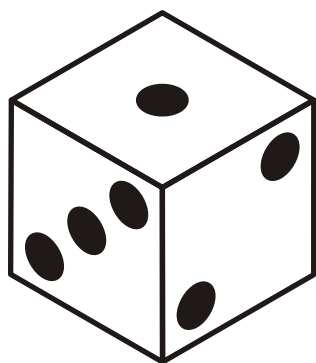


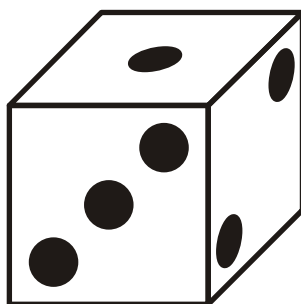
# Perspectiva

**Perspectiva é a representação gráfica dos objetos tridimensionais. Ela pode ser feita de várias maneiras, com resultados diferentes, que se assemelham mais ou menos à visão humana.**

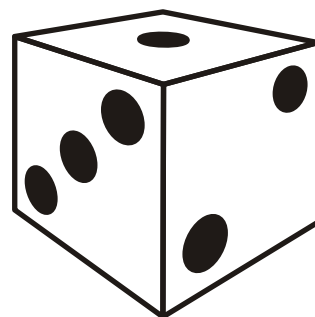
**Observe como um objeto pode ser representado de maneiras diferentes:**



Perspectiva Isométrica



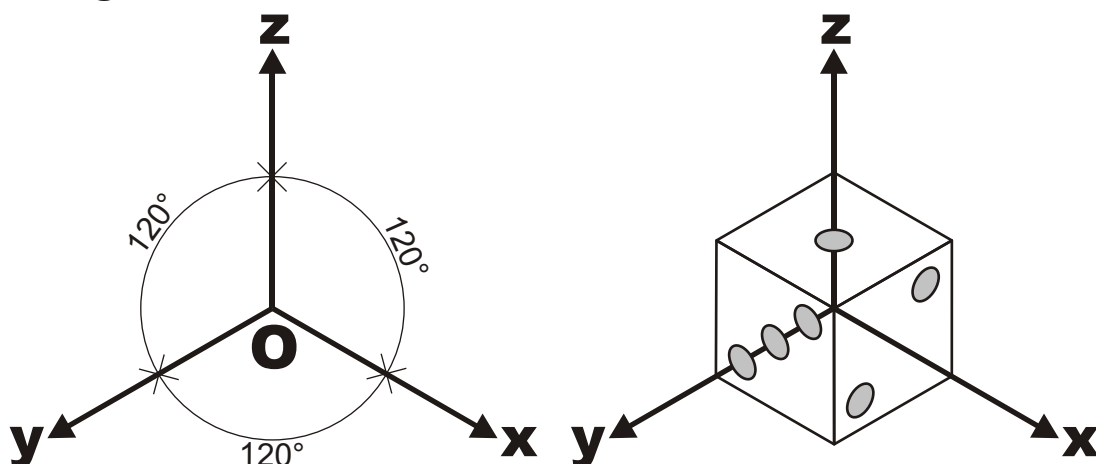
Perspectiva Cavaleira



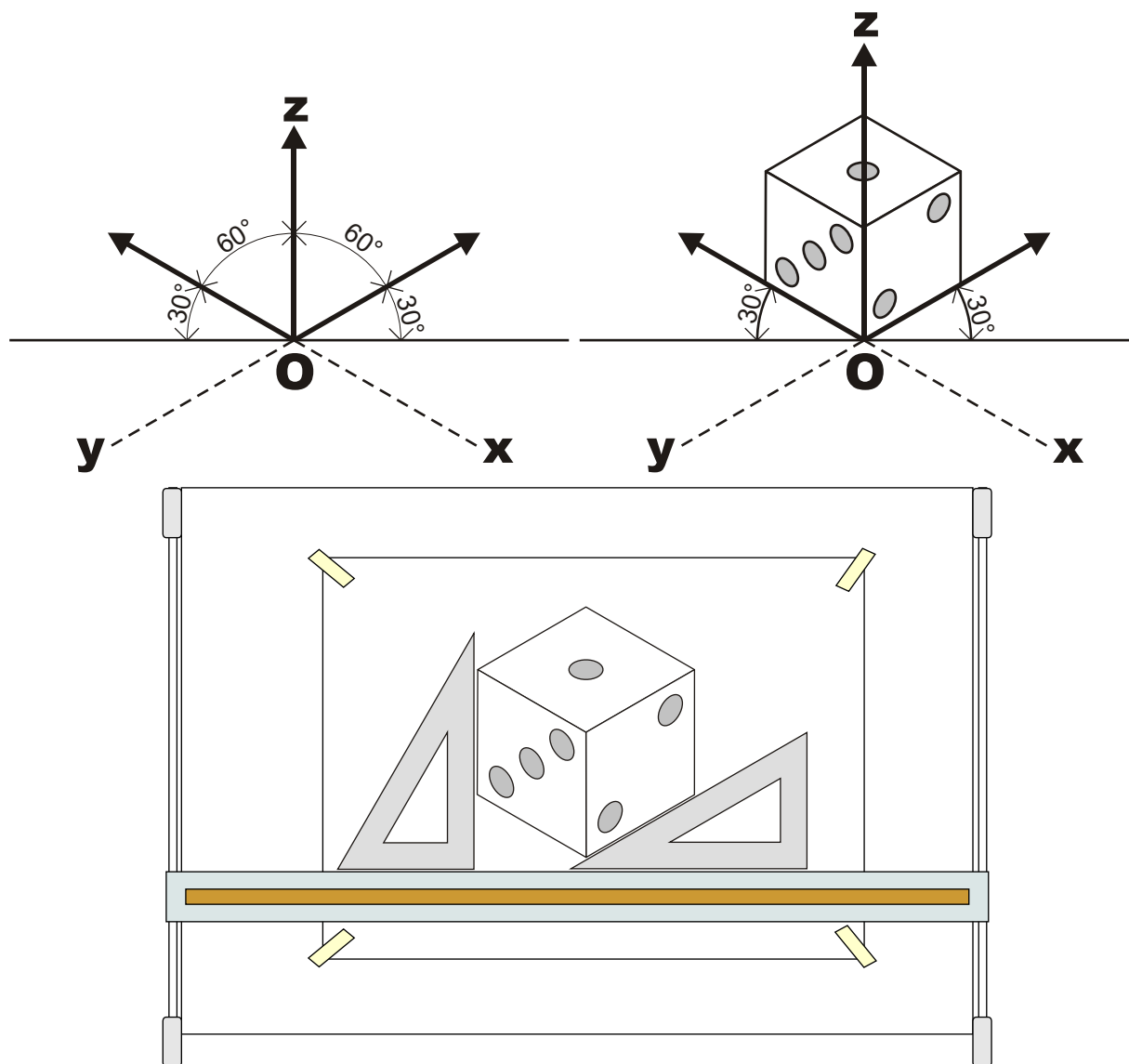
Perspectiva Cônica

# Perspectiva Isométrica

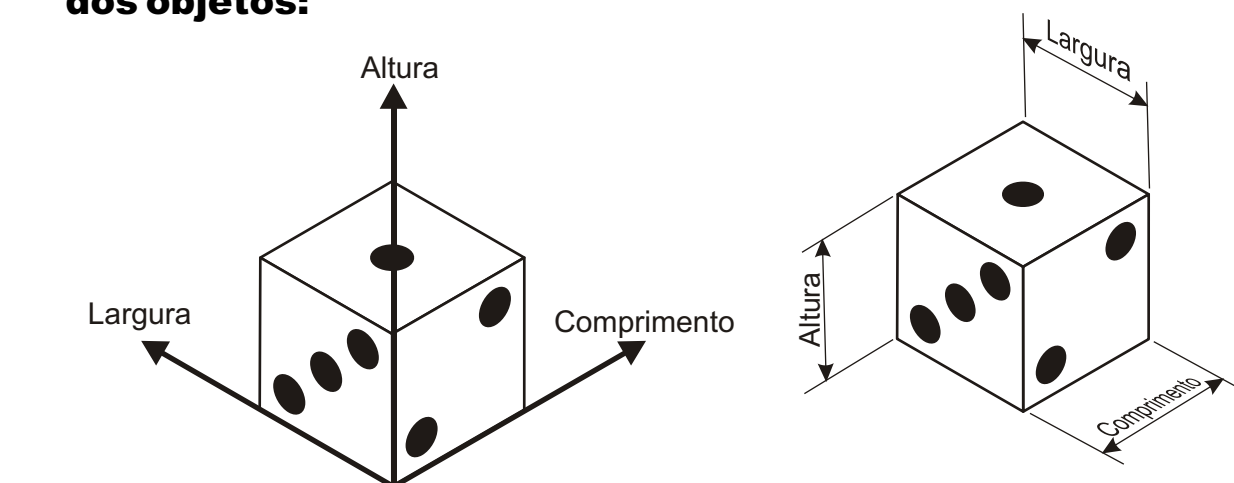
**Perspectiva isométrica é o processo de representação tridimensional em que o objeto se situa num sistema de três eixos coordenados (axonometria). Estes eixos, quando perspectivados, fazem entre si ângulos de  $120^\circ$ :**



Por razões práticas costuma-se utilizar, na construção das perspectivas, o prolongamento dos eixos X e Y a partir do ponto O, no sentido contrário, formando ângulos de 30° com a horizontal, enquanto o eixo Z (vertical) permanece inalterado.

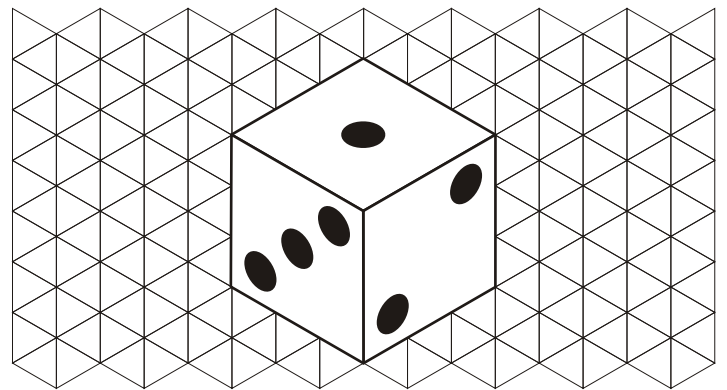
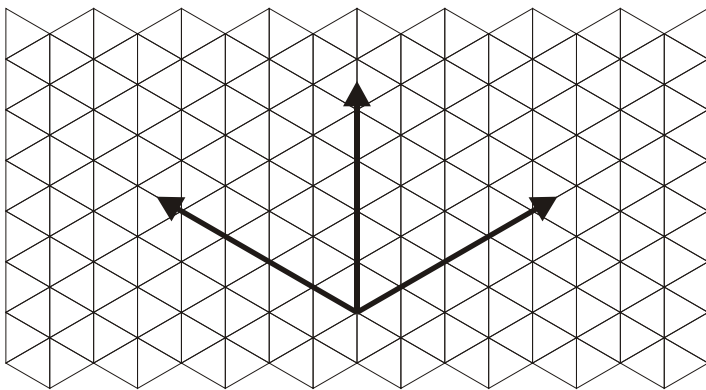
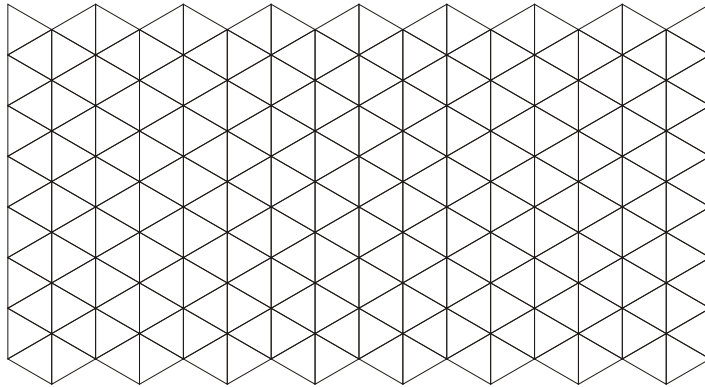


**Cada eixo coordenado corresponde a uma dimensão dos objetos:**



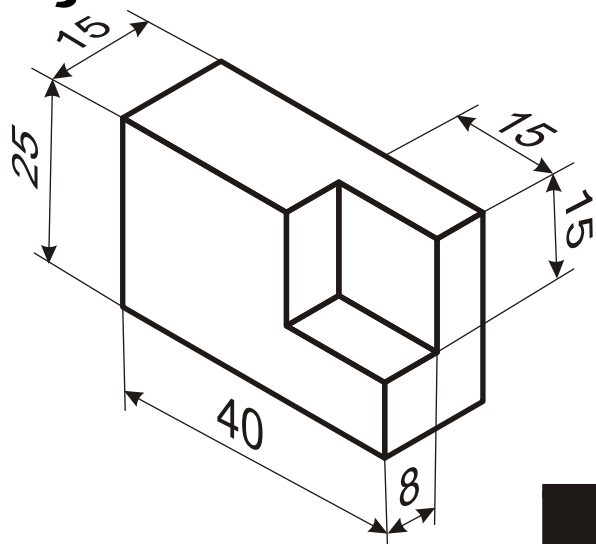
## MALHA ISOMÉTRICA

A malha isométrica é um artifício de desenho cuja finalidade é possibilitar a produção de rascunhos gráficos muito próximos da perspectiva isométrica precisa (feita com instrumentos). Consiste na malha de triângulos equiláteros formada por retas paralelas aos eixos.

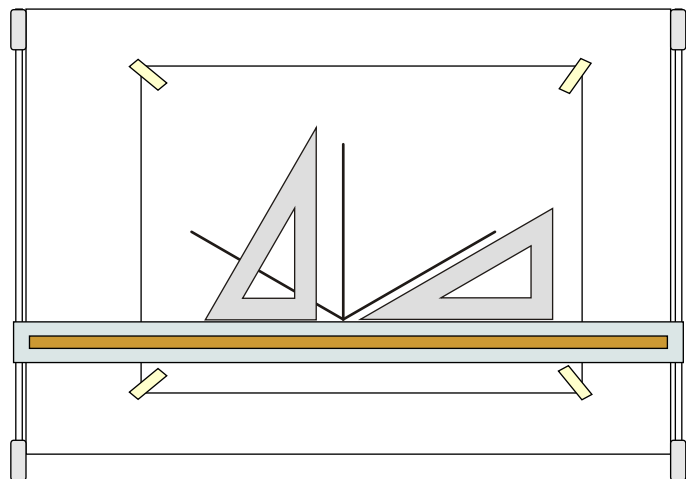


## PROCESSO DE CONSTRUÇÃO

Acompanhe a construção da perspectiva isométrica do seguinte objeto, feita passo a passo:

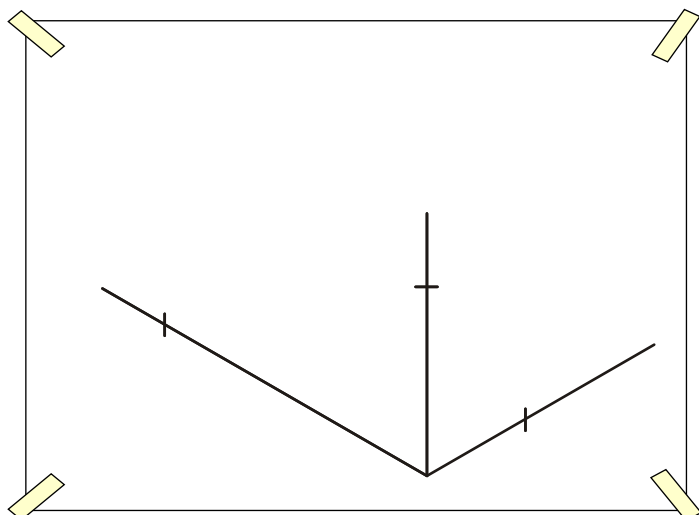


1



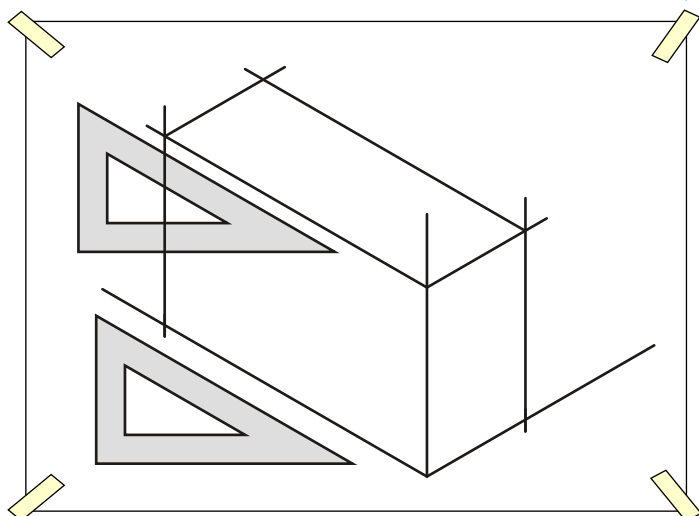
Traçar os eixos isométricos com o uso dos instrumentos

2



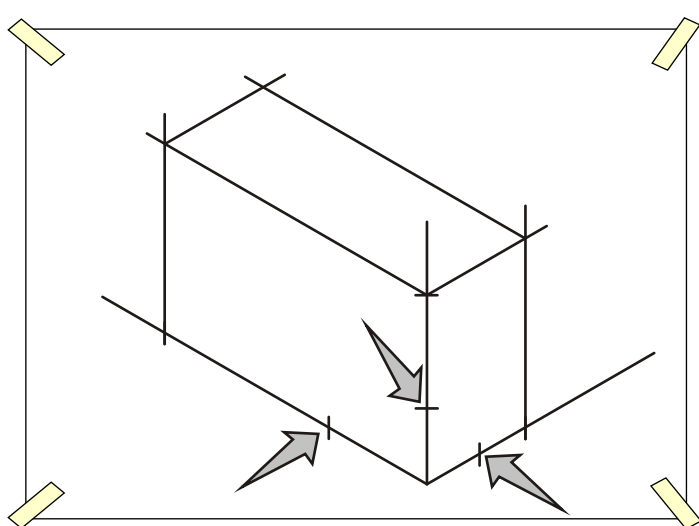
Usar os eixos isométricos para parcação das dimensões gerais do objeto (comprimento, largura e altura)

3



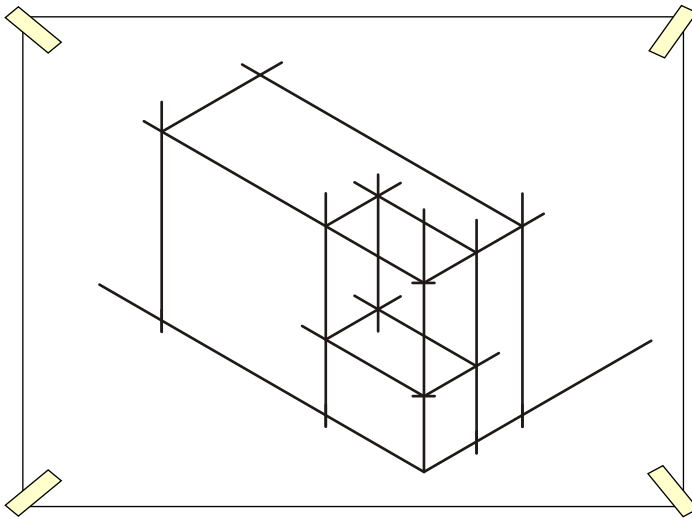
Por meio de retas paralelas aos eixos (traçadas com os esquadros apoiados na requa paralela) fechar volume do objeto

4



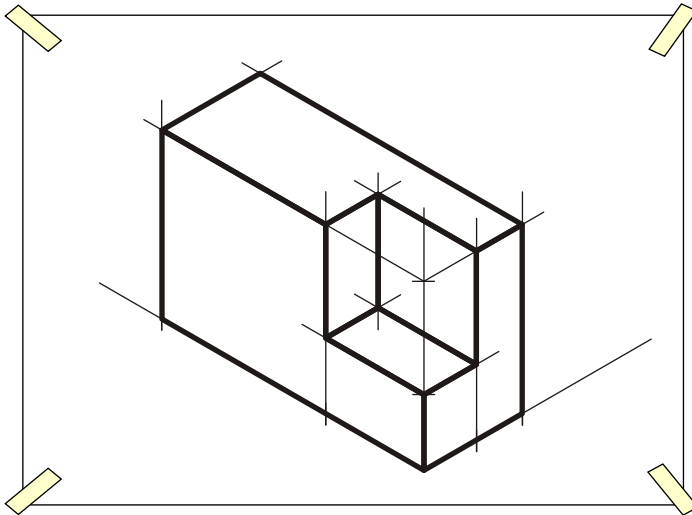
Usar os eixos isométricos para parcação das dimensões parciais do objeto

5



Por meio de retas paralelas aos eixos completar o volume do objeto

6



Reforçar os traços que formam as arestas do objeto de forma que as linhas construtivas fiquem em segundo plano

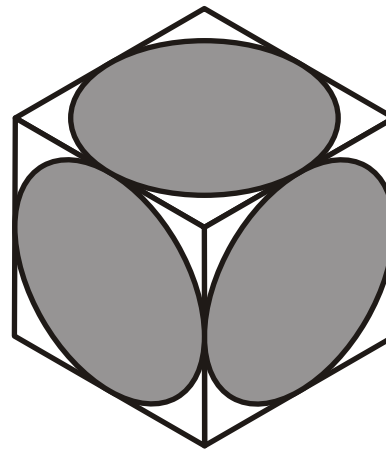
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Rodrigo Santana  
Rogério Claudino

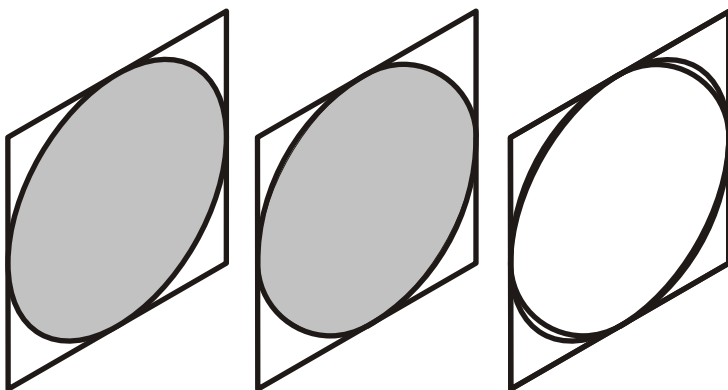
Perspectiva  
Isométrica

### CÍRCULO ISOMÉTRICO

**A perspectiva isométrica do círculo será uma elipse inscrita em cada face do cubo isométrico**



**Como a construção da elipse não pode ser executada pelos instrumentos usuais substituiremos a elipse verdadeira por uma falsa elipse, uma oval regular, que pode ser construída com o compasso**

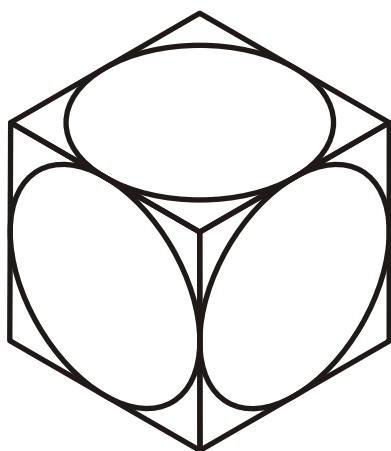


**Acompanhe a construção da perspectiva isométrica do círculo, feita passo a passo:**

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Rogério Claudino

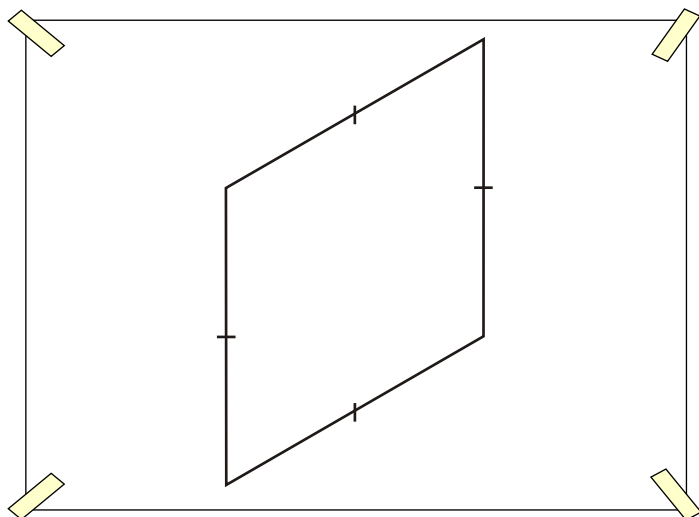
**Perspectiva Isométrica**

1



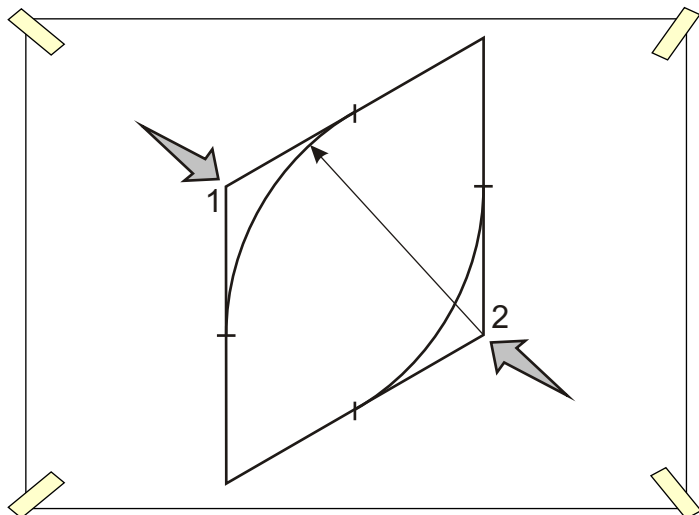
Para a construção da perspectiva do círculo é necessária a construção de uma das faces do cubo isométrico, os quais possuem arestas do tamanho do diâmetro do círculo que se vai desenhar

2



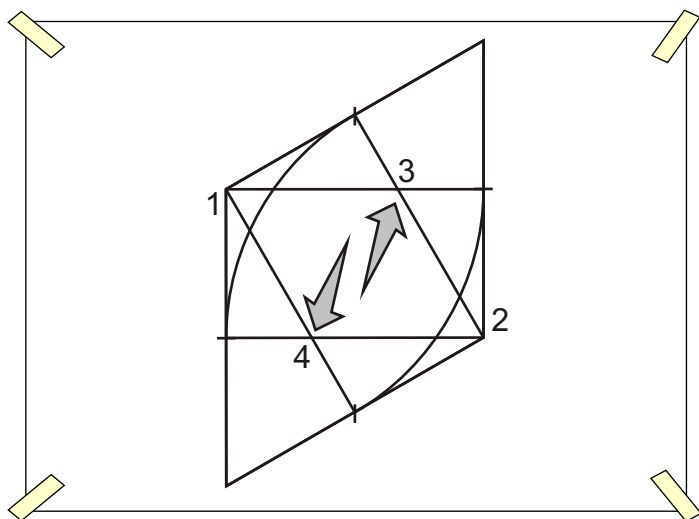
Determinar o ponto médio dos segmentos de reta que são os lados do quadrado perspectivado

3



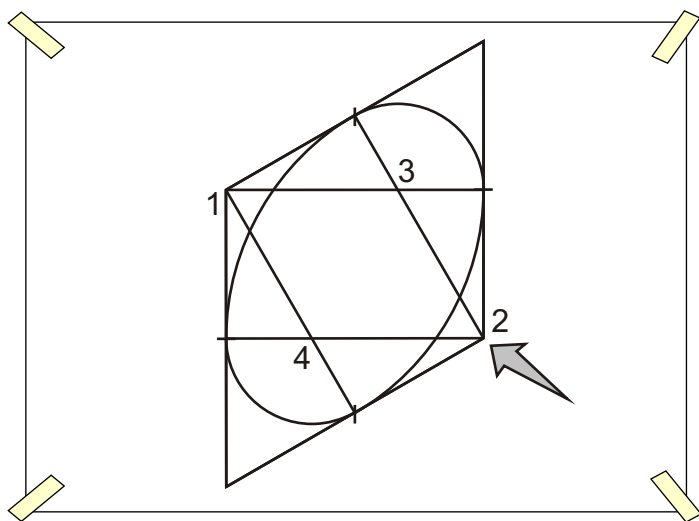
Determina - se nos vértices do quadrado que possuem a menor diagonal os centros 1 e 2 traçando os arcos até o pontos médios dos lados

4



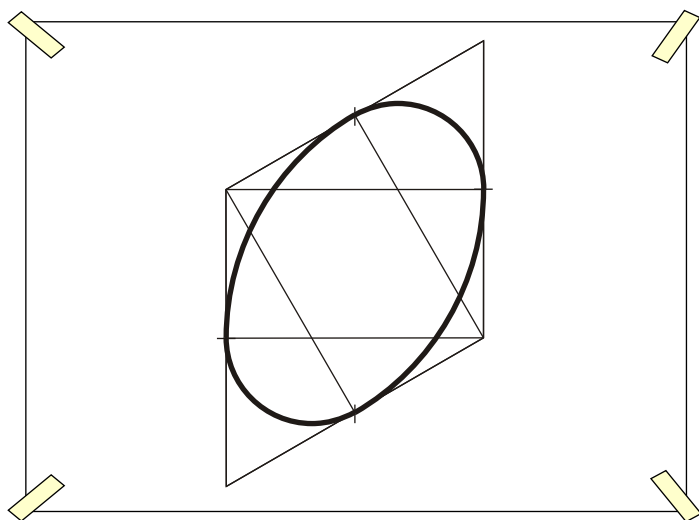
Os centros 3 e 4  
estarão nos  
cruzamentos dos  
segmentos de reta que  
unem os centros 1 e 2  
aos pontos médios dos  
lados opostos

5



Nos centros 3 e 4  
traçar arcos  
concordantes com os  
arcos traçados  
anteriormente

6



Reforçar os arcos de  
circunferência de  
forma que as linhas  
construtivas fiquem em  
segundo plano

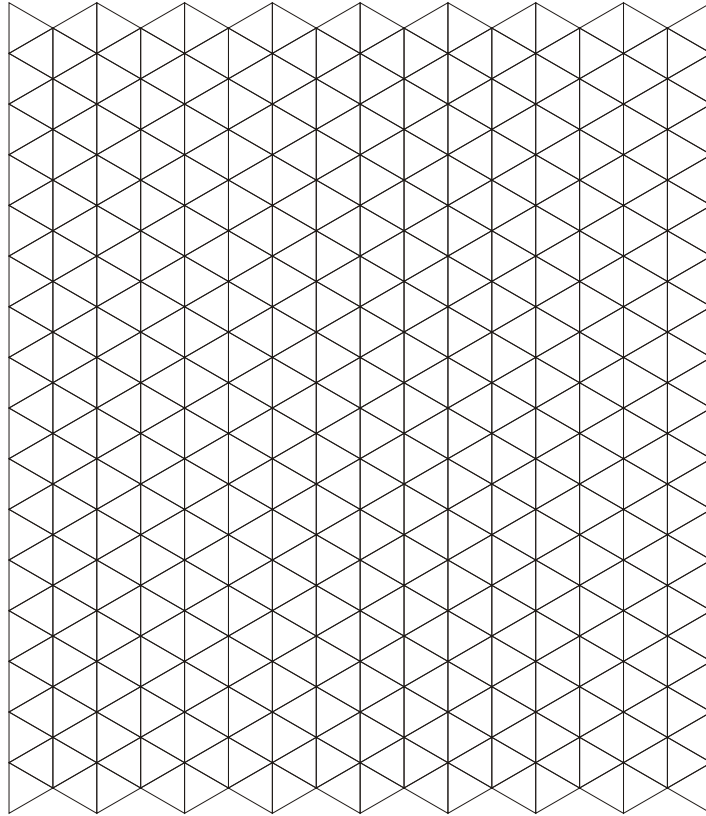
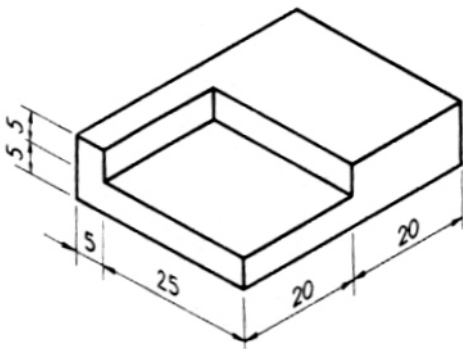
# Exercícios

Construir o rascunho gráfico das perspectivas isométricas na malha isométrica, sabendo que cada módulo corresponde a 5 unidades.

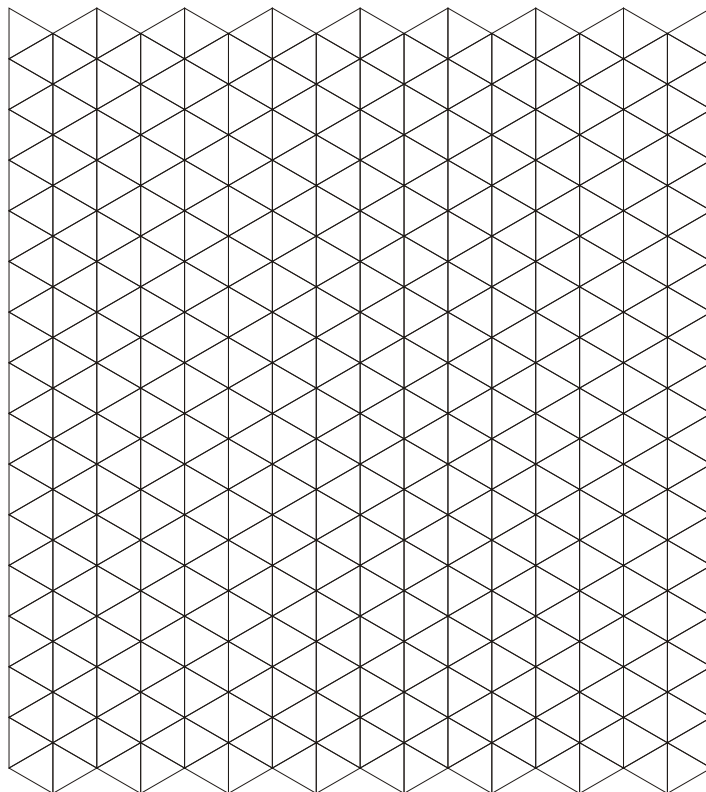
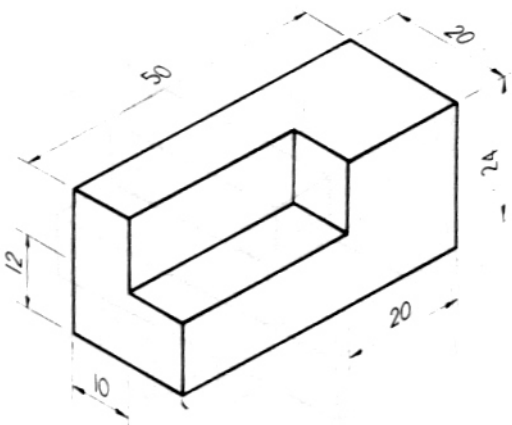
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1

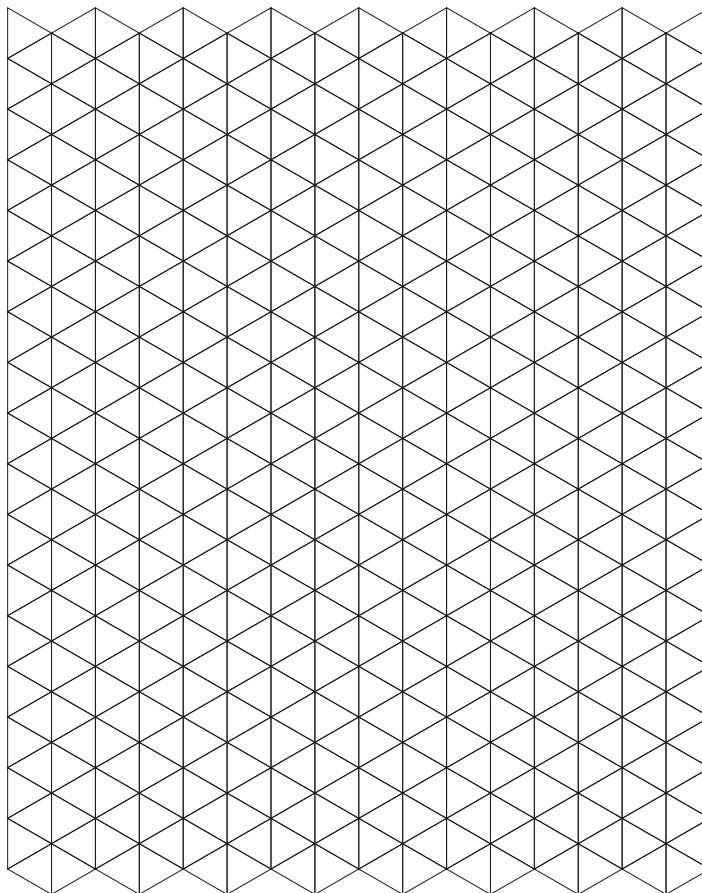
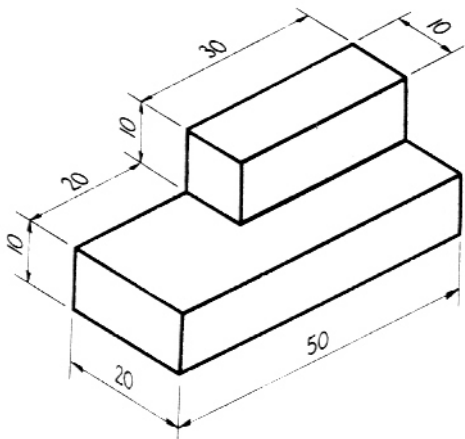


2

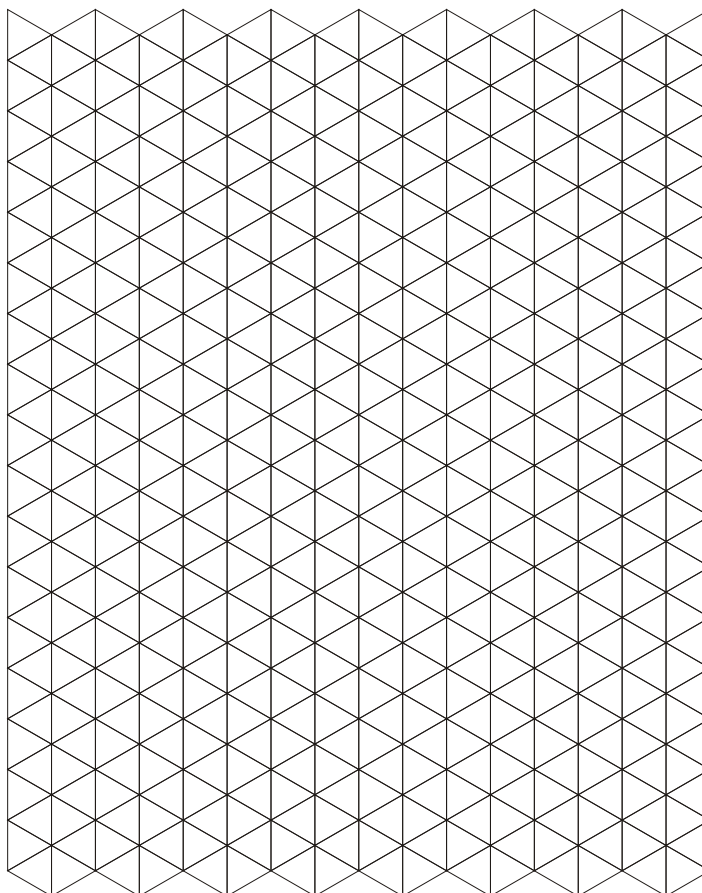
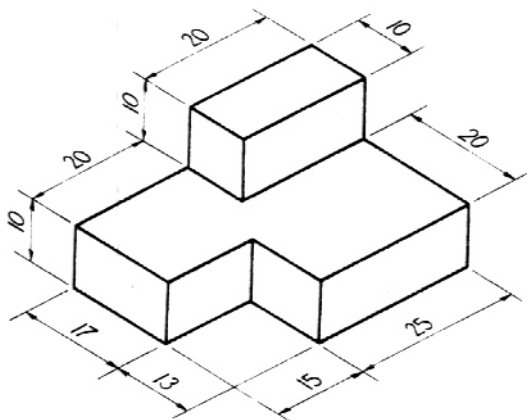




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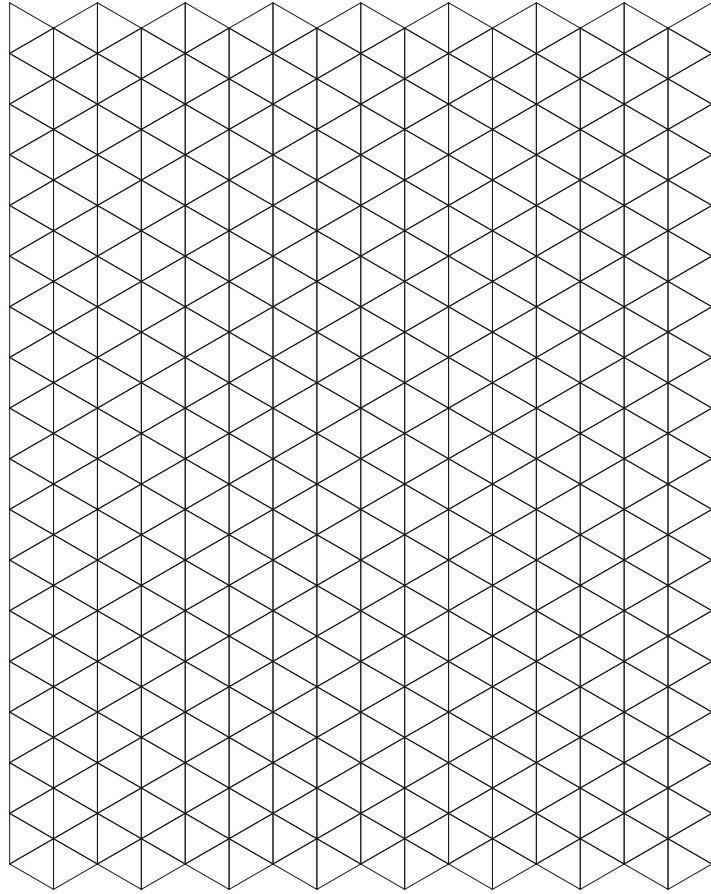
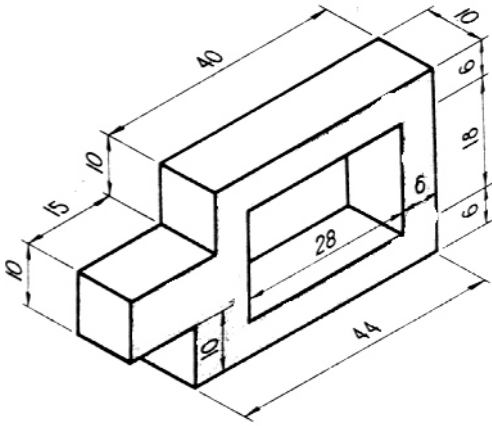


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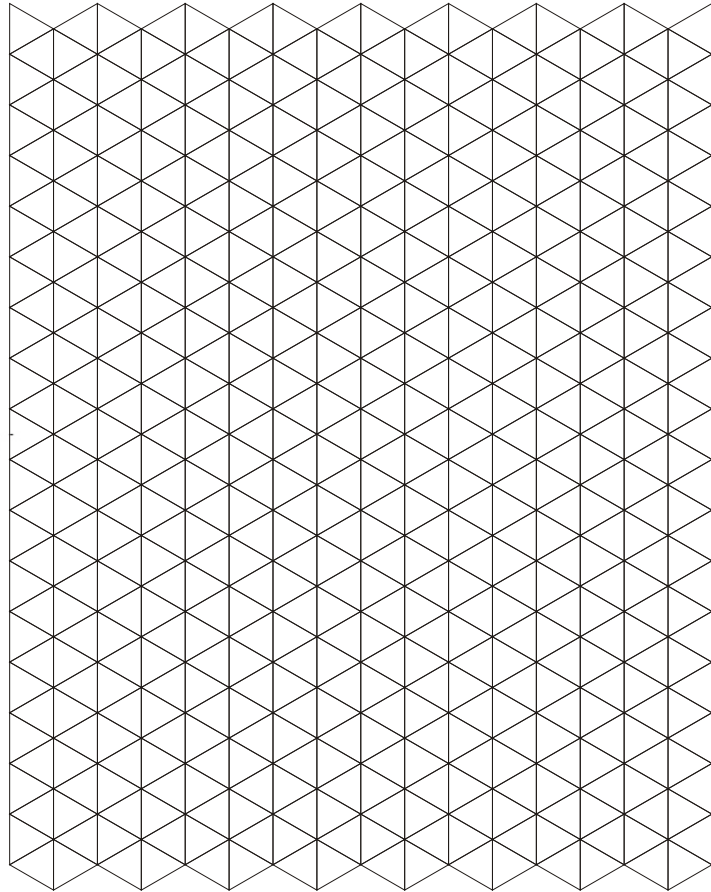
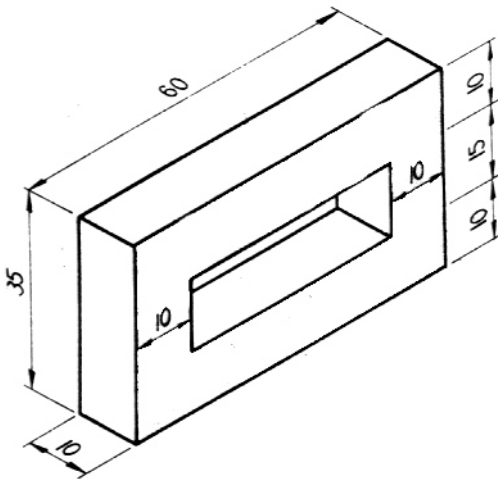


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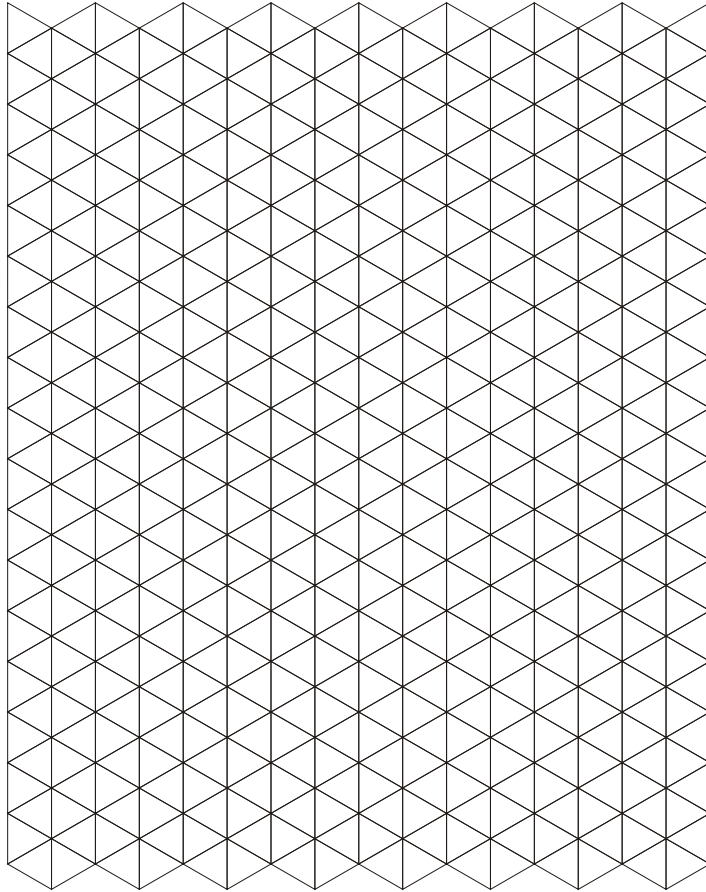
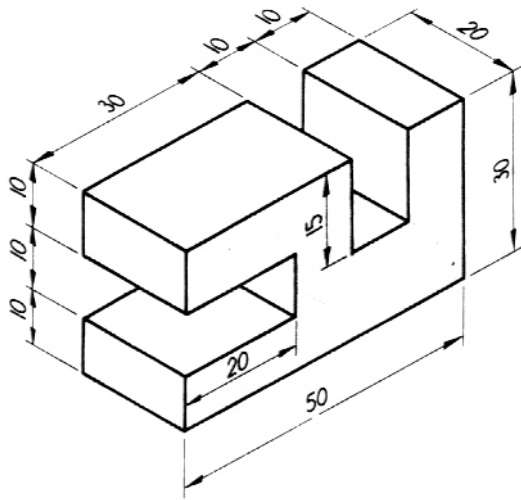
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6

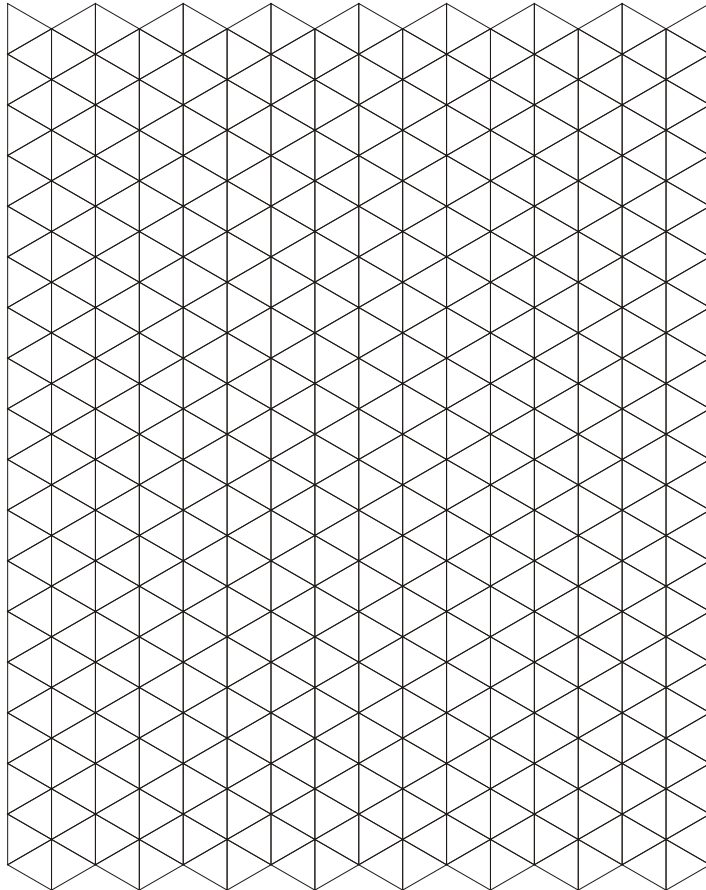
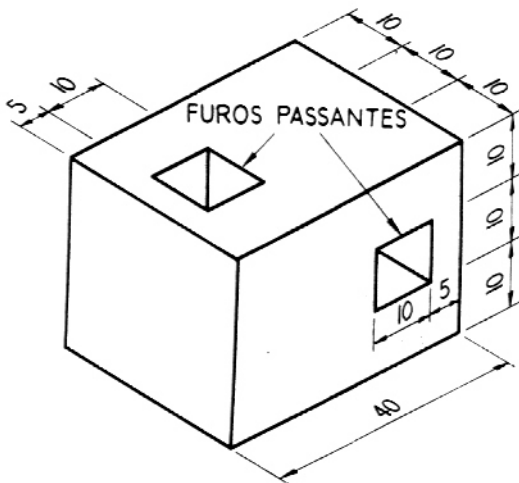


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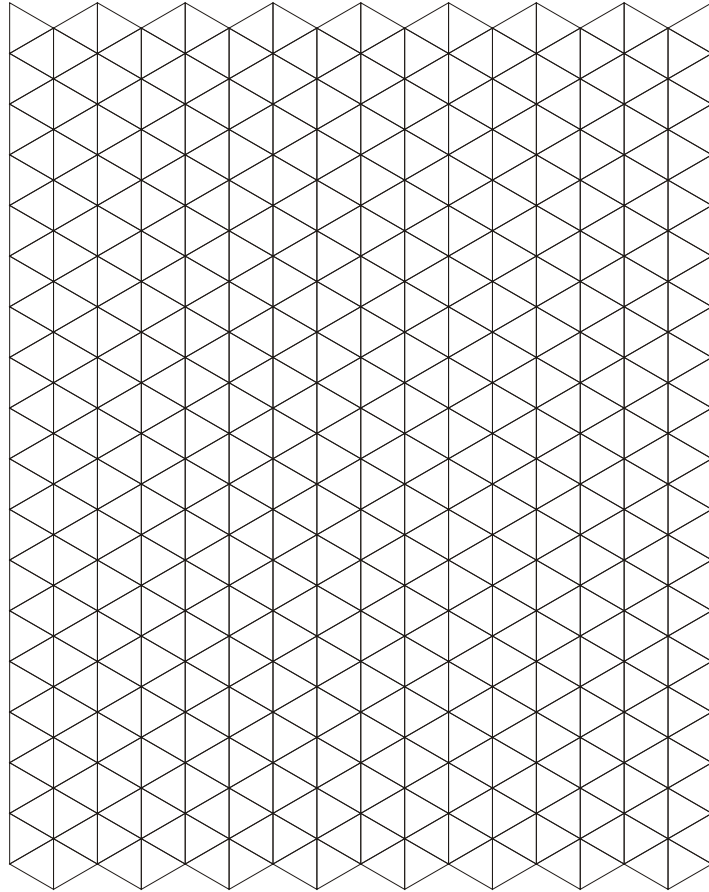
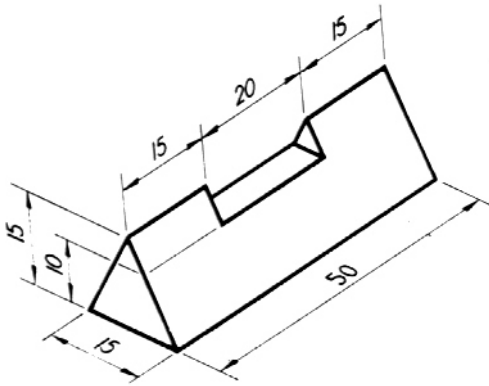


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8

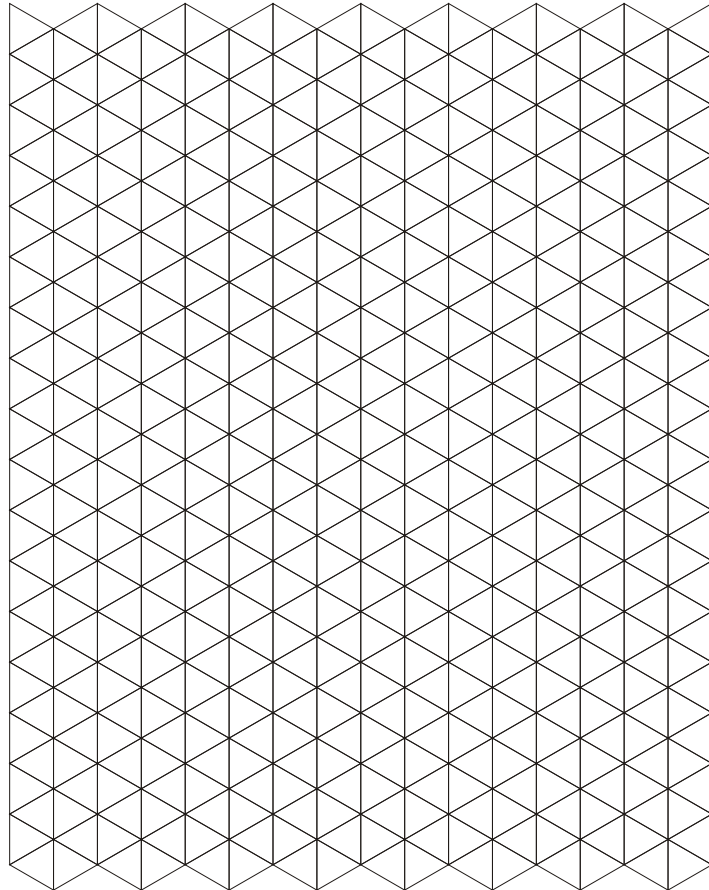
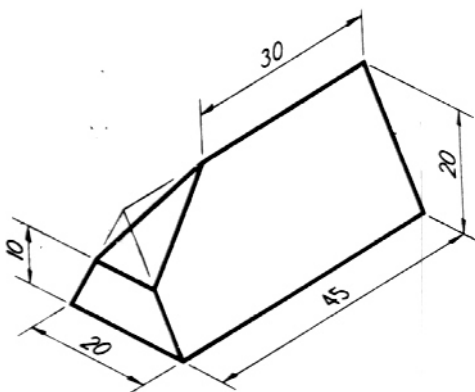


9

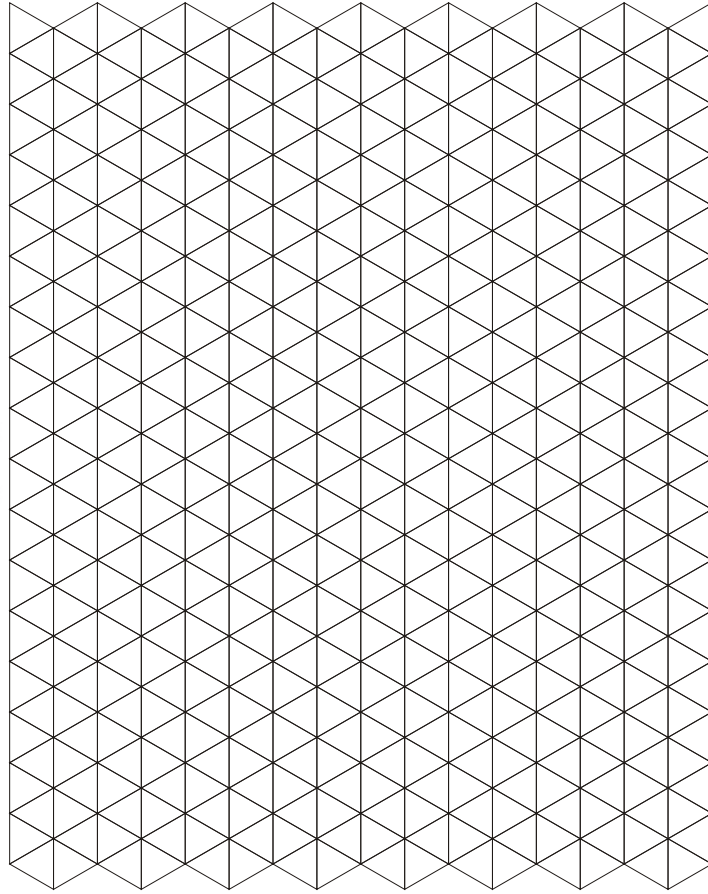
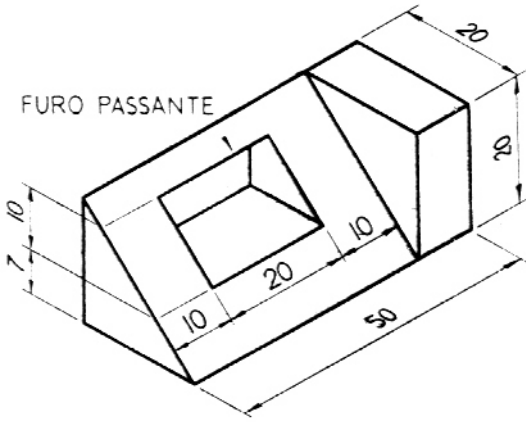


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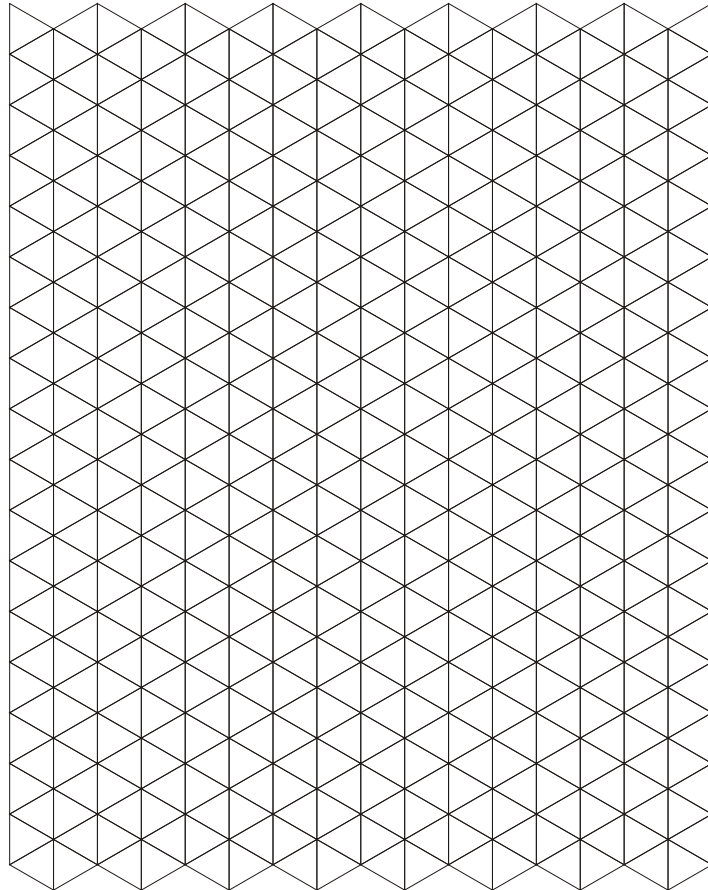
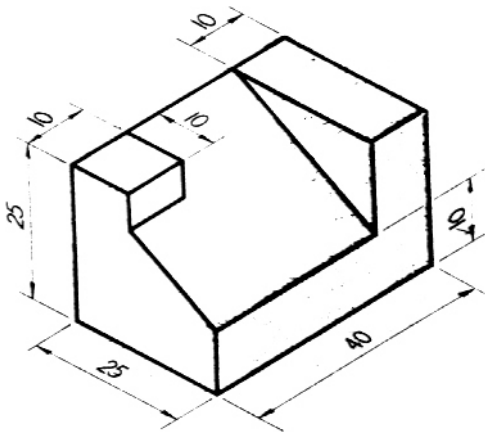


11

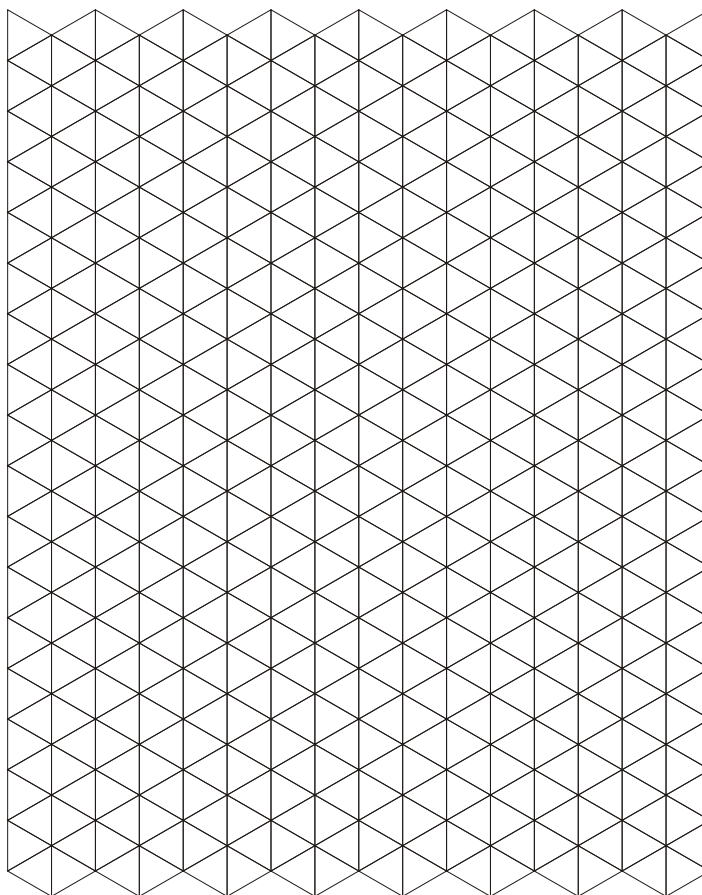
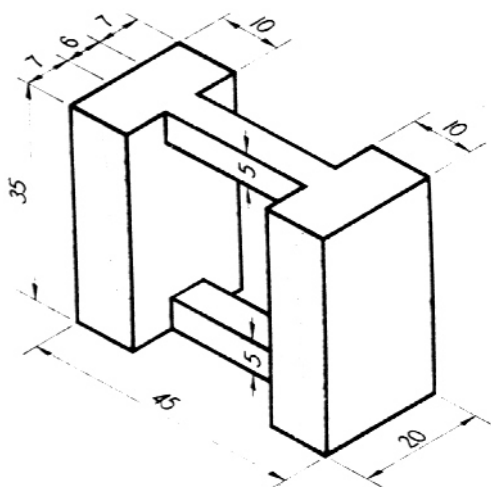


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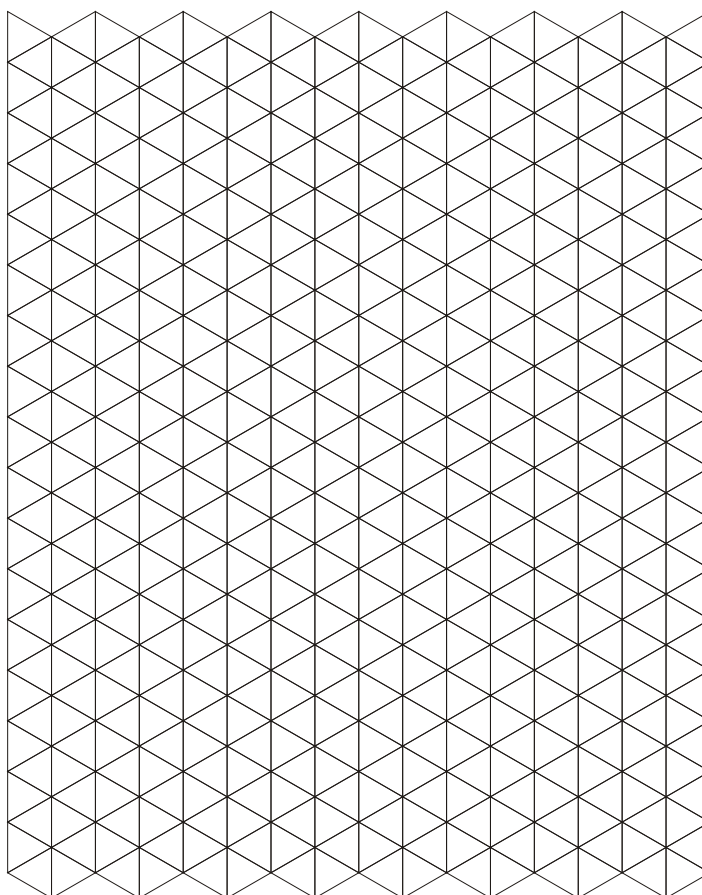
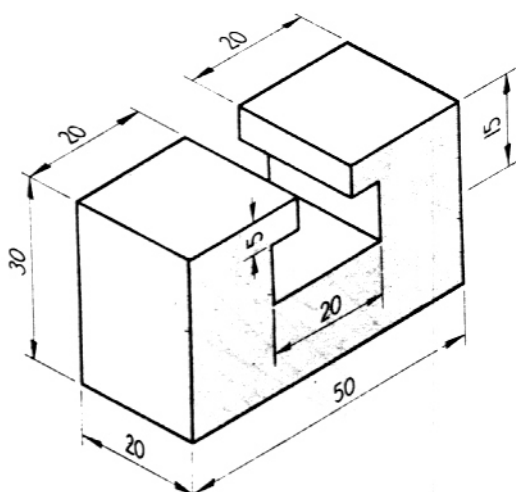


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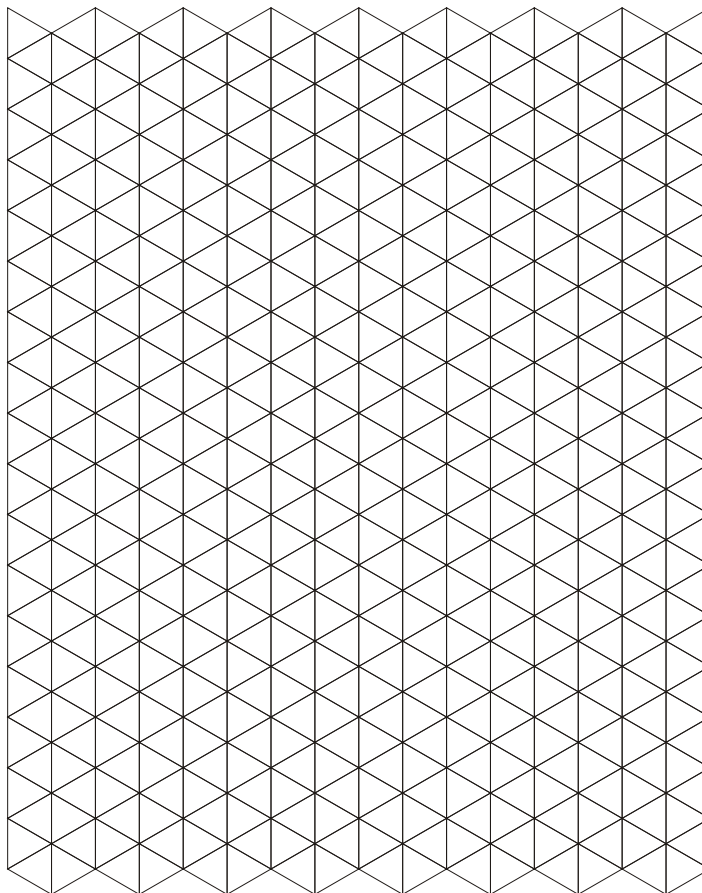
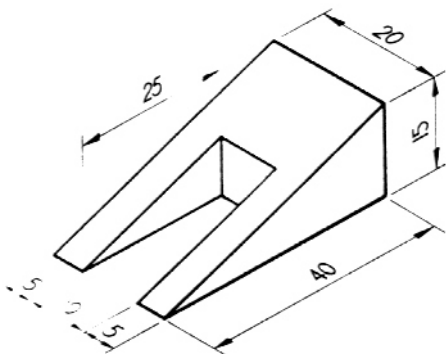


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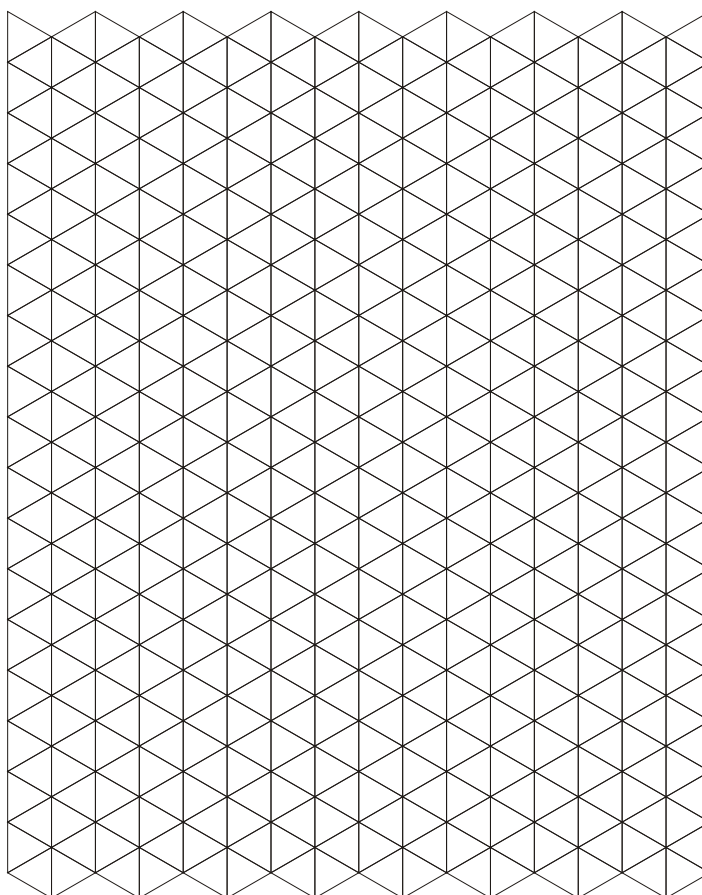
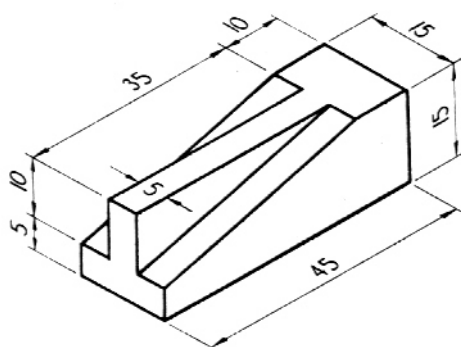


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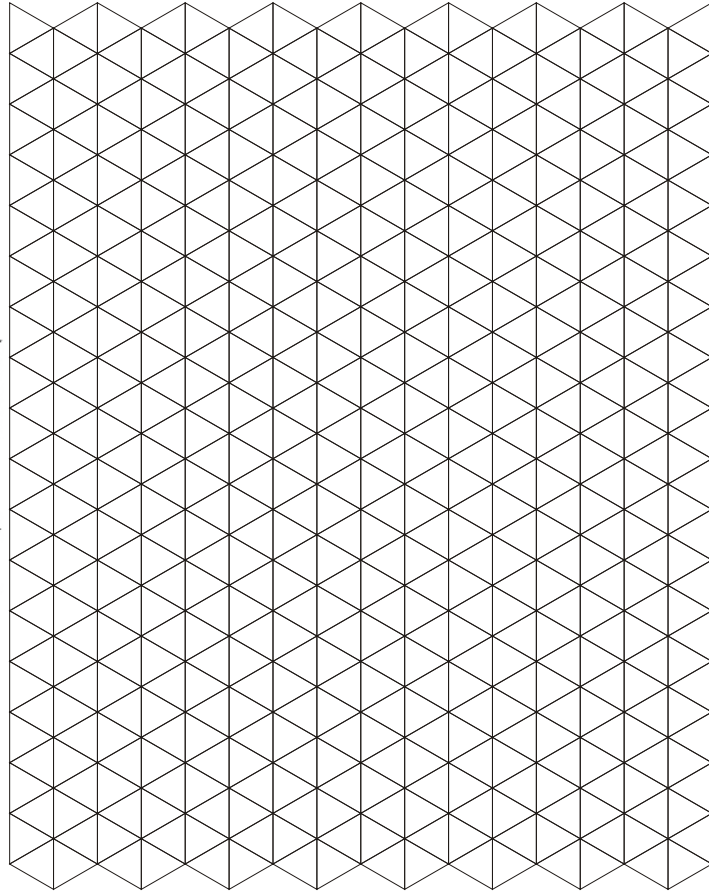
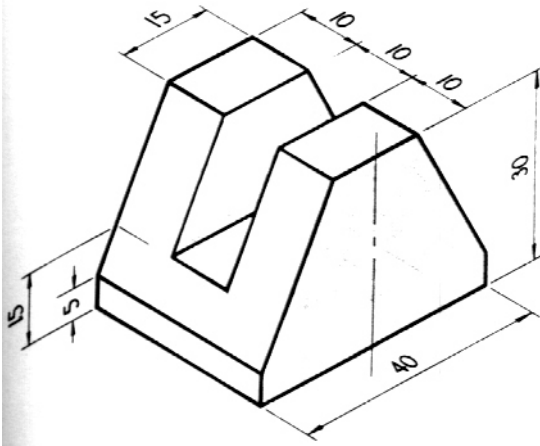


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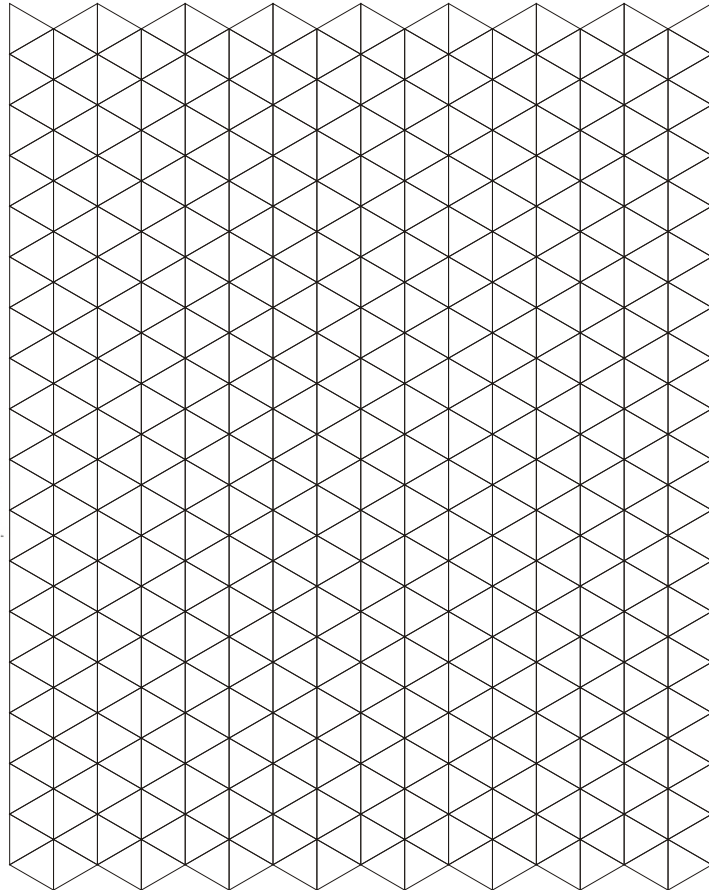
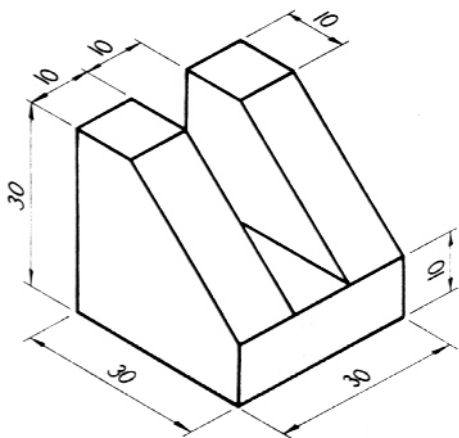


17



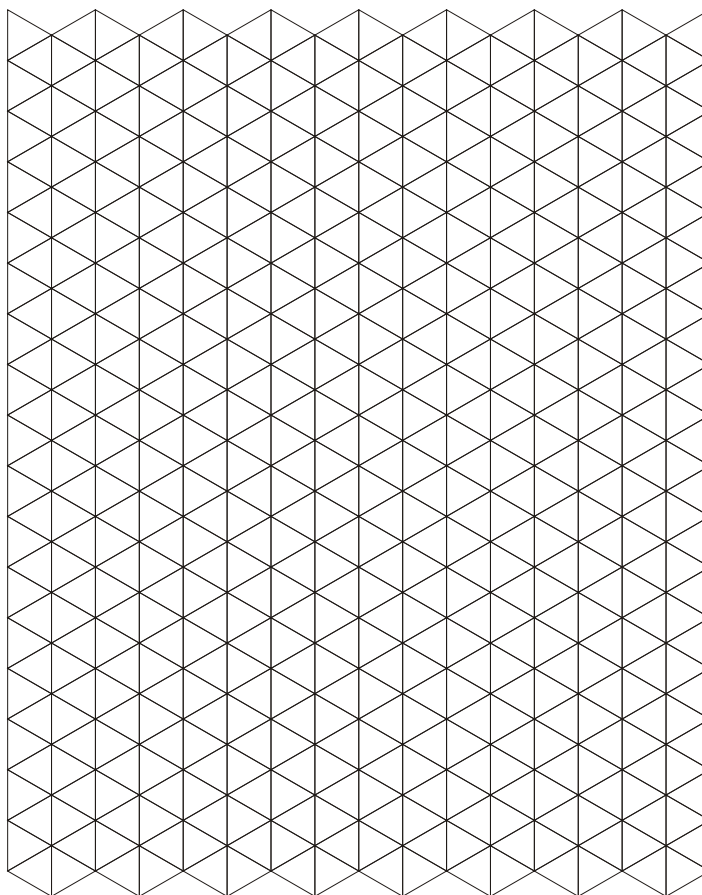
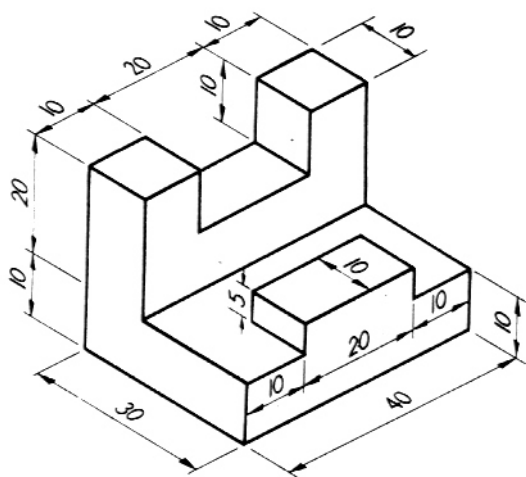
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Rogério Claudino  
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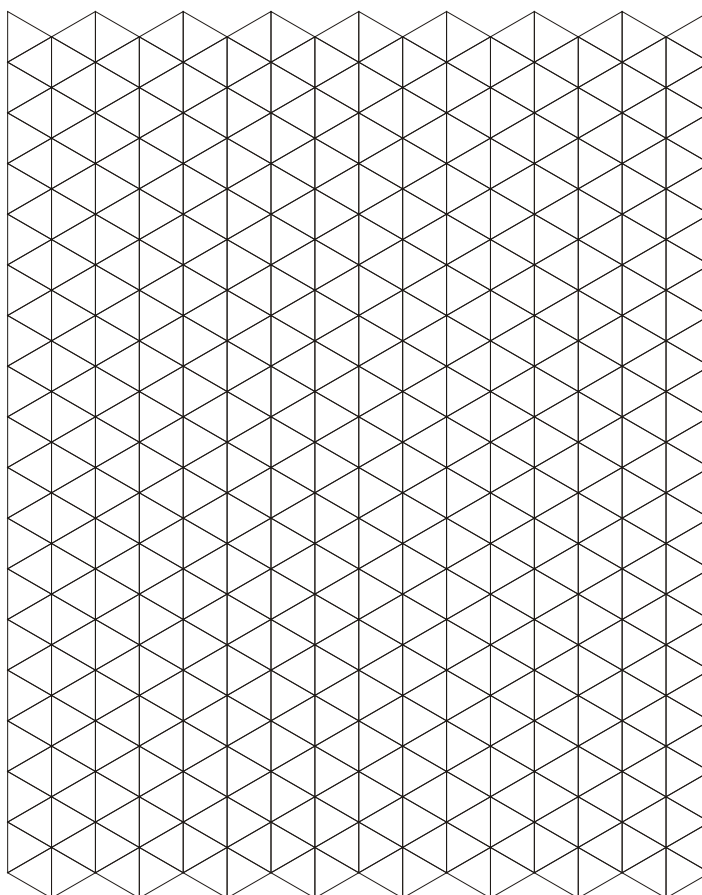
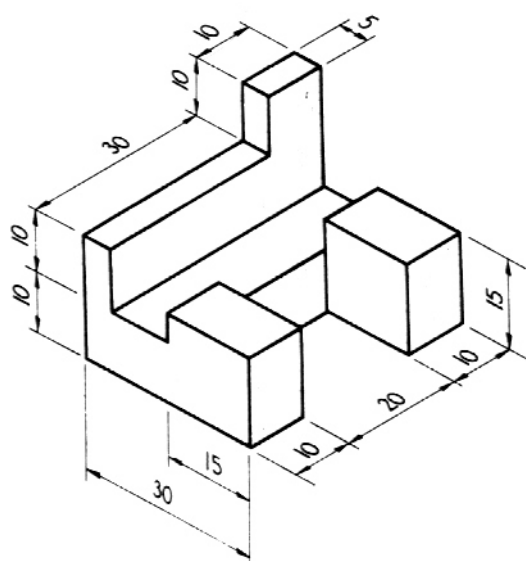


19

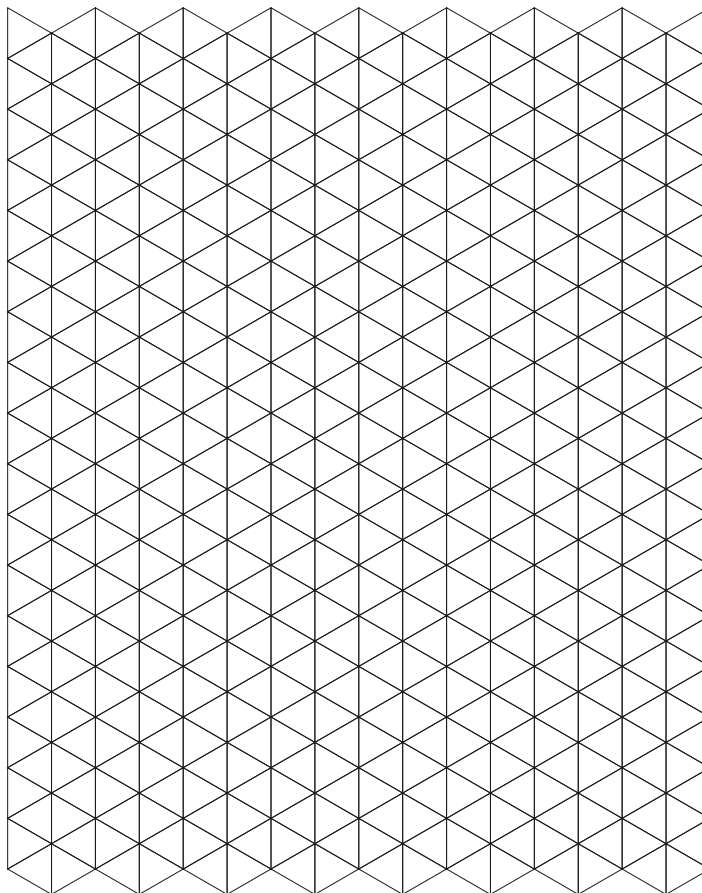
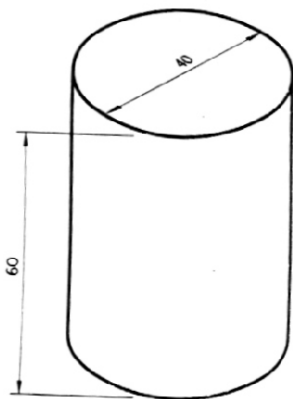


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20

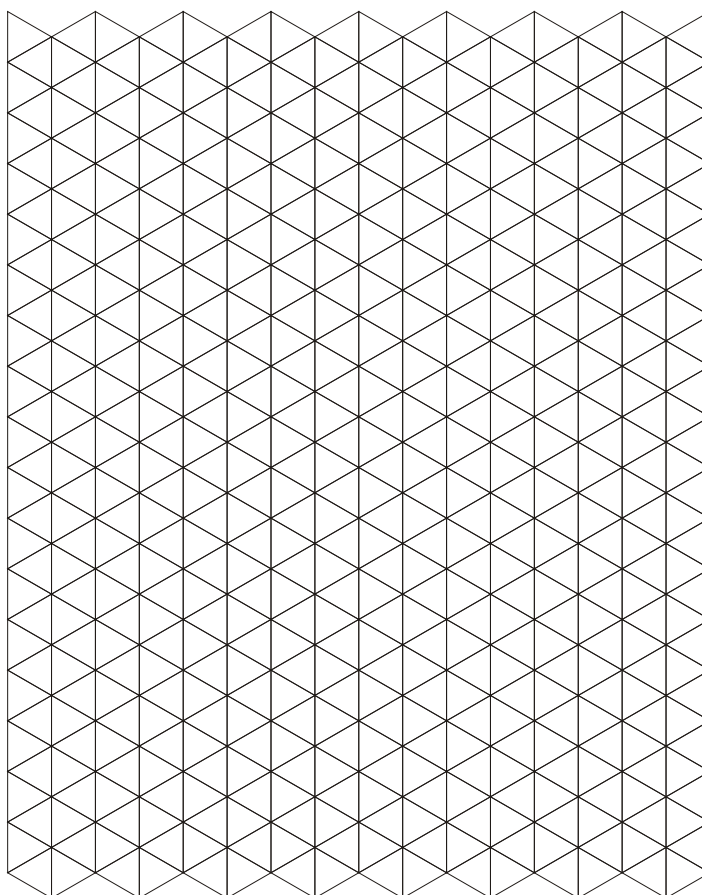
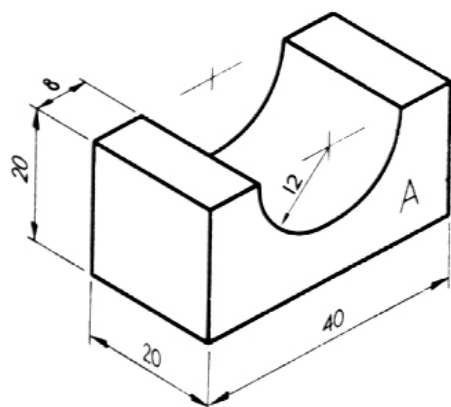


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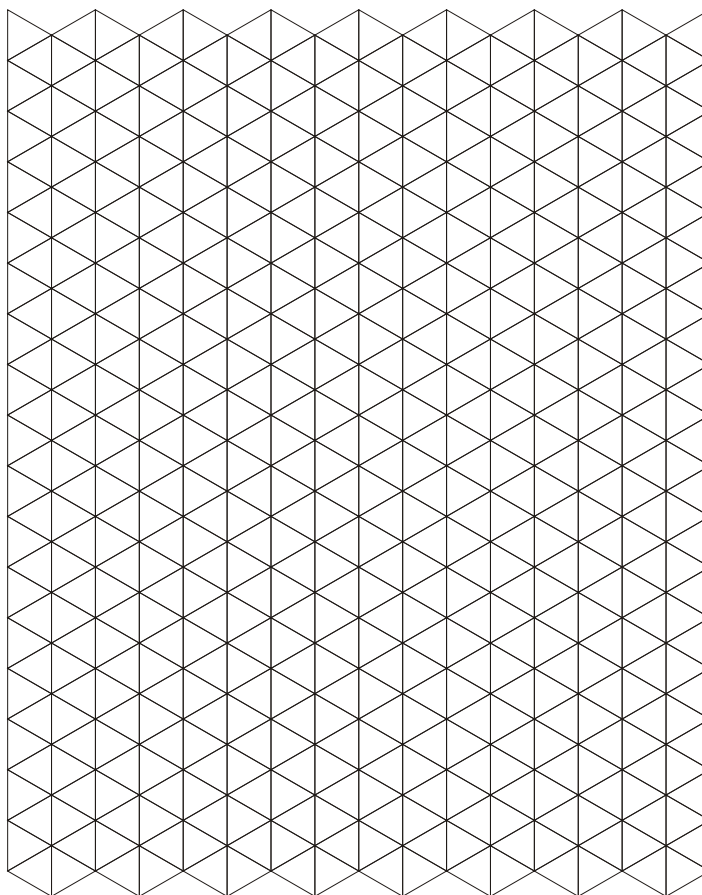
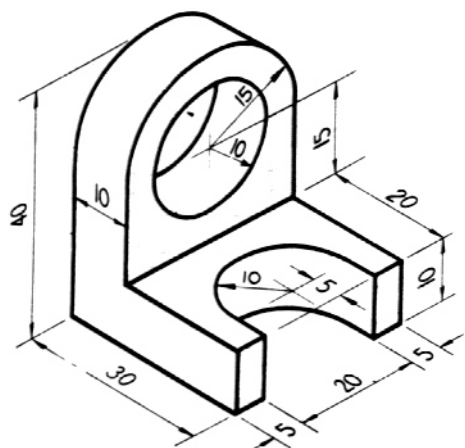


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