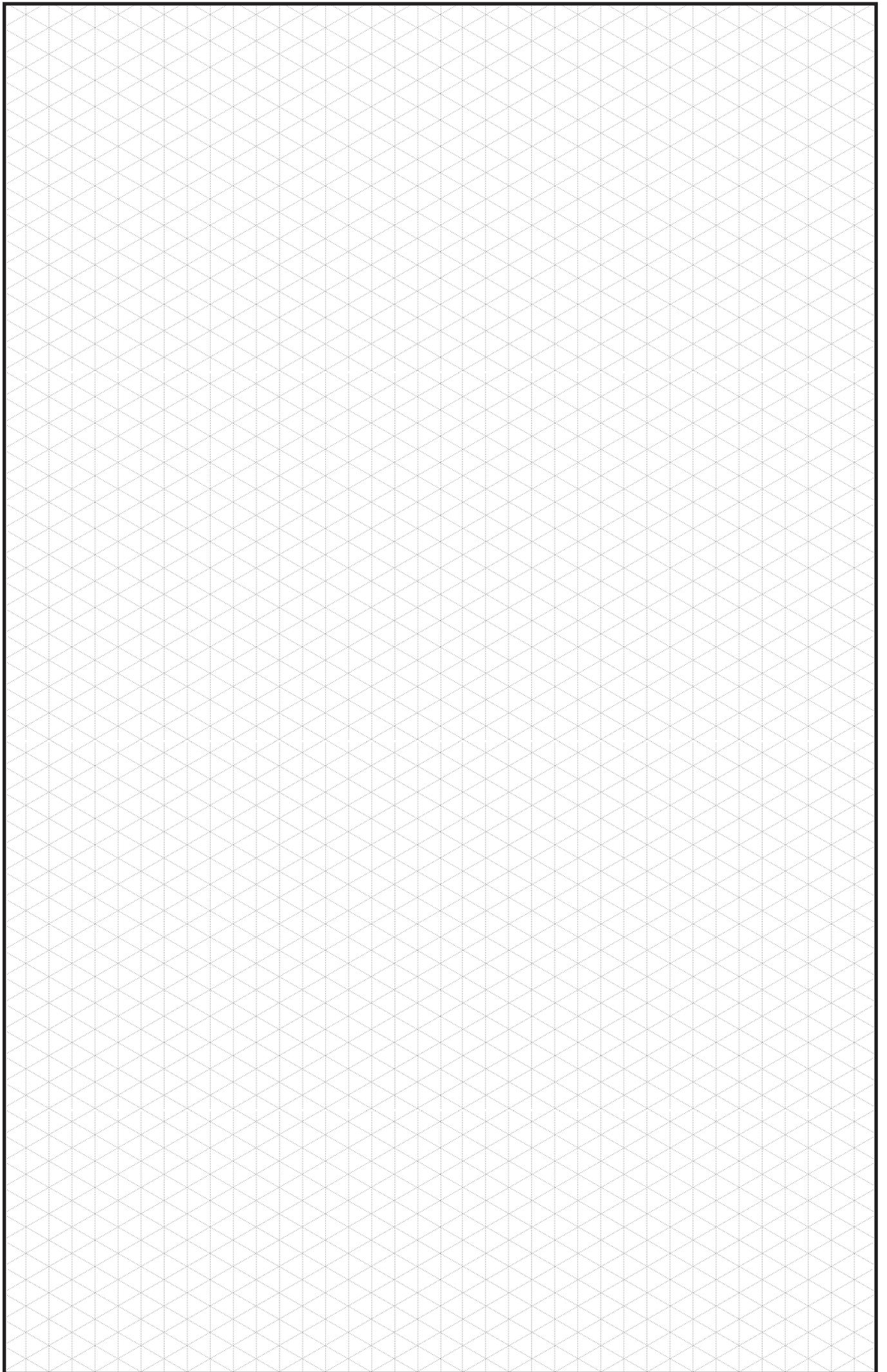
# Desenho em Perspectiva

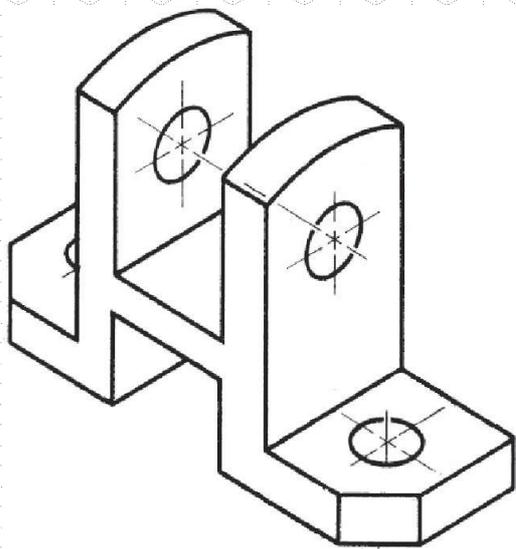


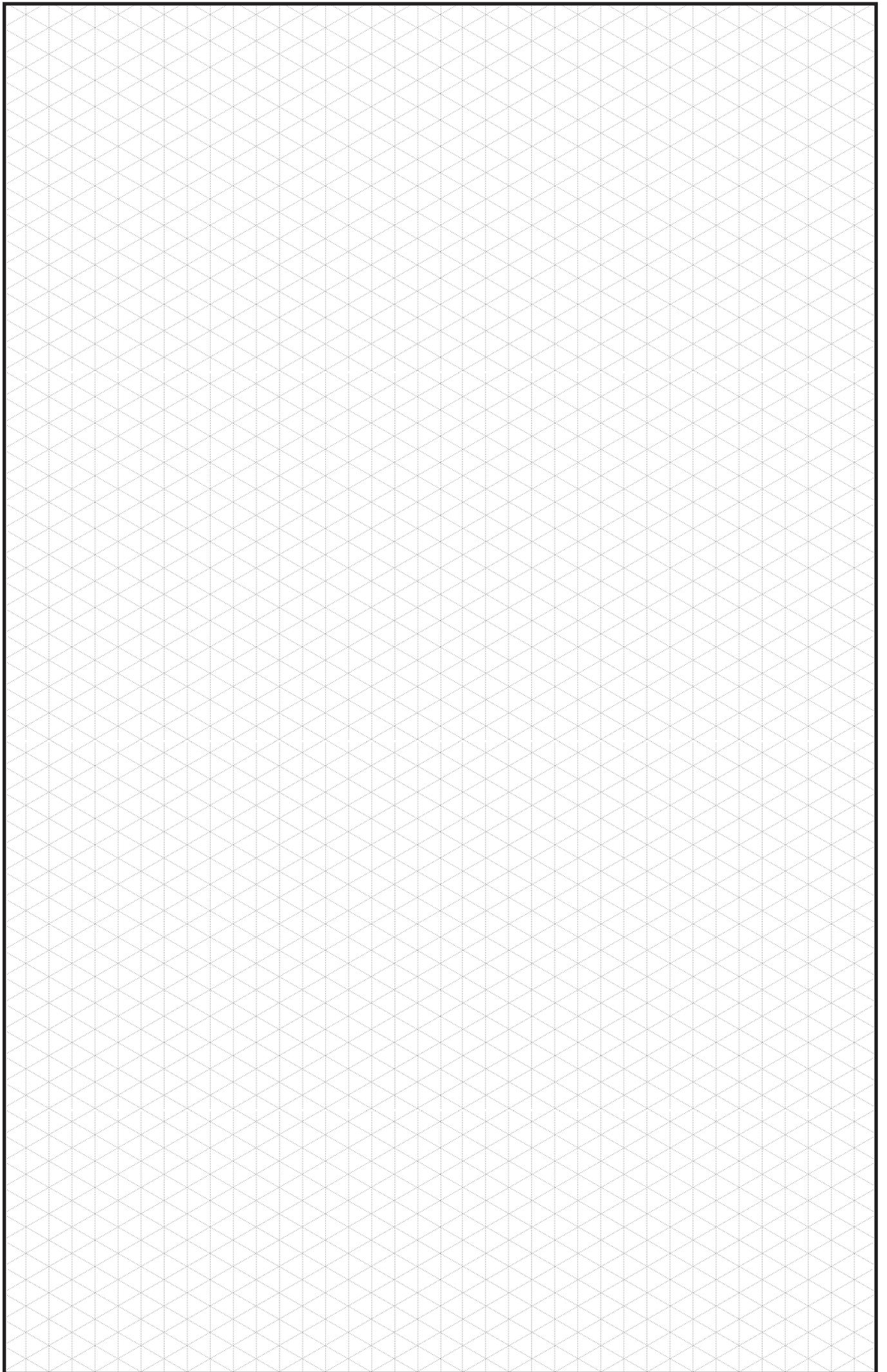


# Desenho em Perspectiva

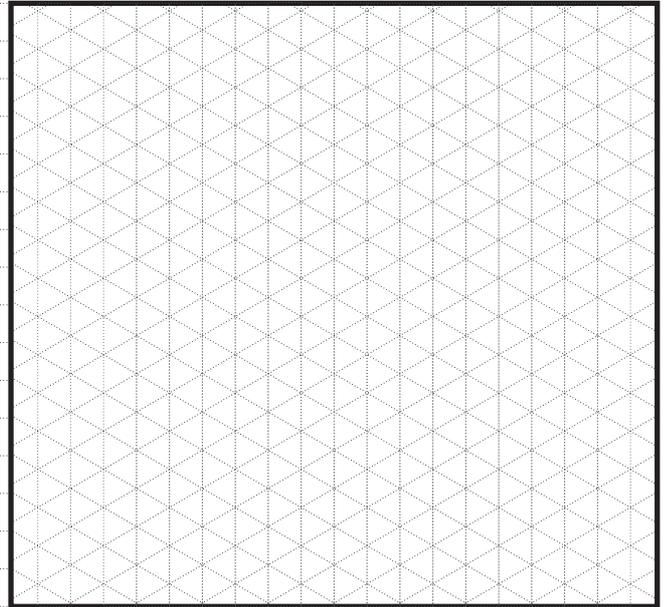
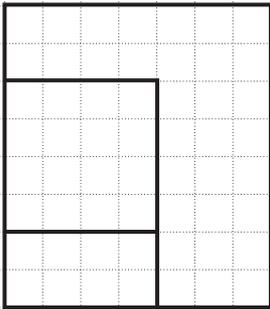
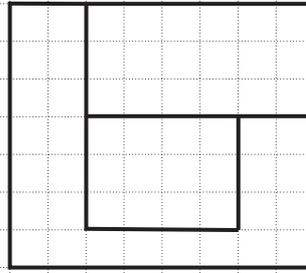
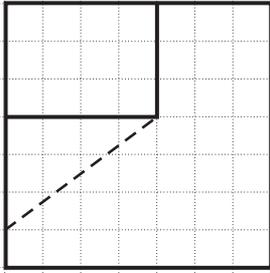




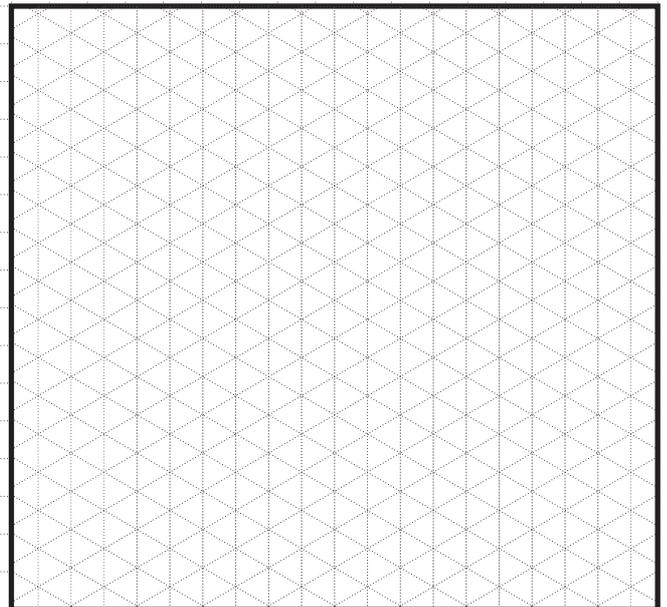
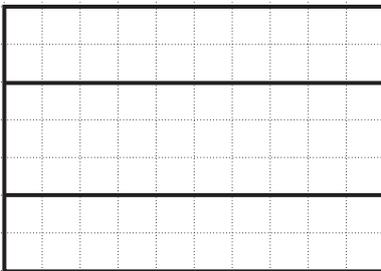
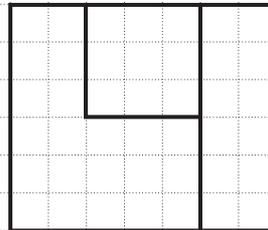
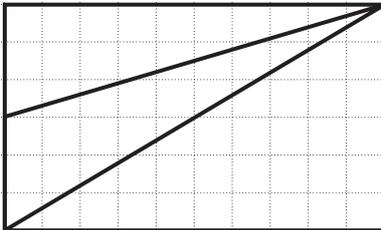




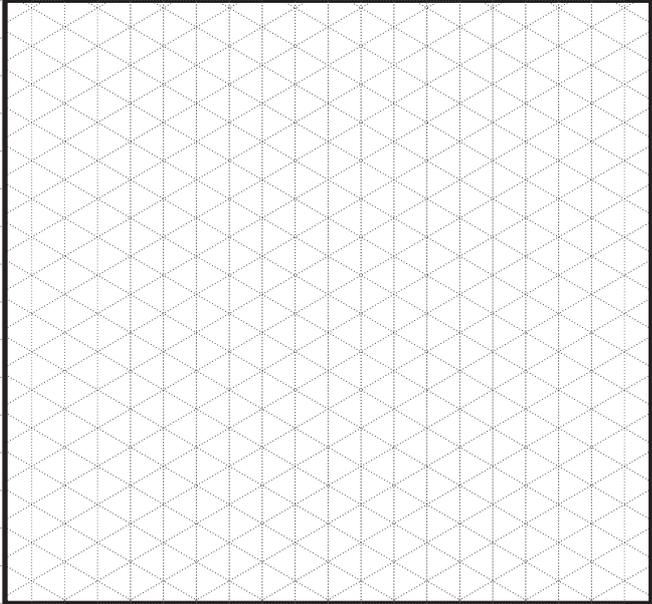
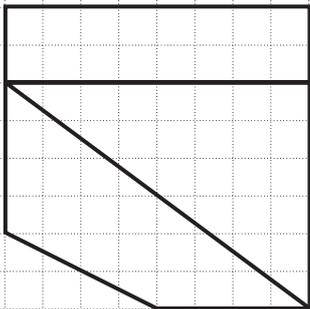
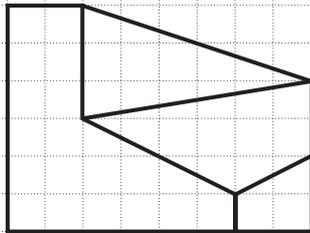
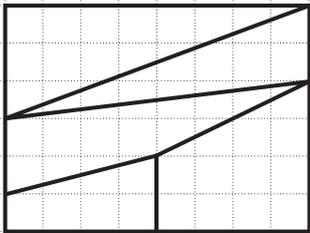
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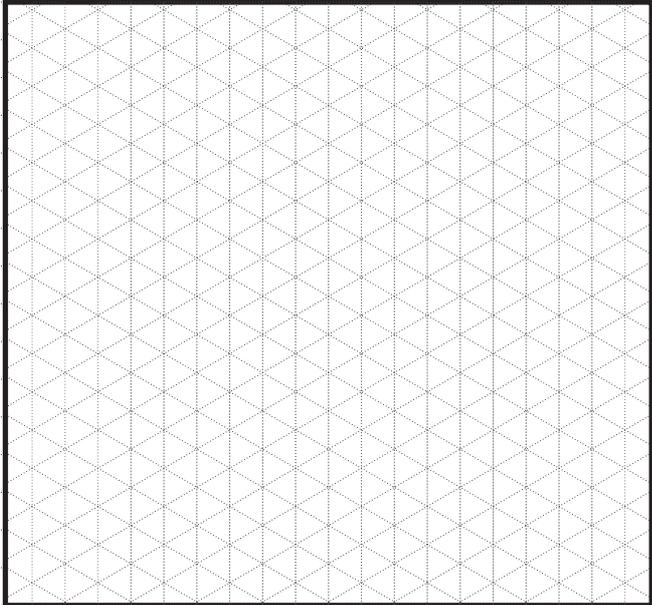
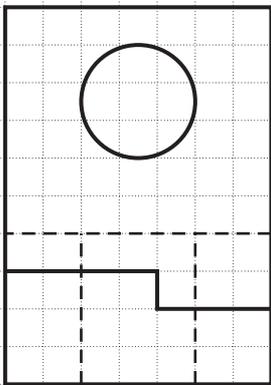
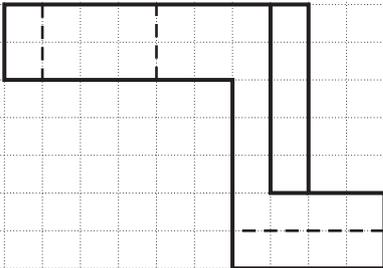
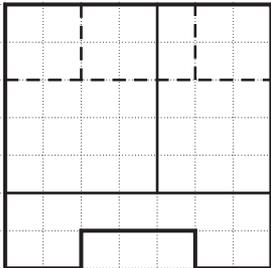
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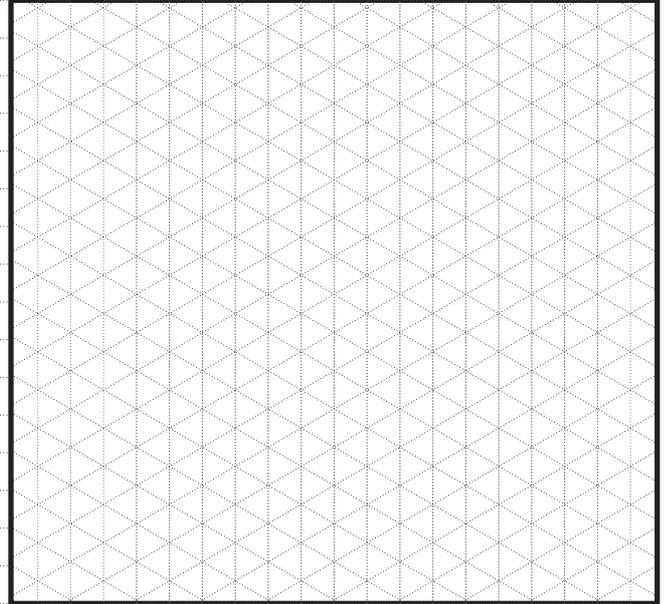
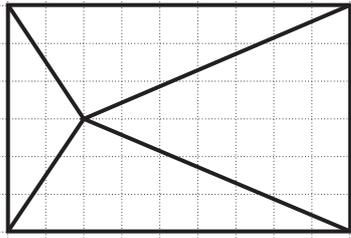
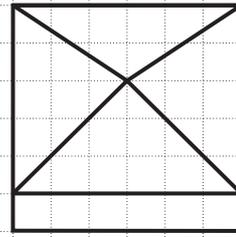
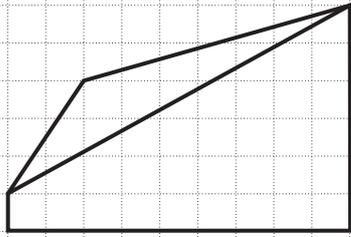
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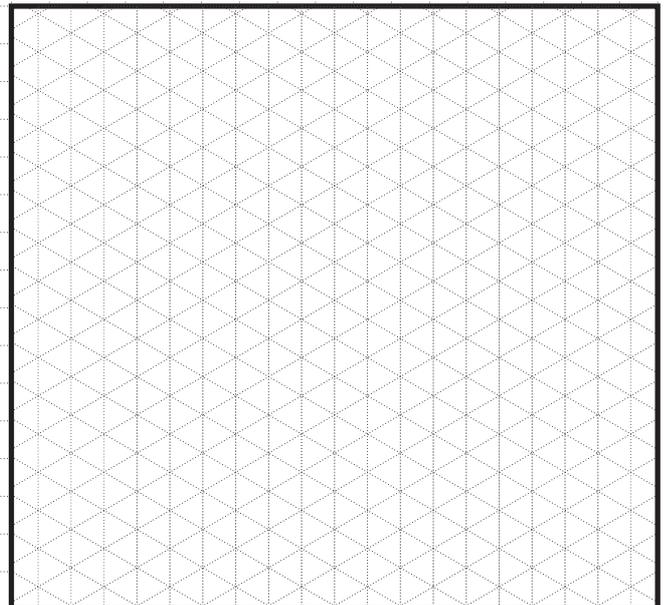
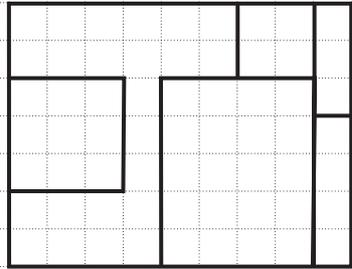
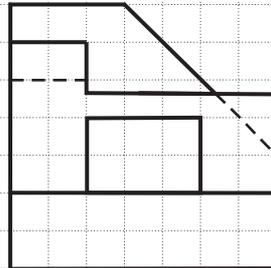
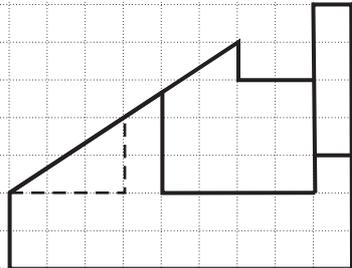
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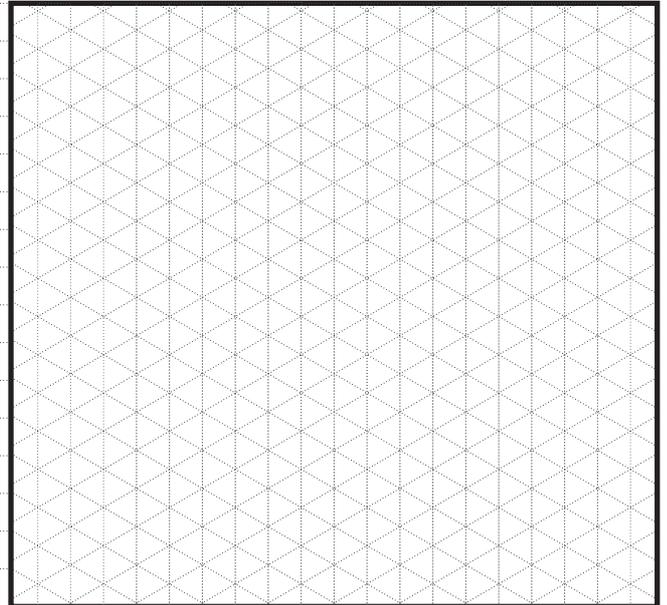
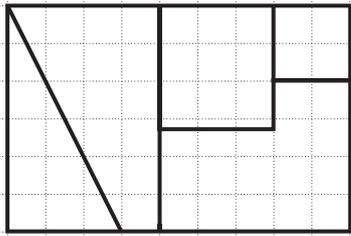
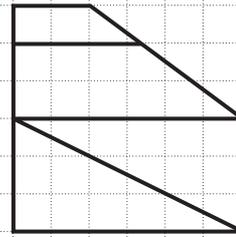
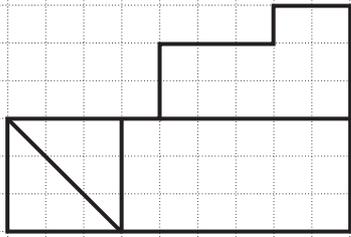
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8

