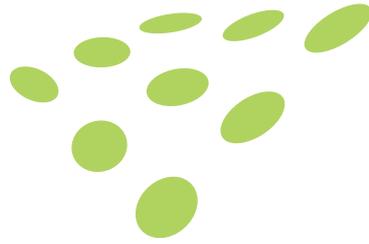
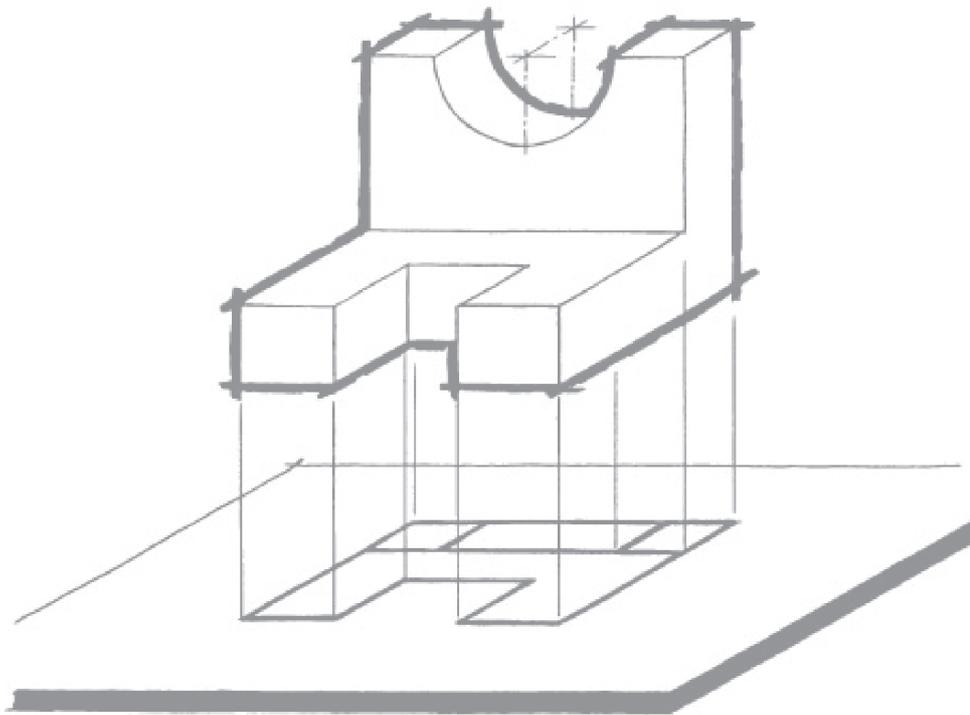
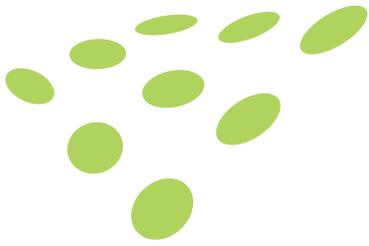


Capítulo 04



# Projeção Ortogonal



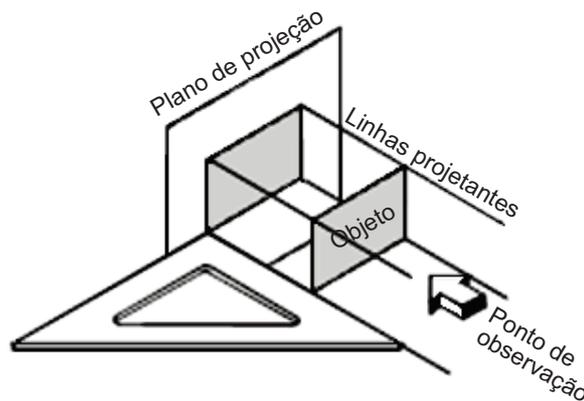


# Projeção Ortogonal

Um objeto quando representado em perspectiva isométrica apresentam certa deformação, isto é, não são mostradas em verdadeira grandeza, apesar de conservarem as mesmas proporções do comprimento, da largura e da altura do objeto.

Além disso, a representação em perspectiva isométrica nem sempre mostra claramente os detalhes internos da peça.

Na indústria, em geral, os desenhos não são representados em perspectiva, mas sim em projeção ortogonal. A projeção ortogonal é uma forma de representar graficamente objetos tridimensionais em superfícies planas, de modo a transmitir suas características com precisão e demonstrar sua verdadeira grandeza. Em qualquer tipo de projeção, os elementos fundamentais são: o Ponto de observação, as linhas projetantes, o plano de projeção e o objeto real imaginário a ser representado (ver figura abaixo).



## Diedros

A representação por quadrantes ou Diedros divide o espaço em quatro regiões. Cada diedro é a região limitada por dois semiplanos perpendiculares entre si.

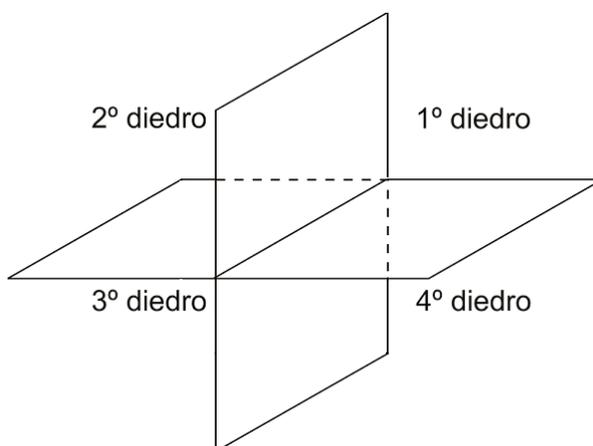
Atualmente, a maioria dos países que utilizam o método de representação por diedros adotam a projeção ortogonal no 1º diedro. No Brasil, a ABNT recomenda a representação no 1º diedro.

Entretanto, alguns países, como por exemplo os Estados Unidos e o Canadá, representam seus desenhos técnicos no 3º diedro.

No 1º Diedro o objeto se situa entre o observador e o plano de projeção.

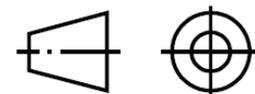
No 3º Diedro o plano de projeção se situa entre o objeto e o observador.

É importante observar em que diedro esta representado o desenho para evitar o risco de interpretar errado as características do objeto.

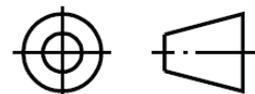


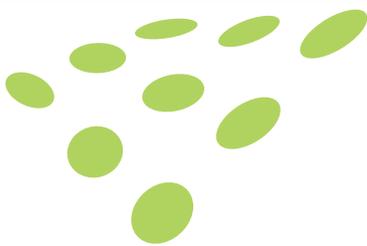
Este símbolo indica que o desenho técnico está representado no 1º diedro.

Este símbolo aparece no canto inferior direito da folha de papel dos desenhos técnicos, dentro da Legenda.

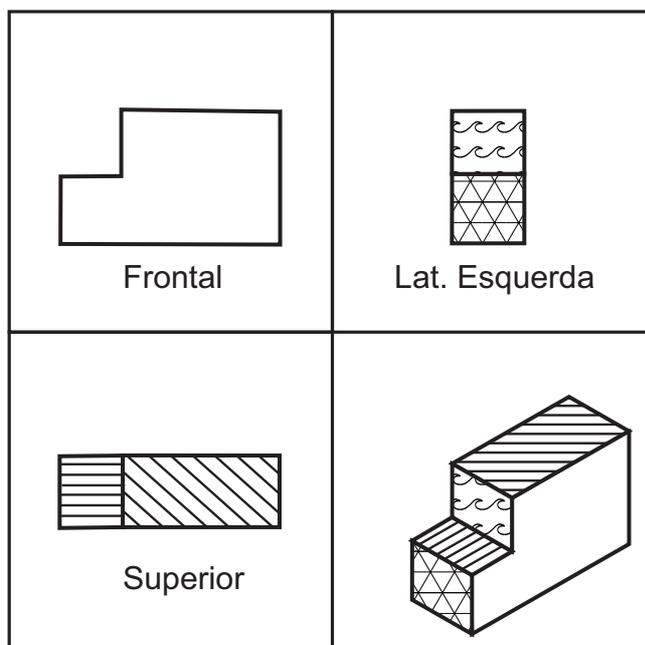
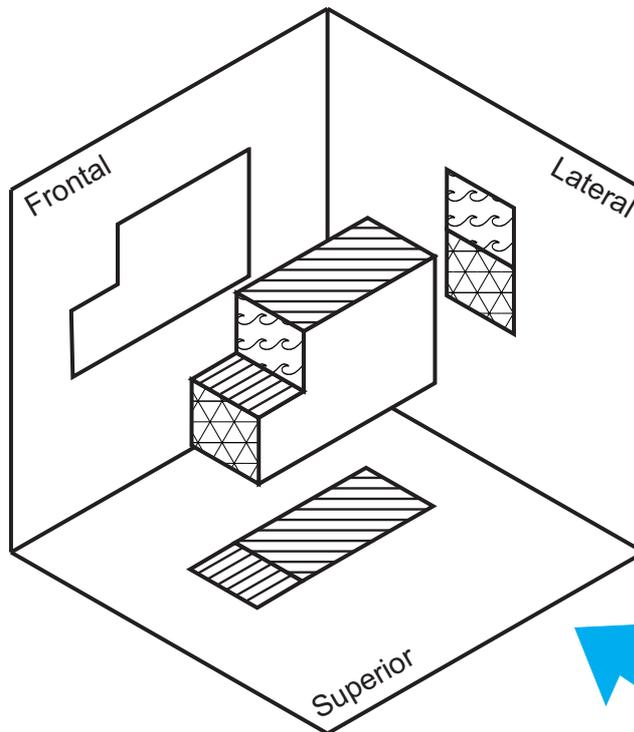
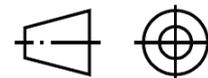


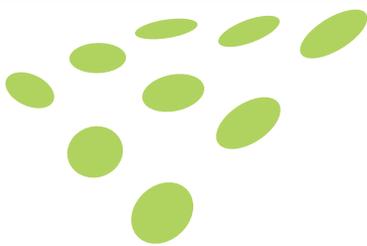
Quando o desenho técnico estiver representado no 3º diedro, você verá este outro símbolo:



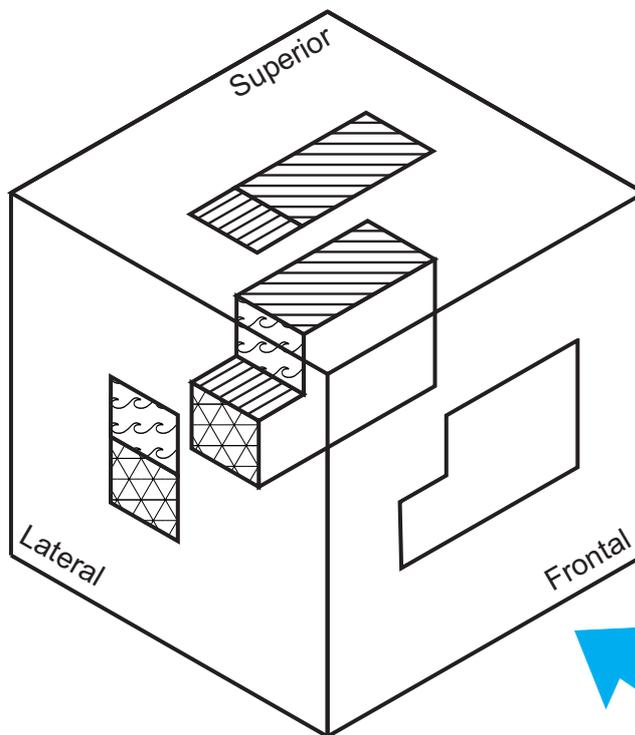
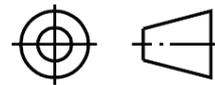


# Primeiro Diedro

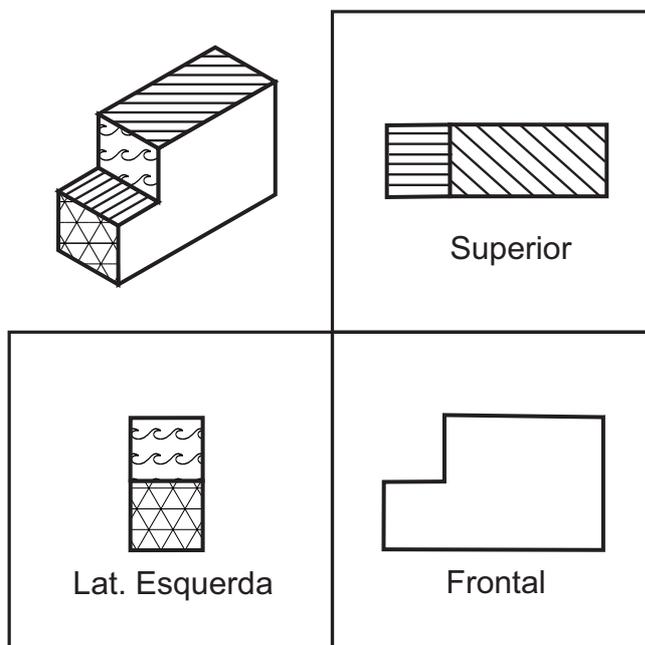


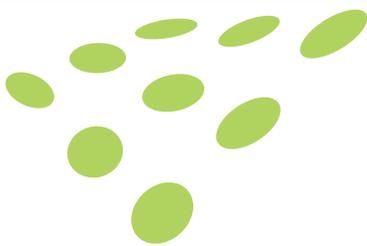


# Terceiro Diedro

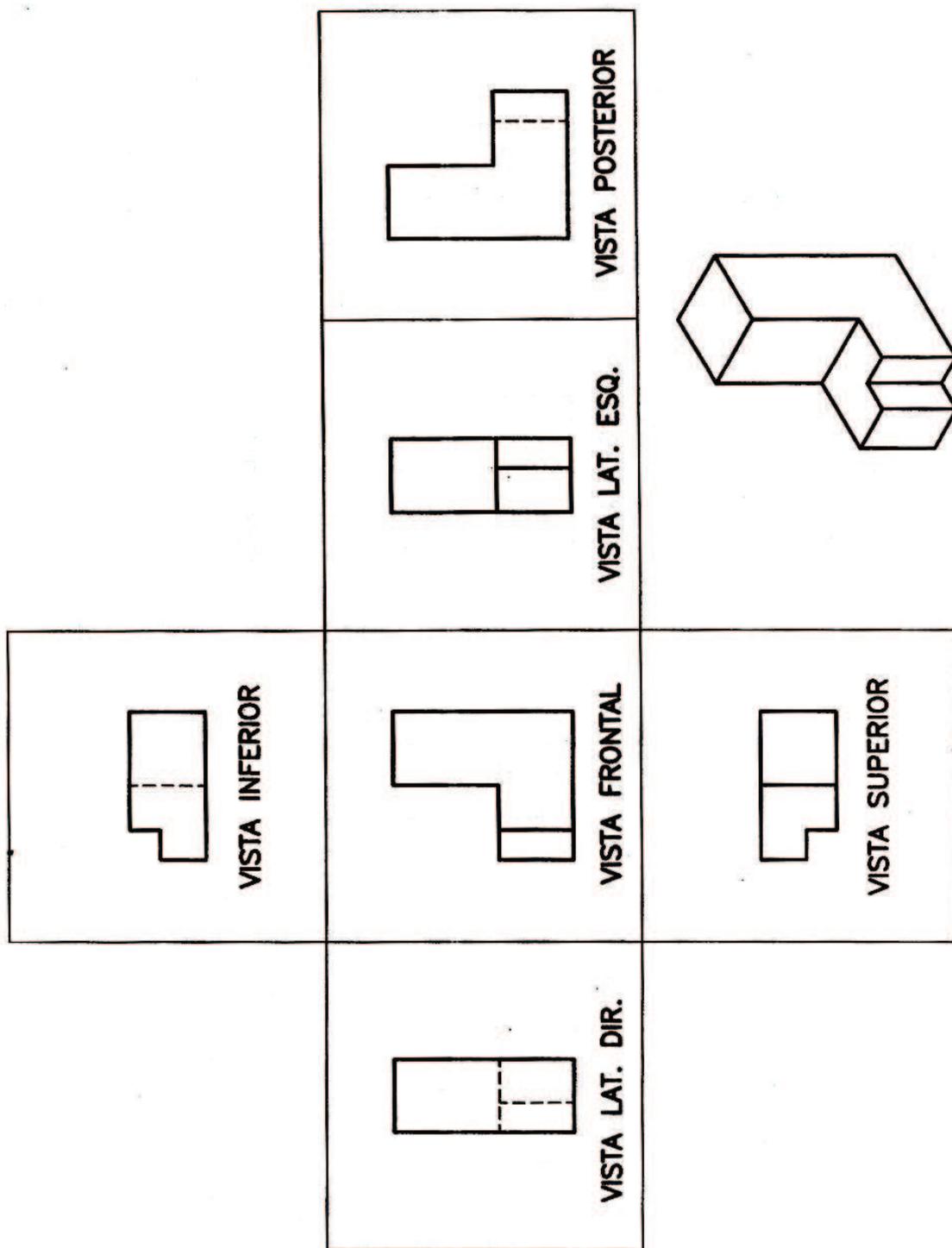
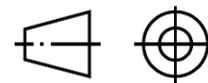


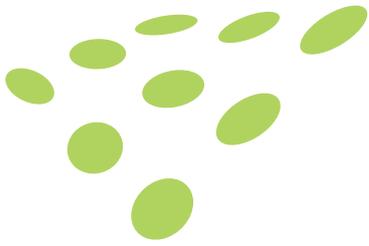
Ponto de observação



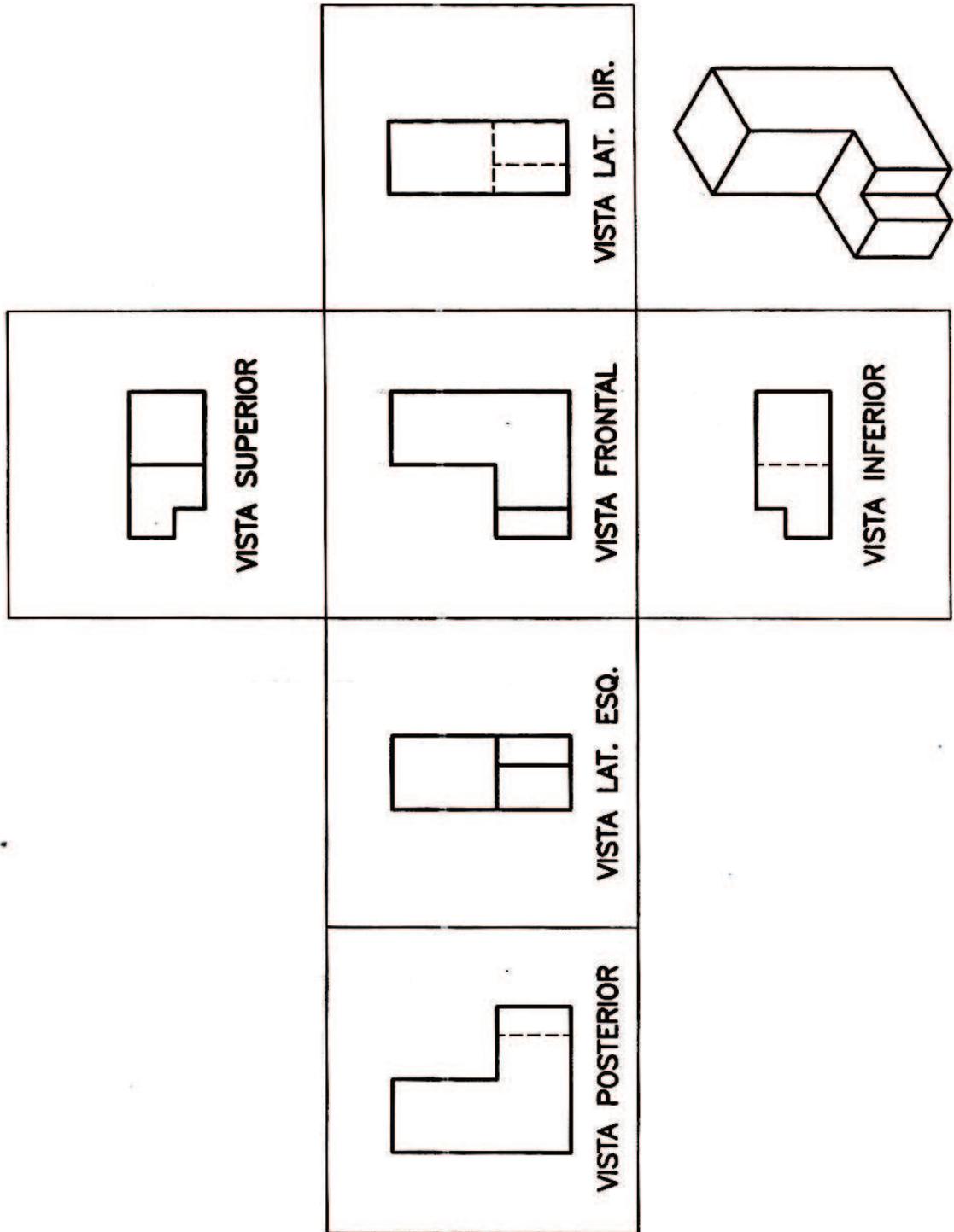
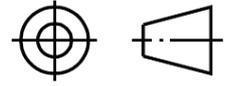


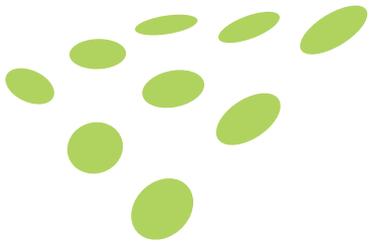
# Primeiro Diedro



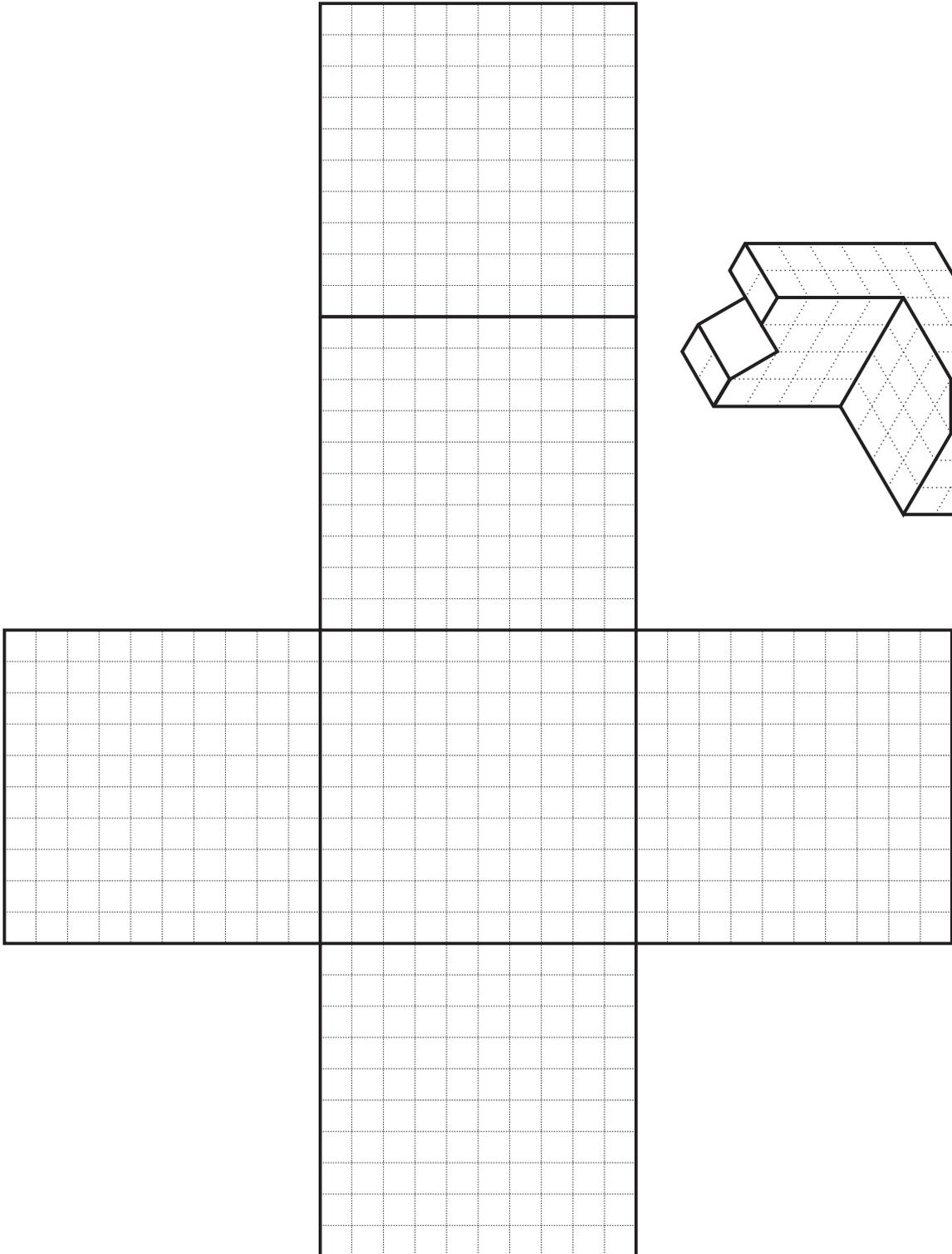


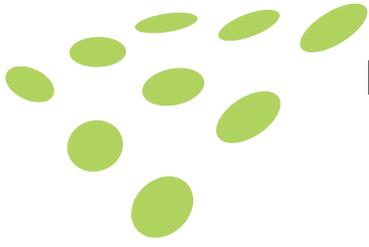
# Terceiro Diedro



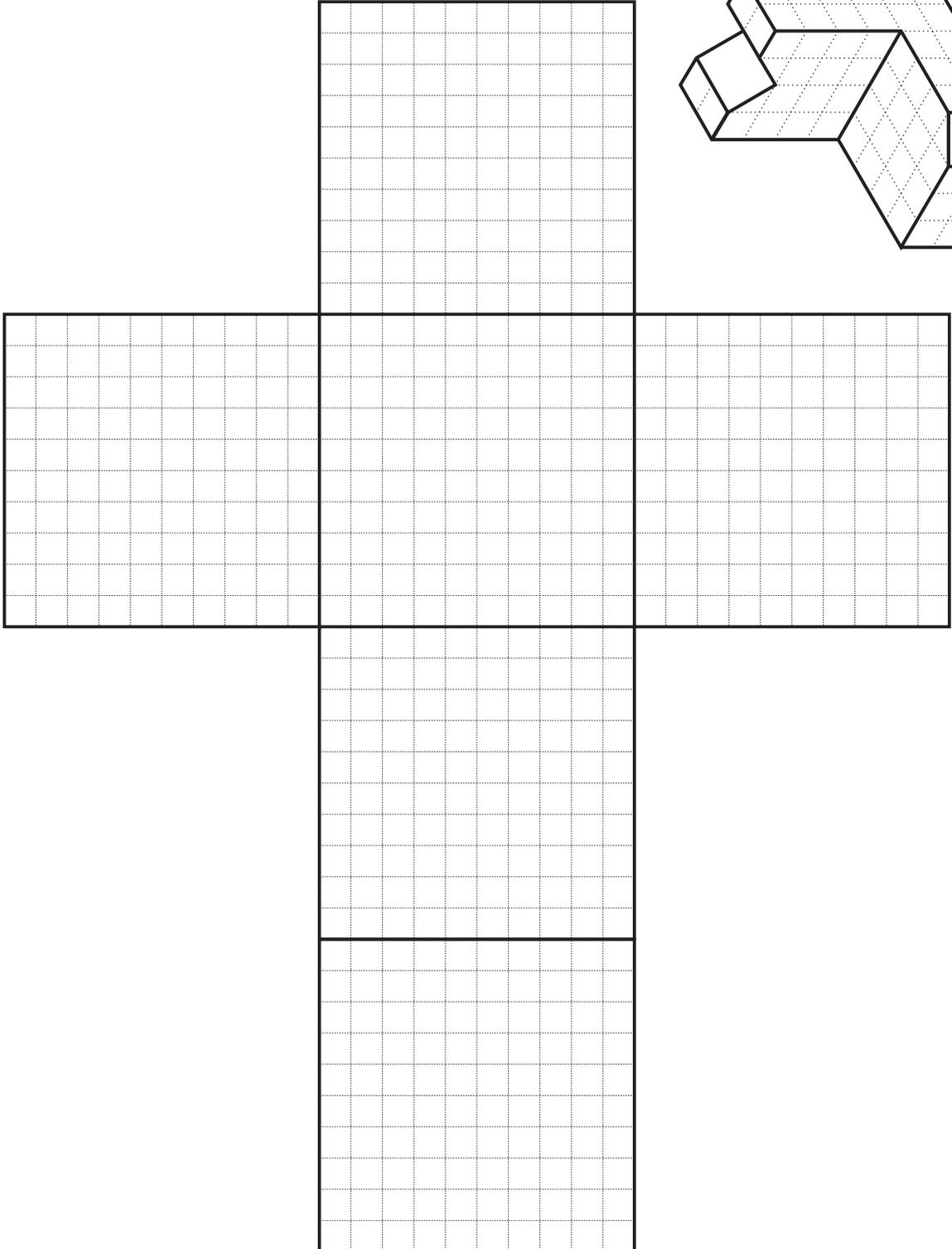
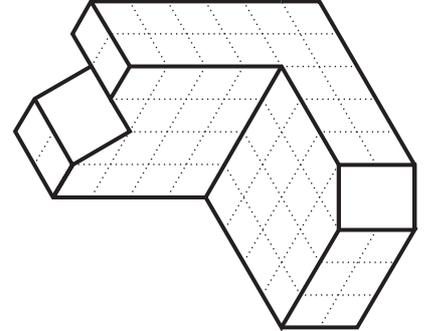


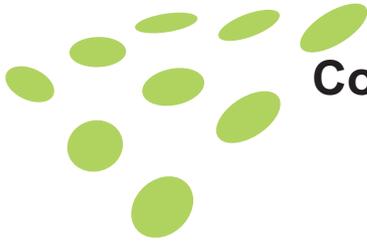
# Representar a peça no Primeiro Diedro



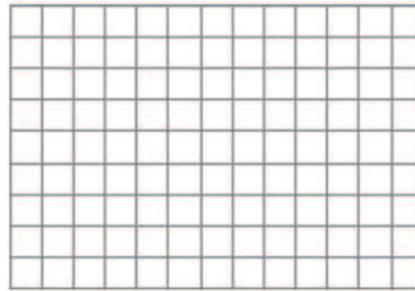
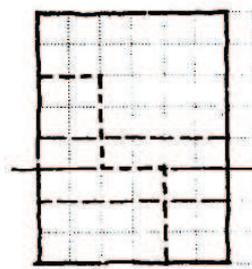
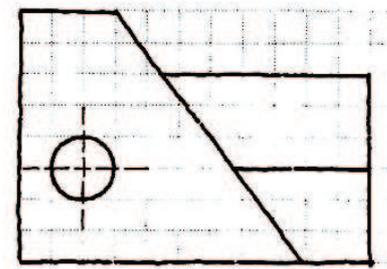
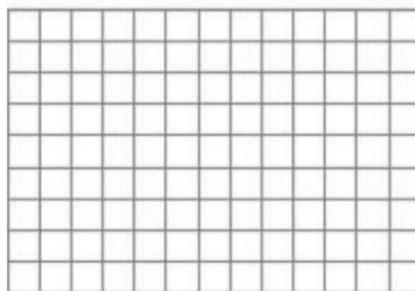
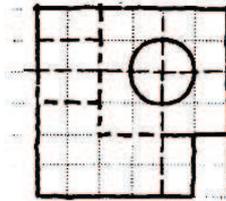
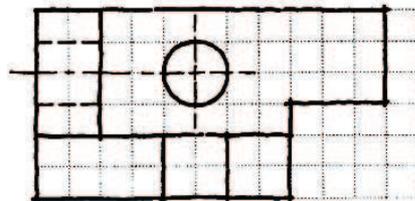
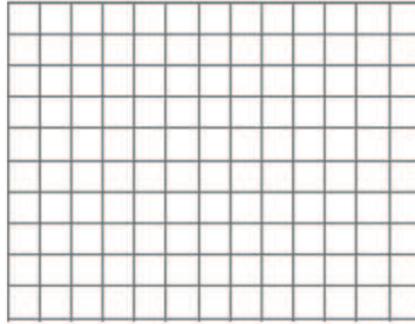
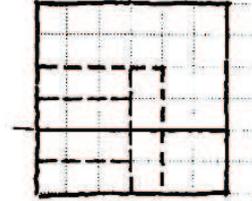
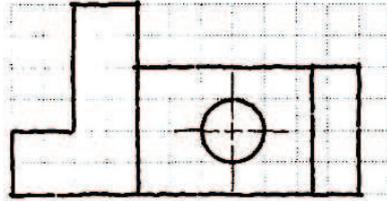


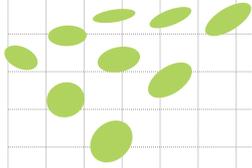
# Representar a peça no Terceiro Diedro



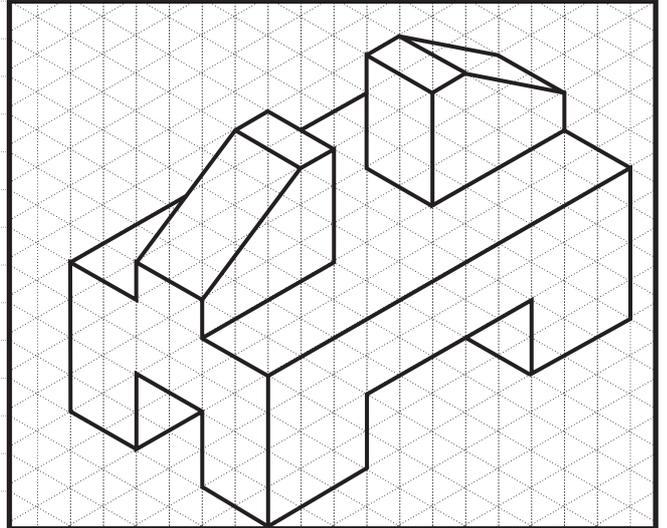


# Complete as projeções com a vista faltante

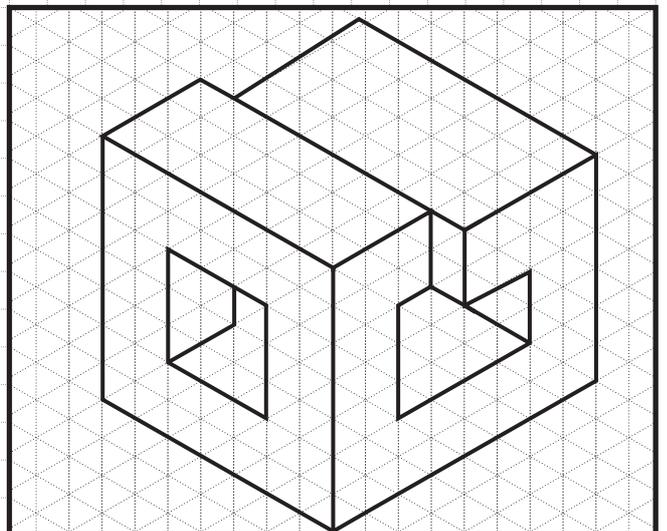


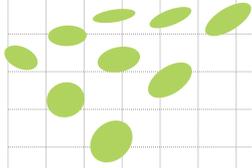


1

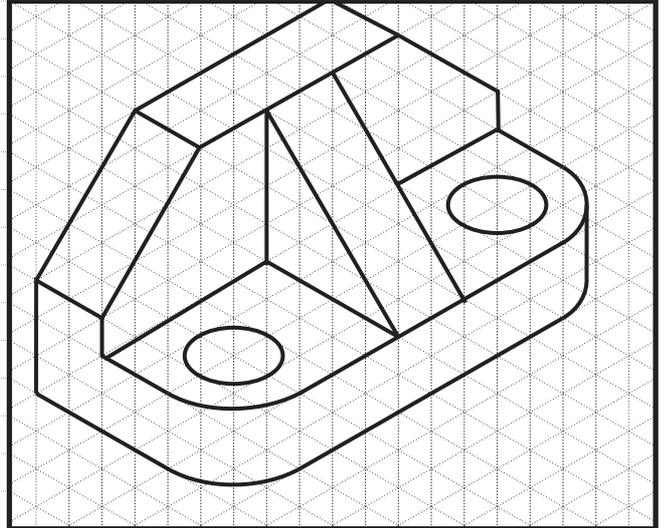


2

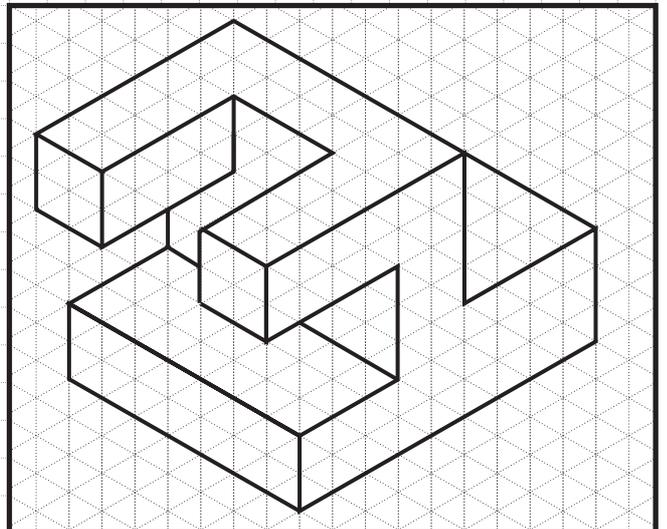


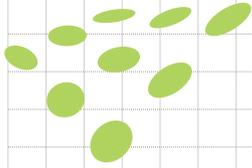


3

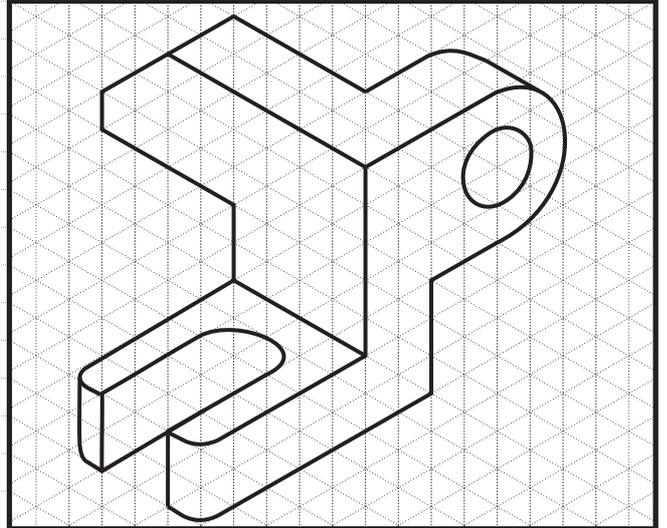


4

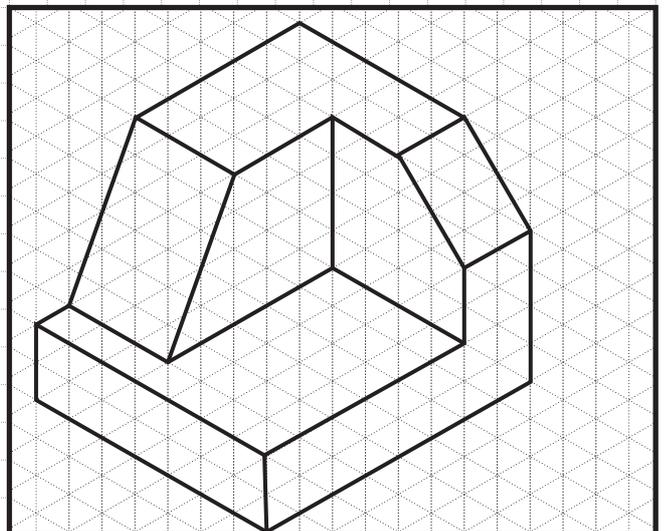


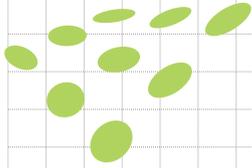


5

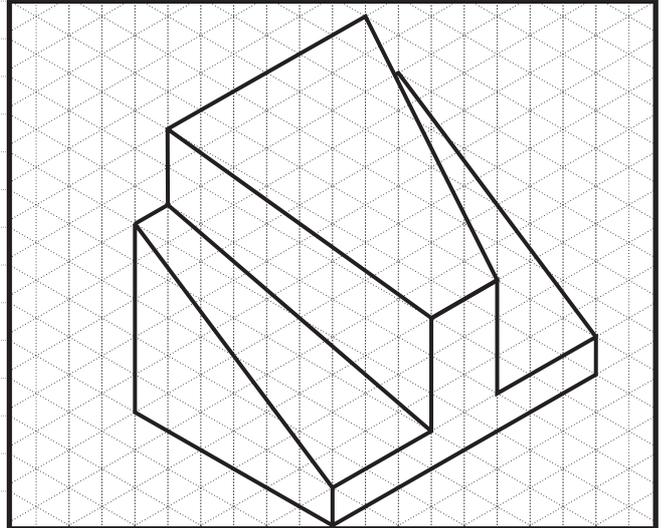


6

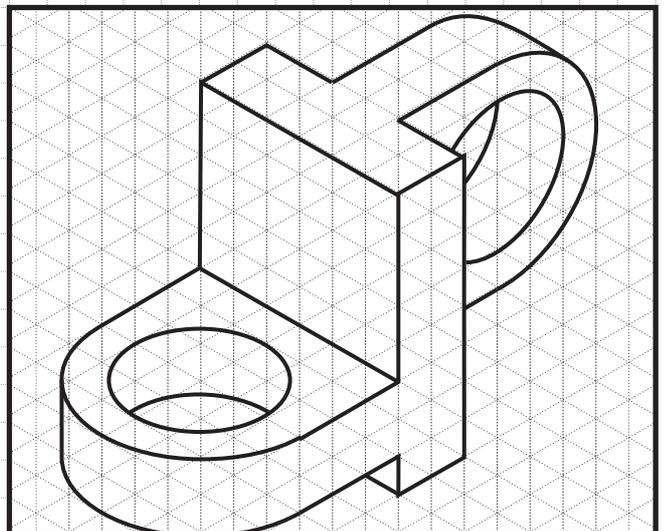




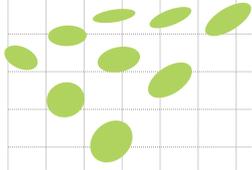
7



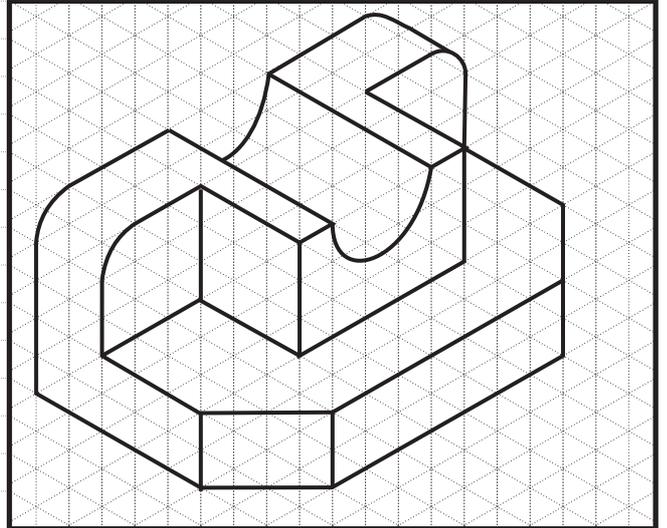
8



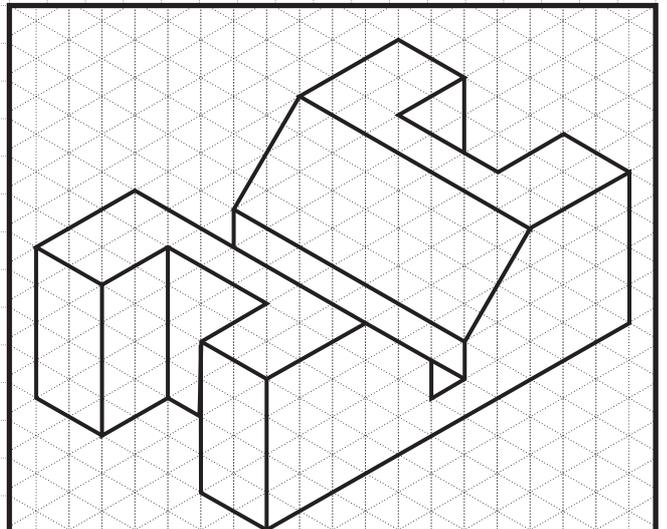
*\*Não esquecer das linhas de centro nos furos*

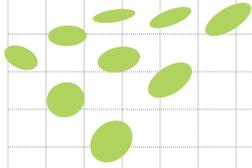


9

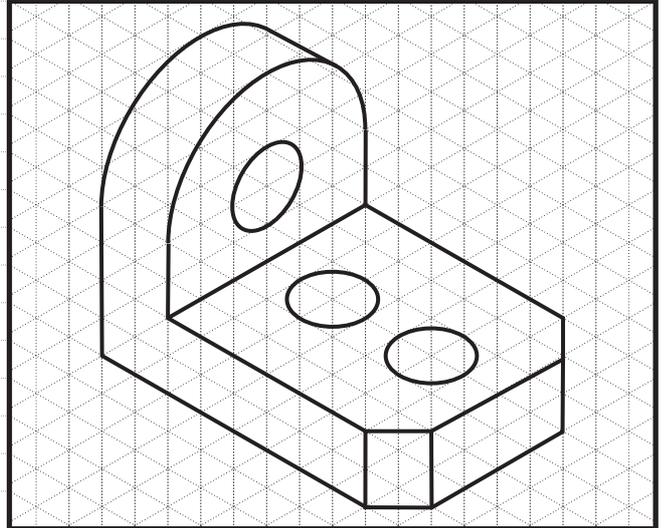


10

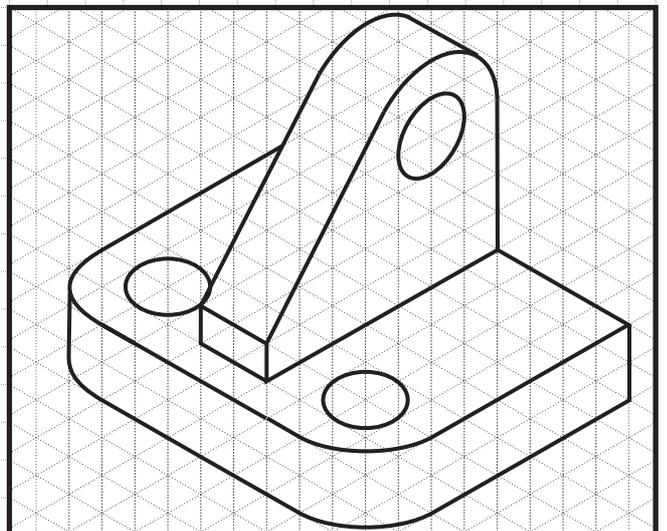




11



12



*\*Não esquecer das linhas de centro nos furos*