

# Communication Graphique

Séance de travaux pratiques :  
Plans et cotations

Alex Bolyn - 7 octobre 2024

# Objectifs de la séance

## I. Plan et vues :

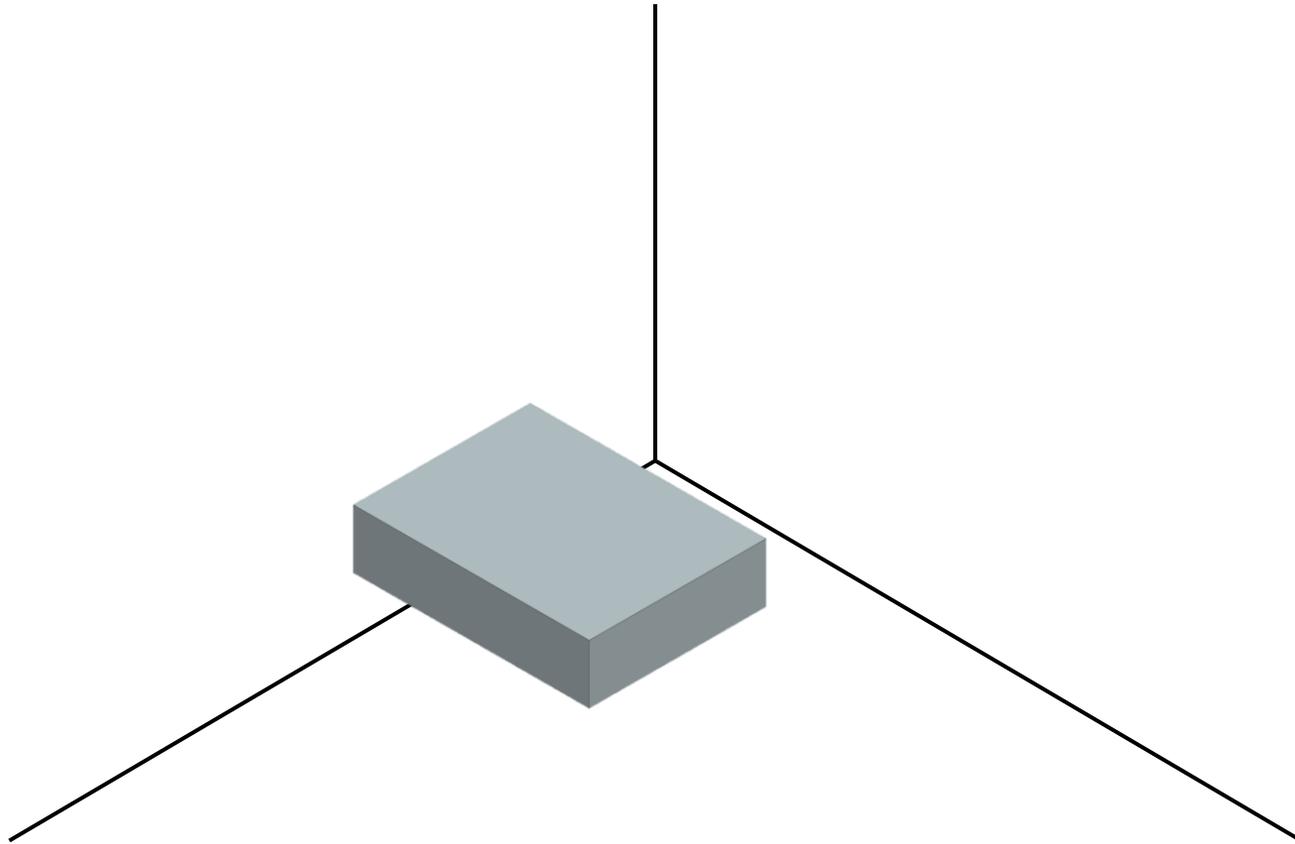
- Lire et appliquer la norme de projection européenne
- Comprendre les conséquences d'une projection
- Reconnaître les possibles ambiguïtés
- Déterminer et choisir les vues nécessaires à un plan

## II. Cotation :

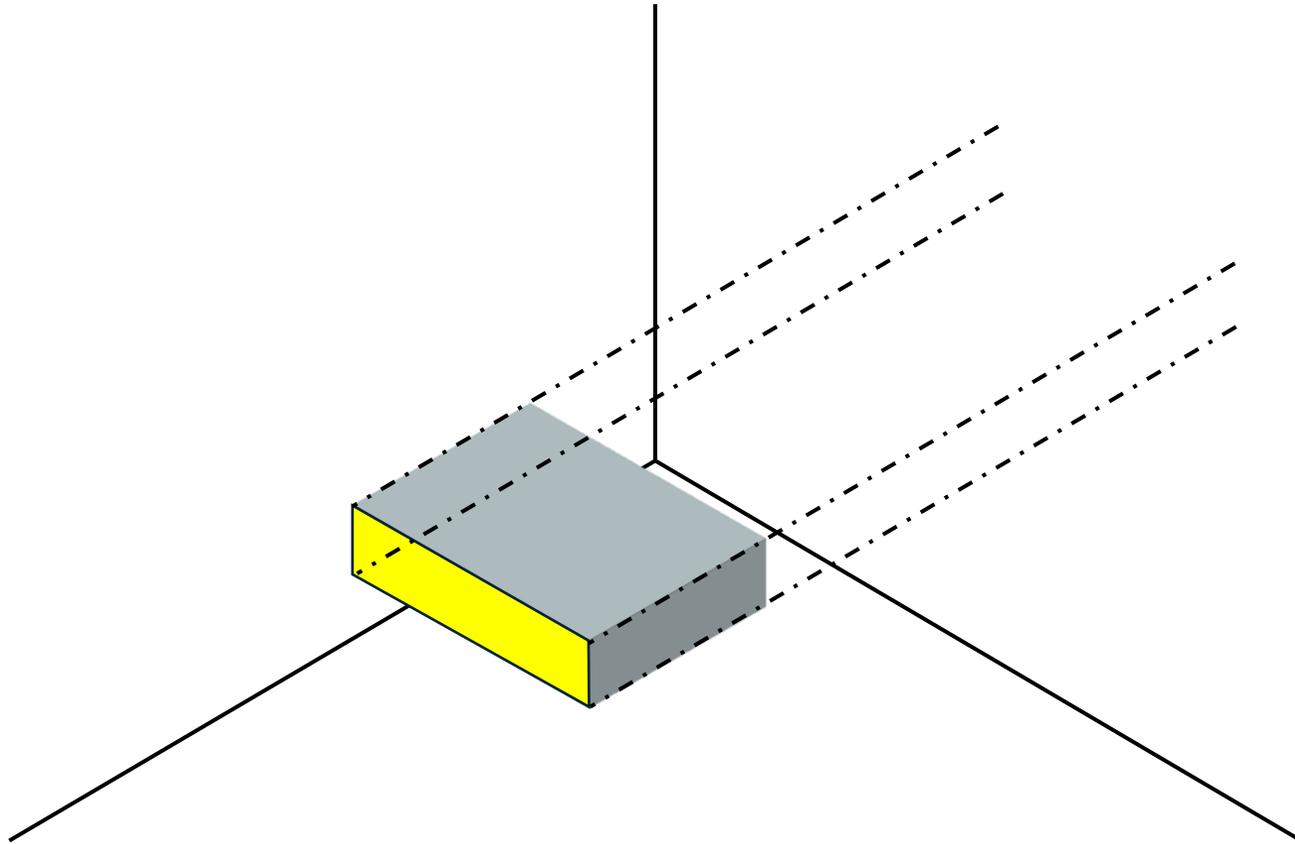
- Appliquer le concept de cotation fonctionnelle
- Comprendre ce qui détermine le choix d'une cote

# I. Plan et vues

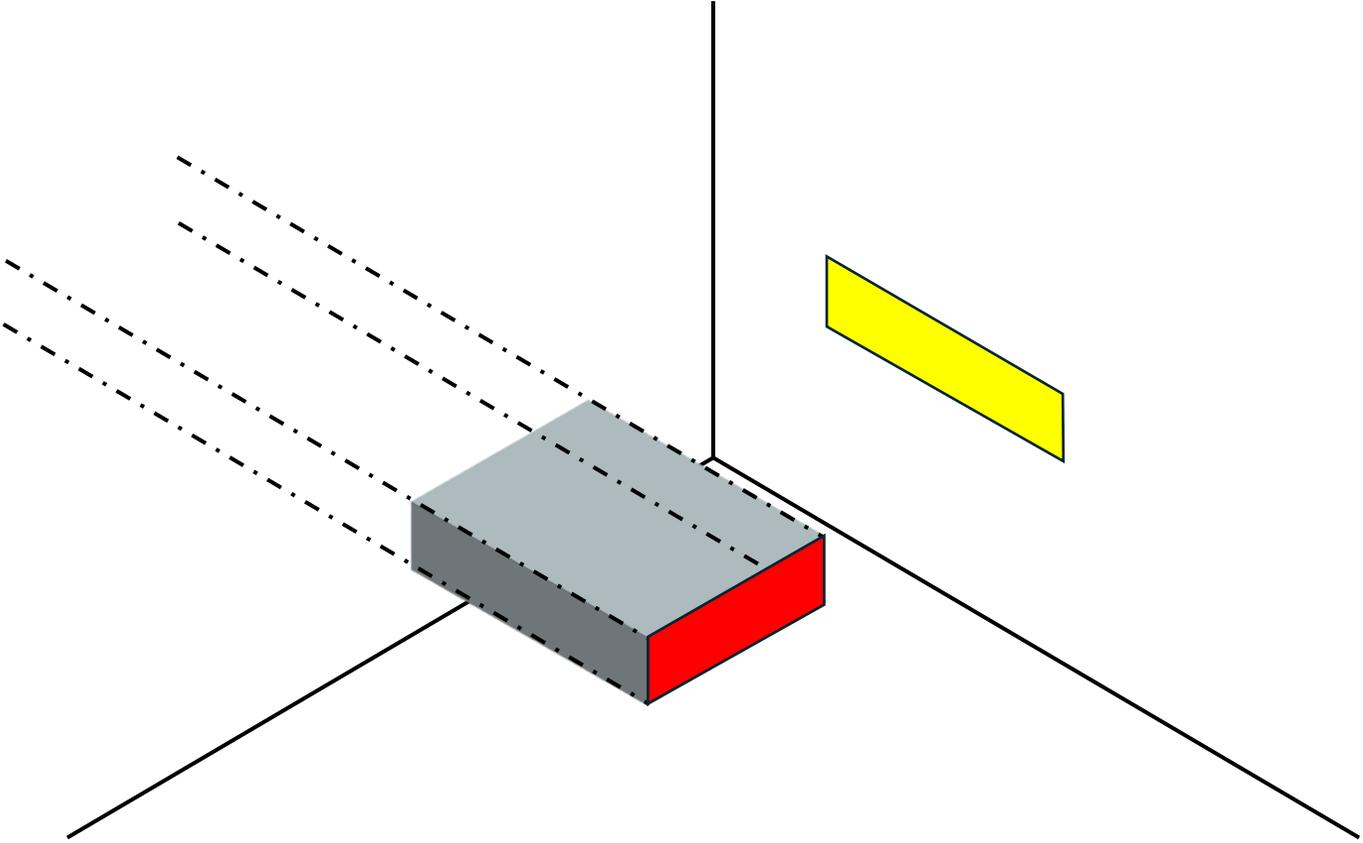
# Rappel : norme européenne



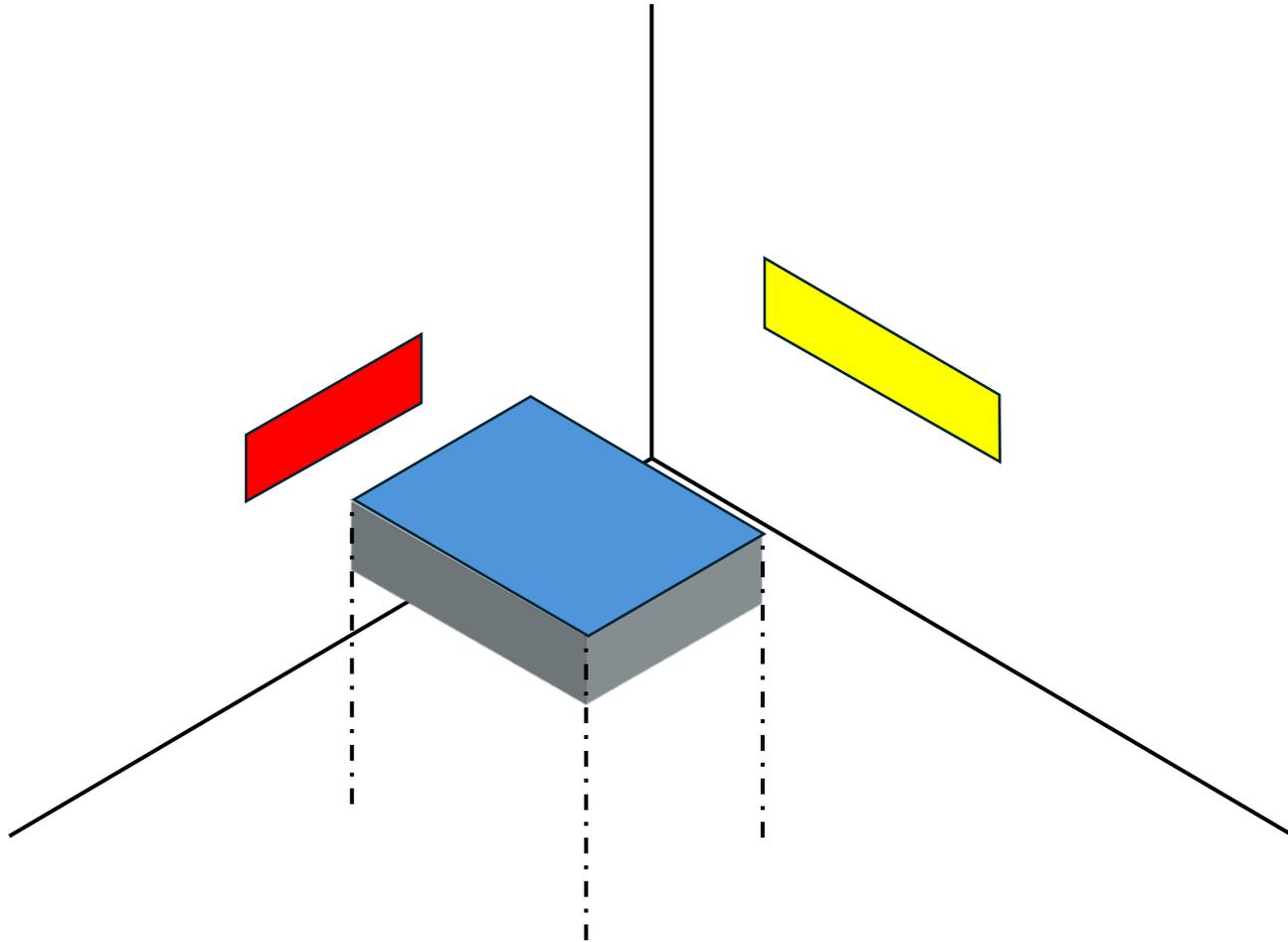
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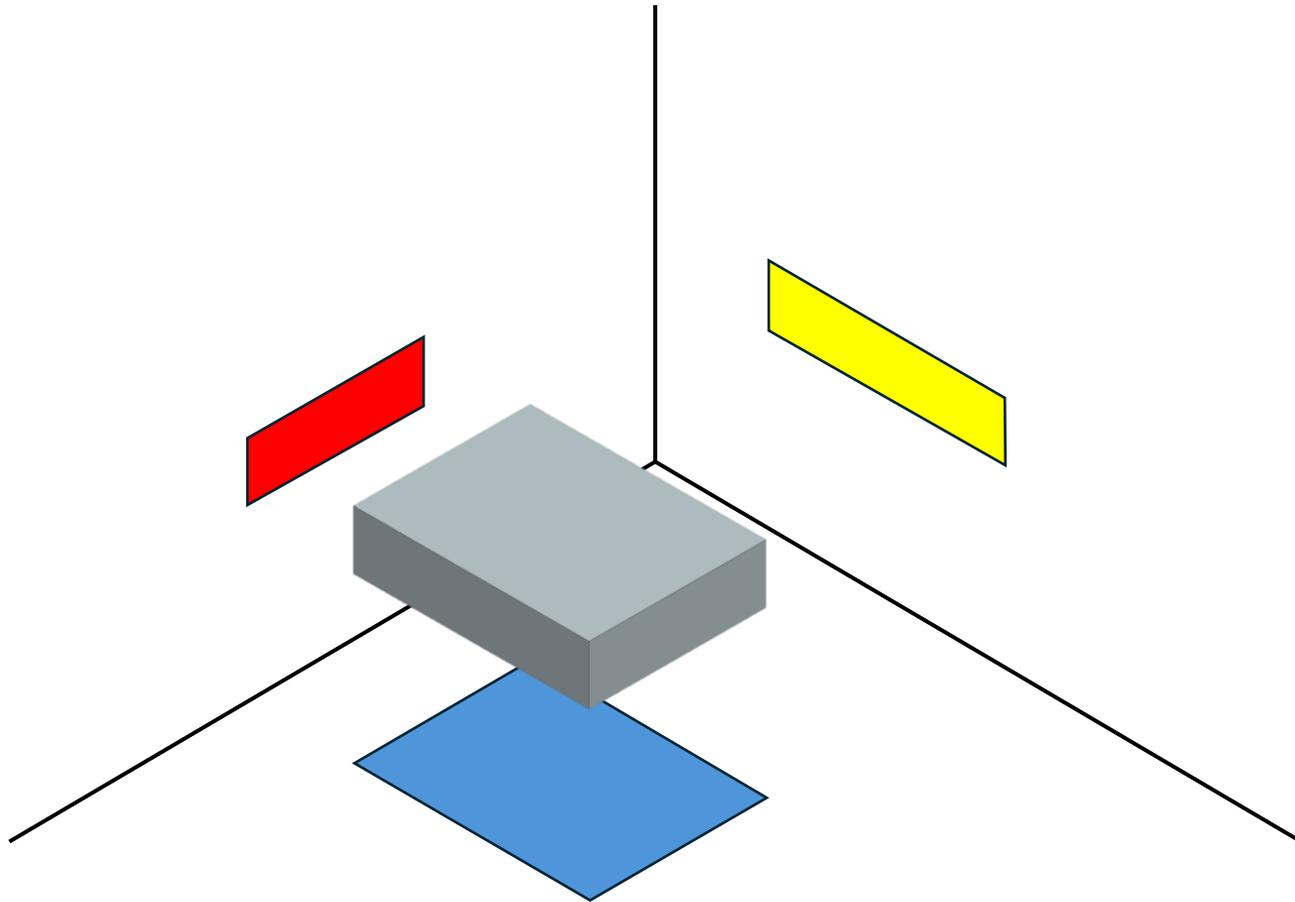
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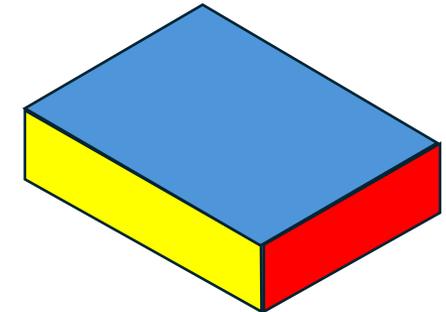
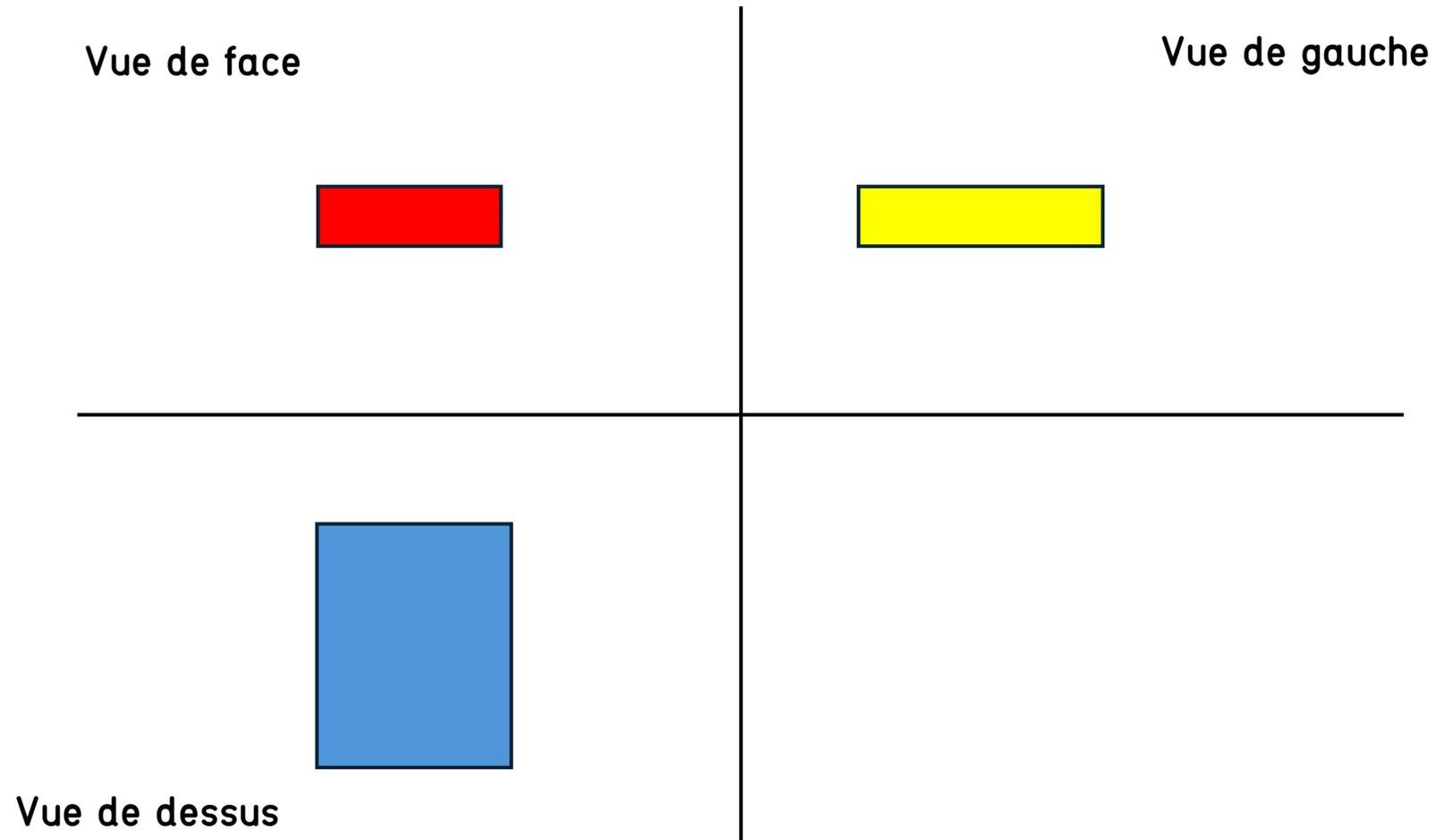
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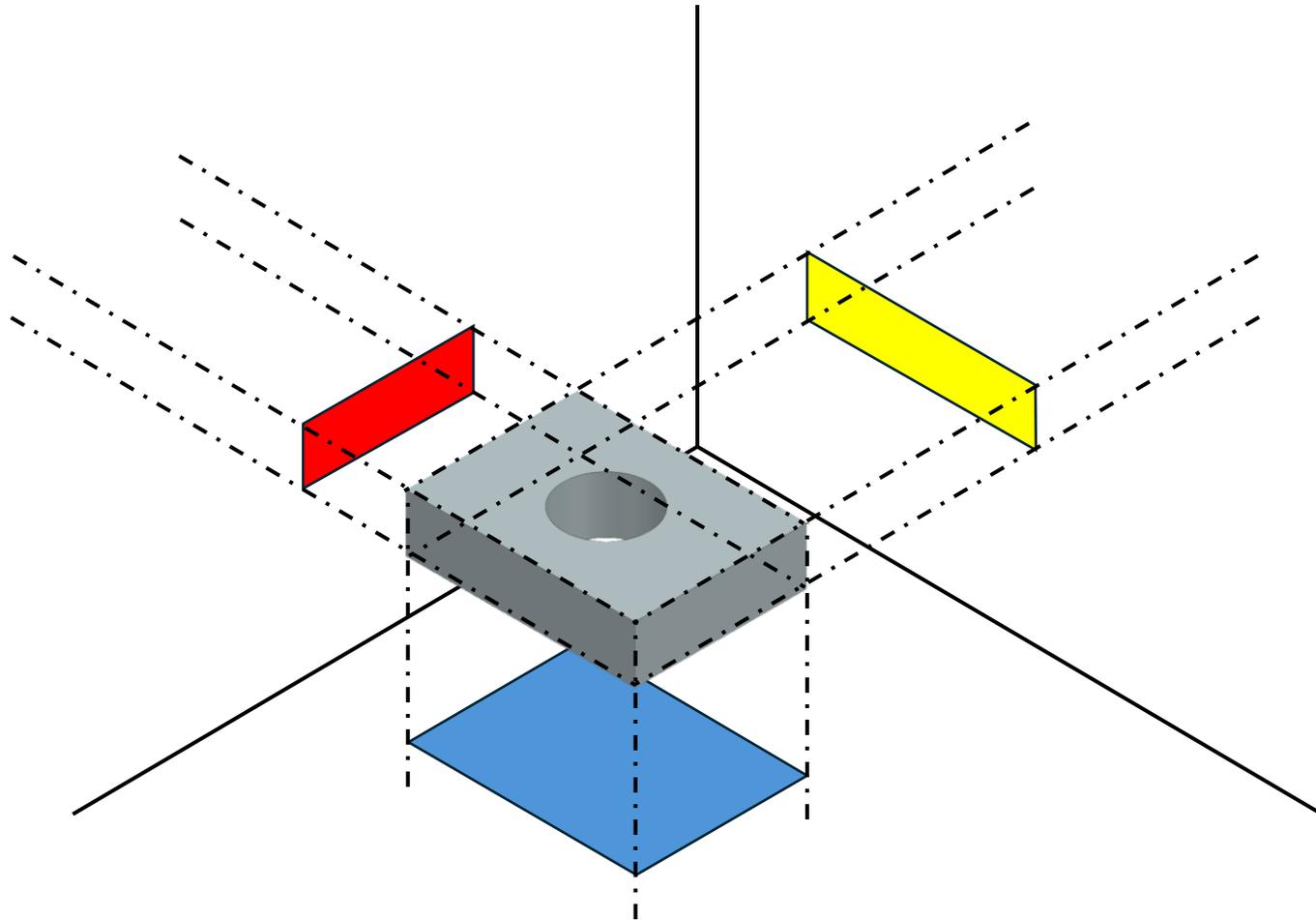
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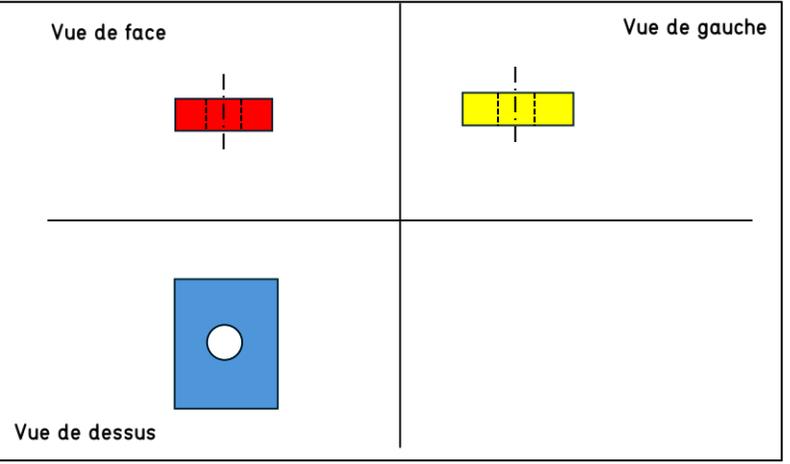
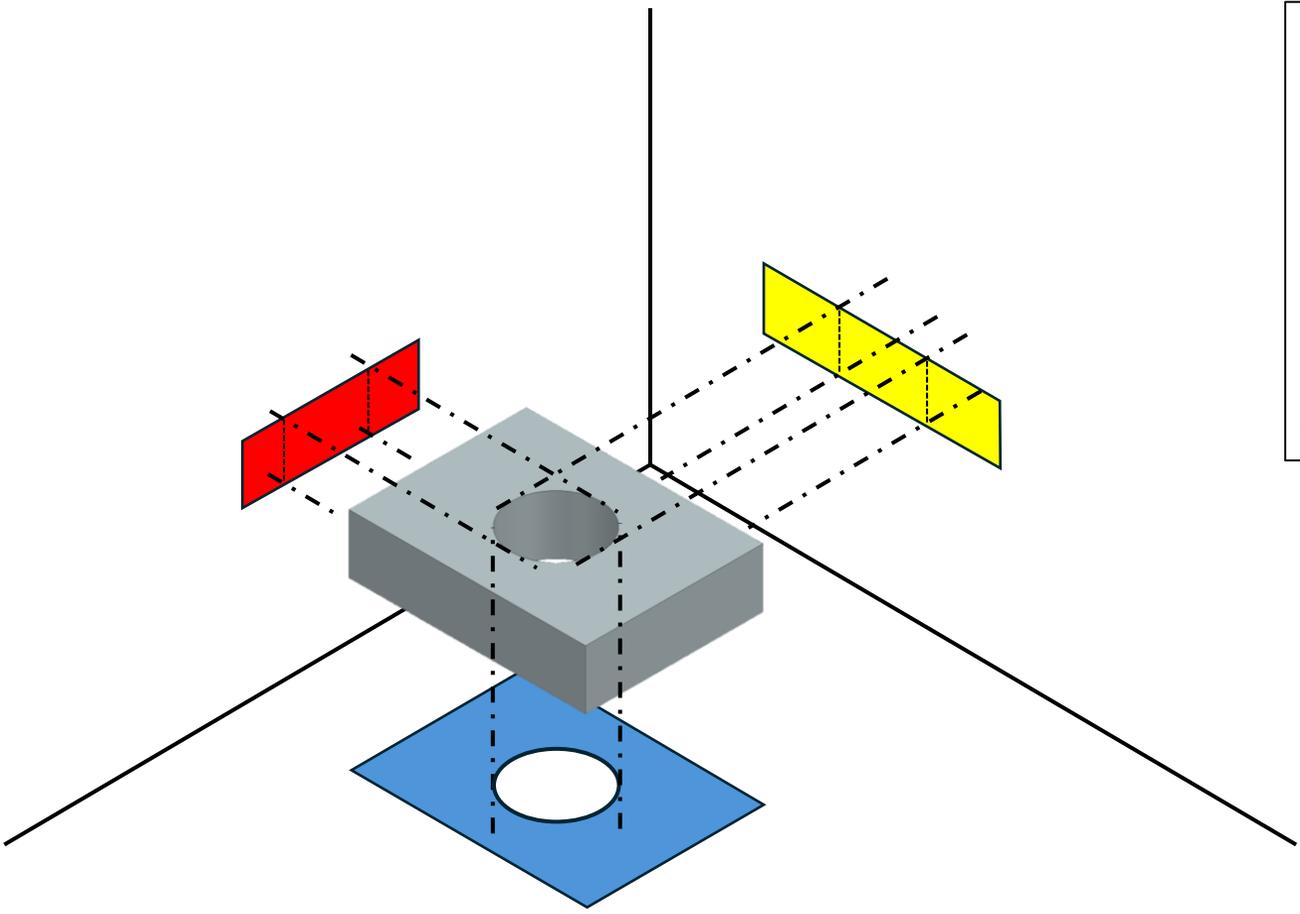
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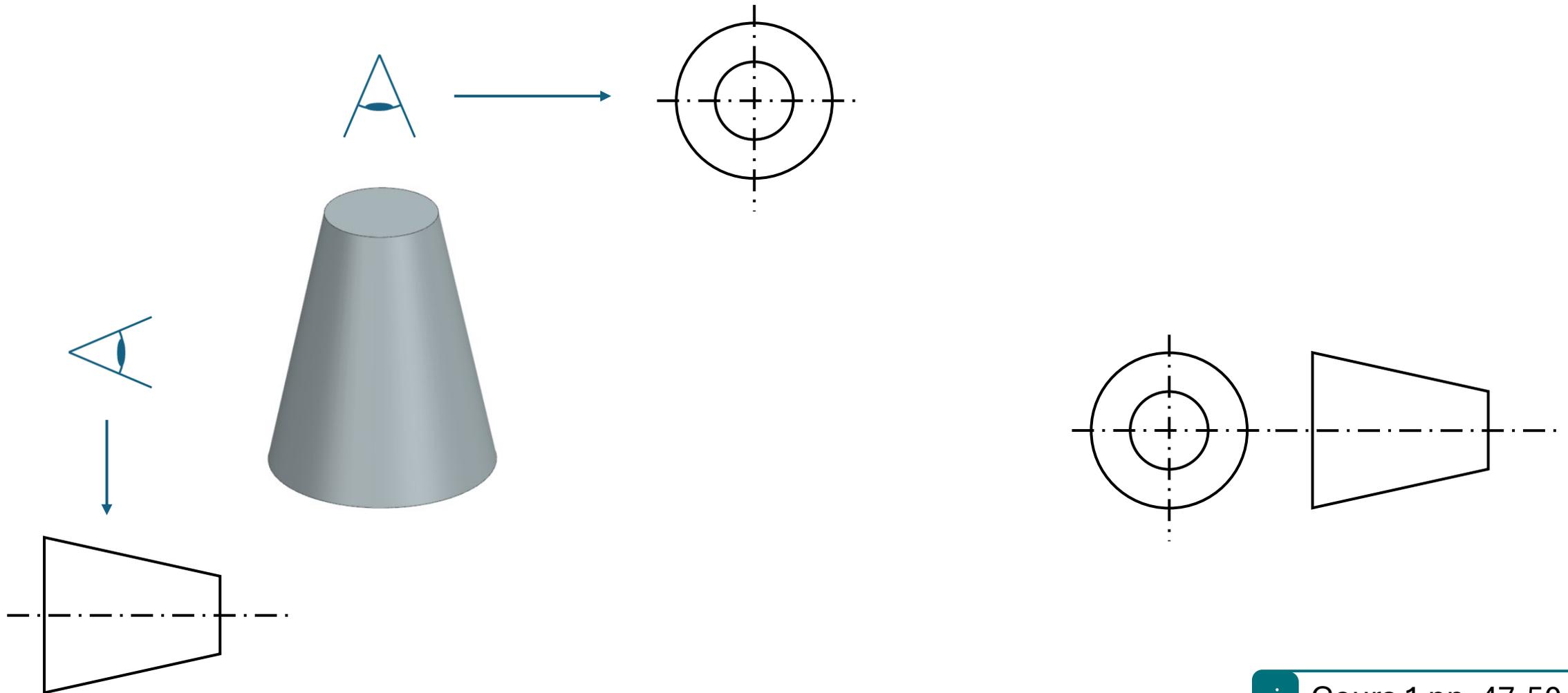
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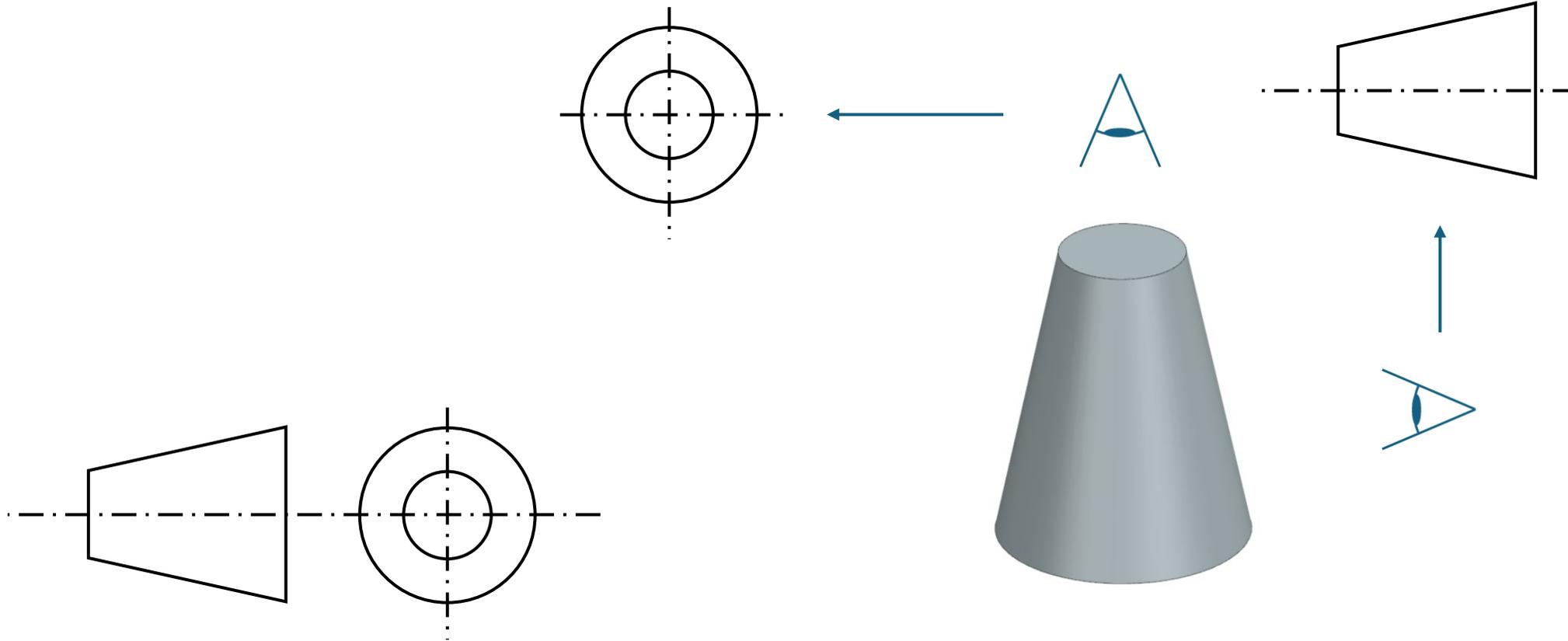
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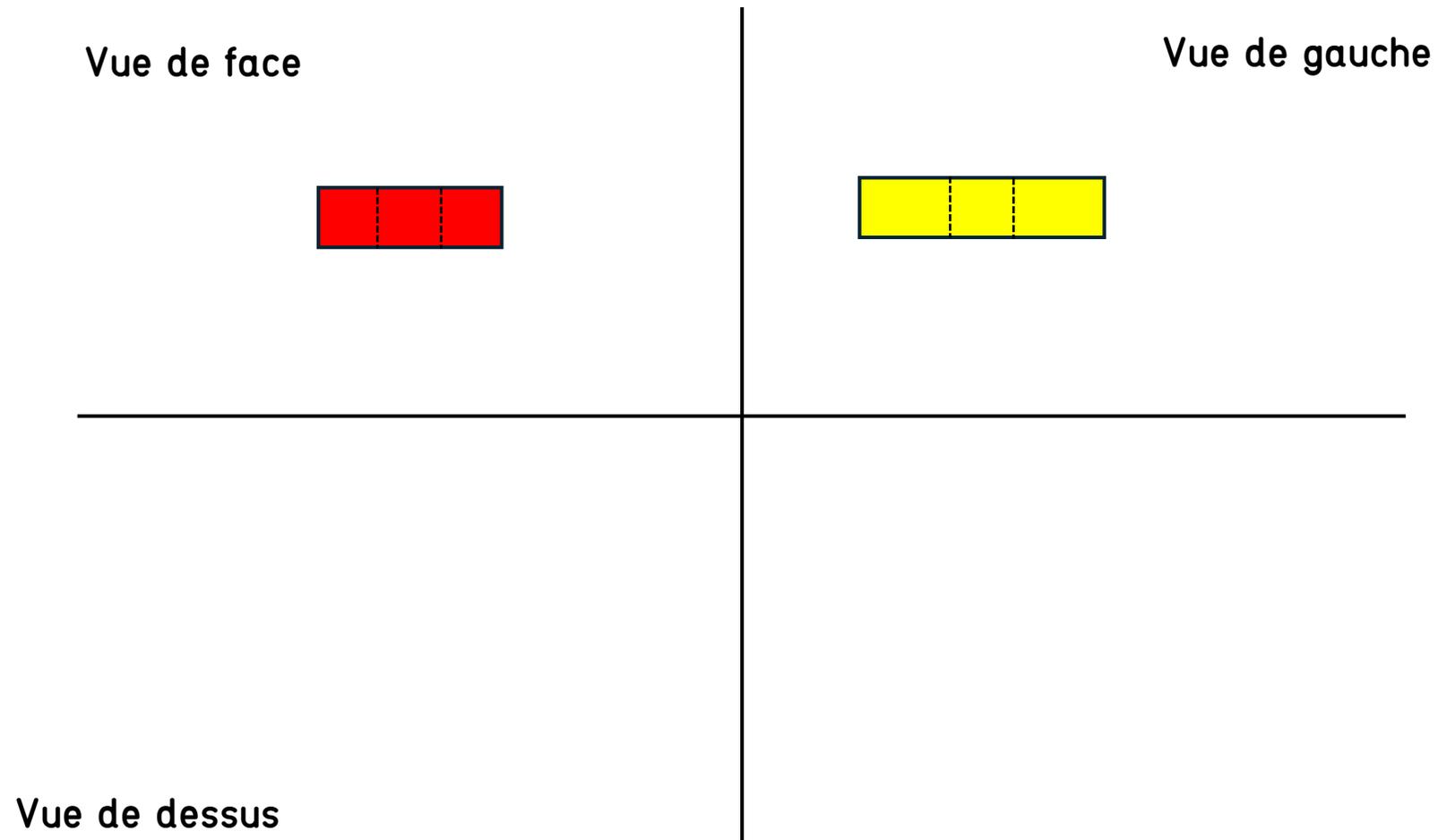
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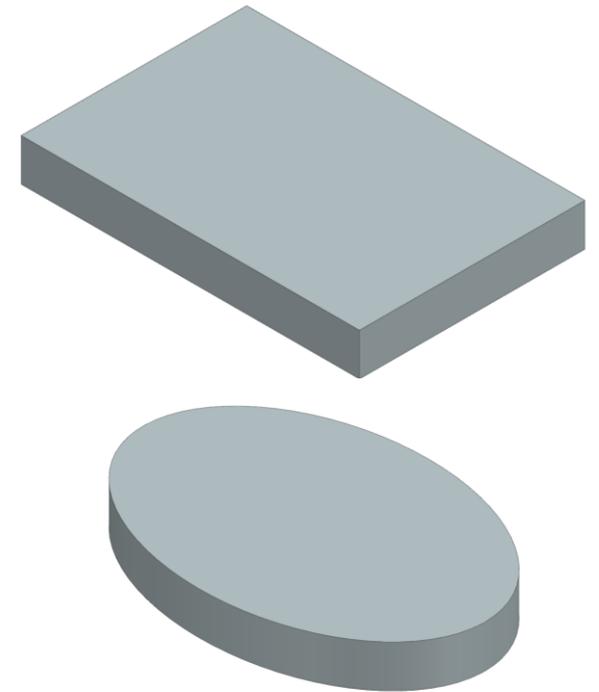
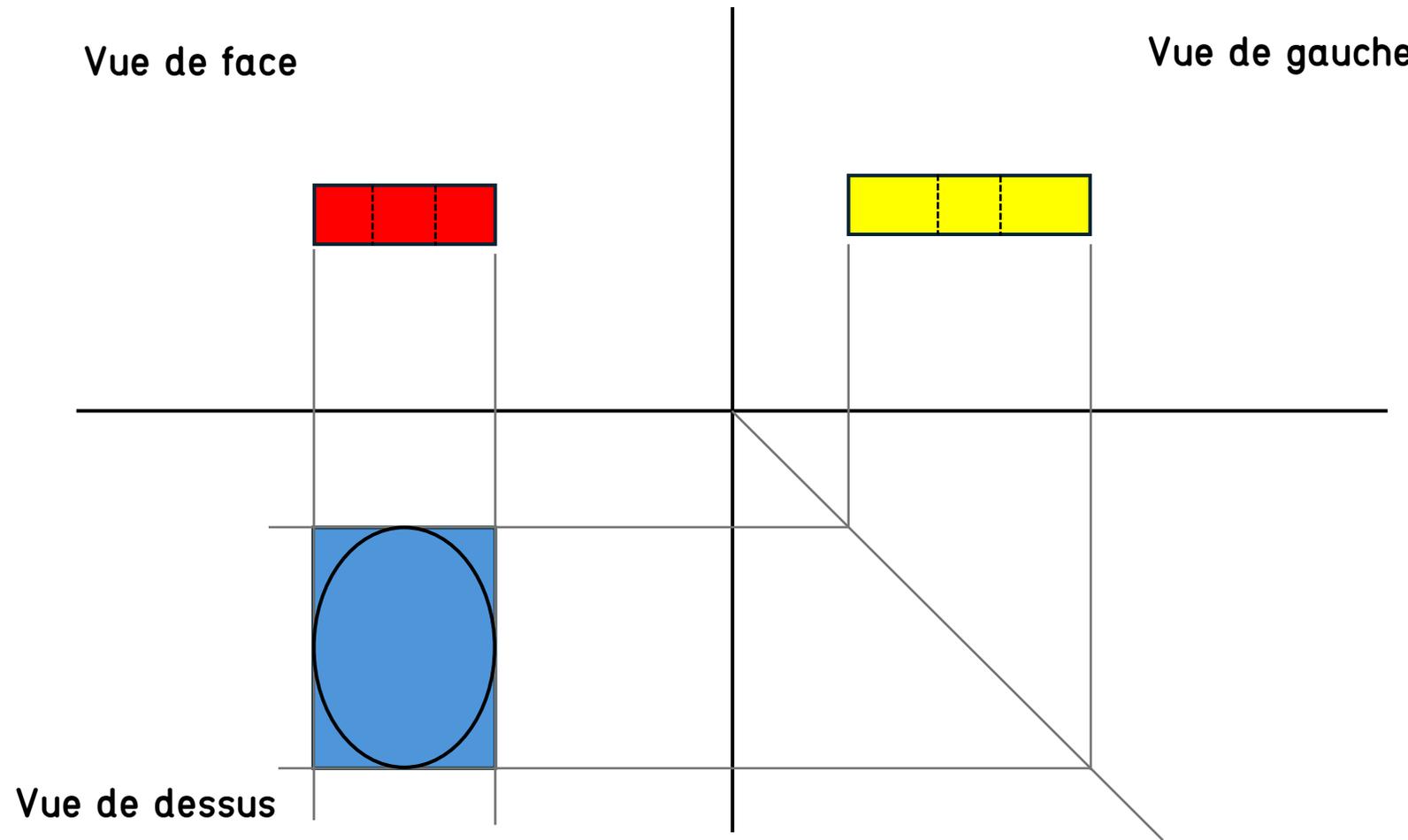
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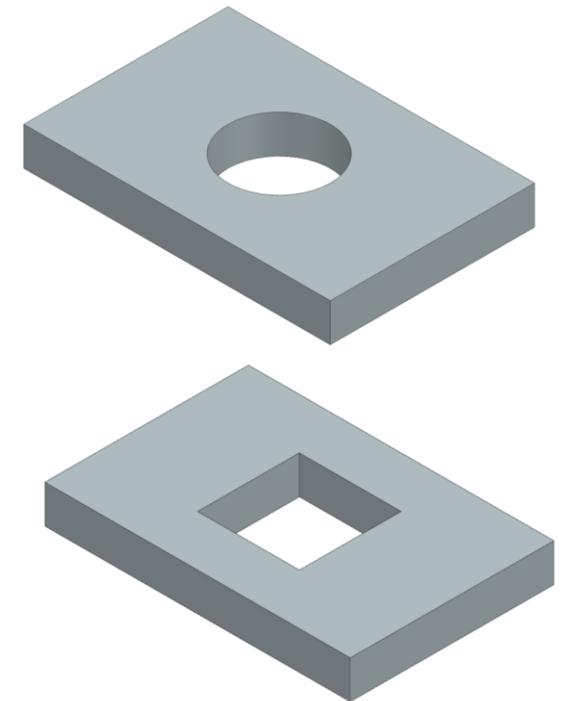
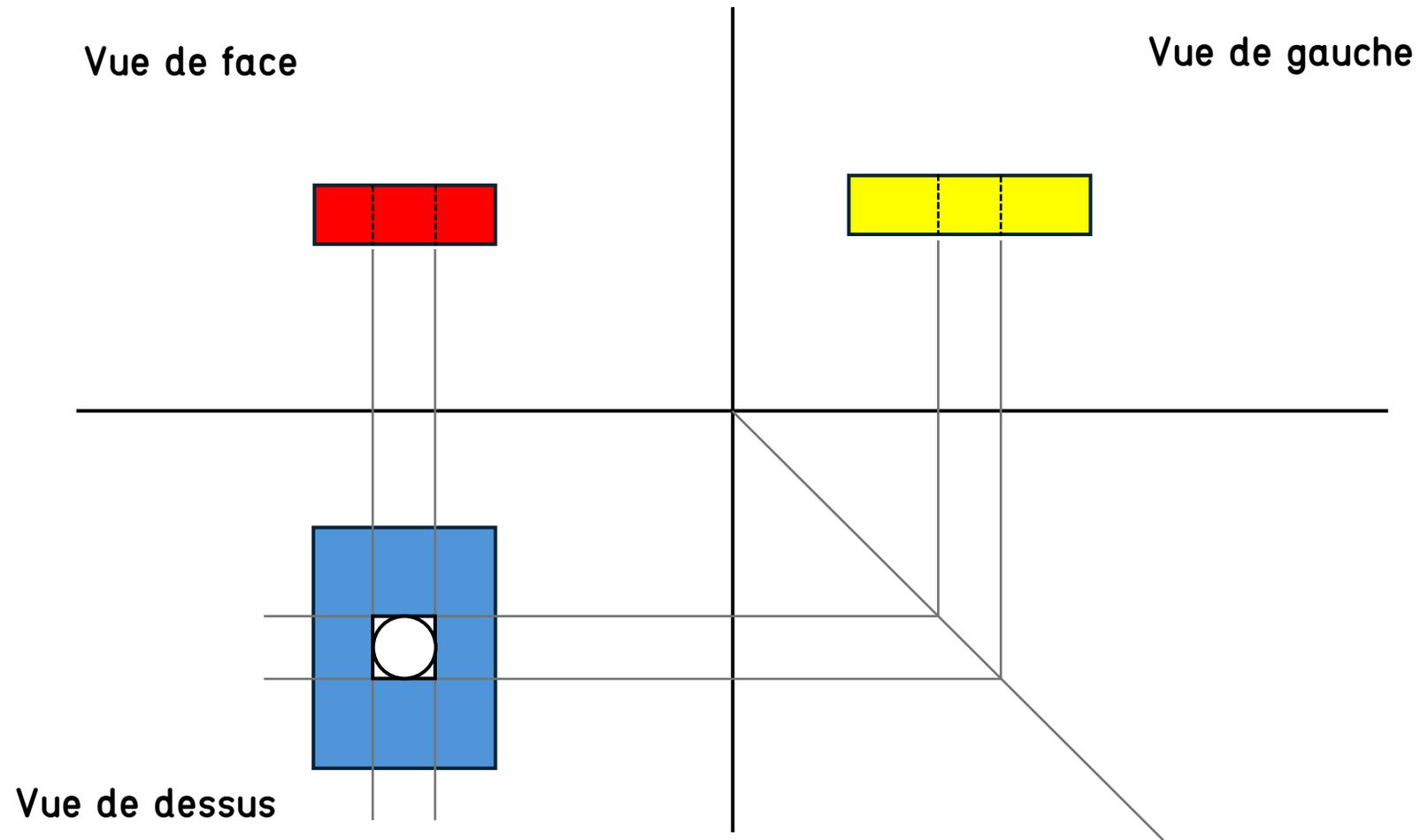
# Rappel : les "dangers" de la projection



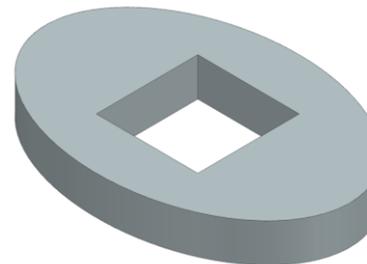
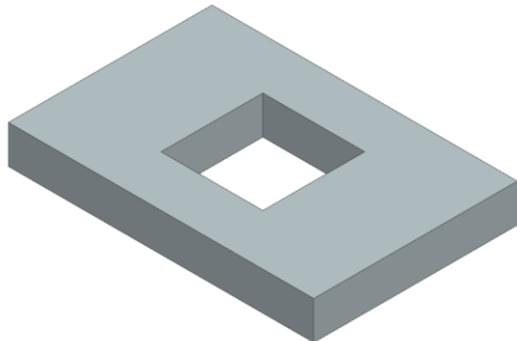
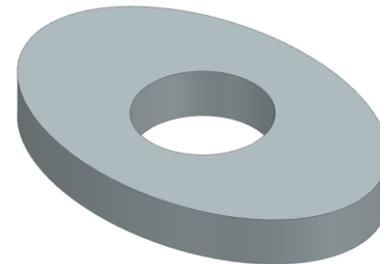
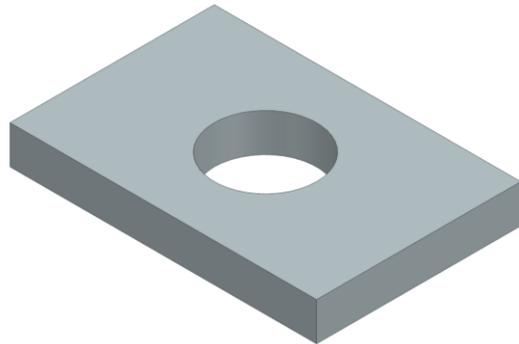
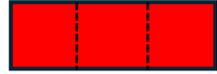
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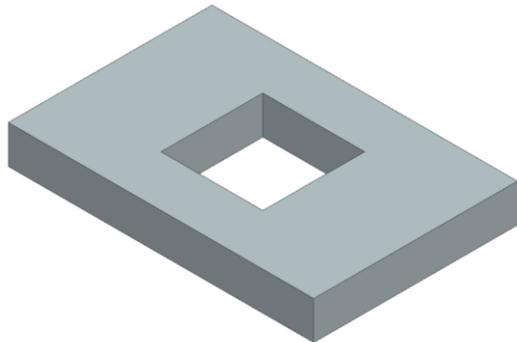
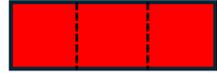


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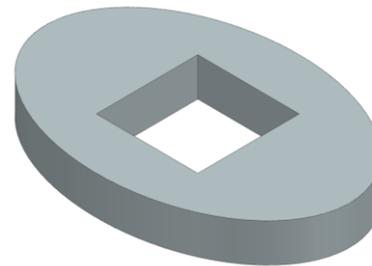
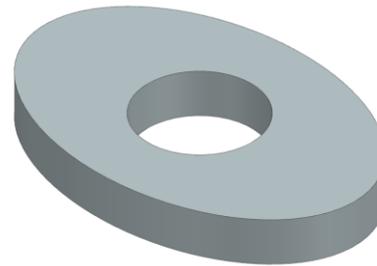
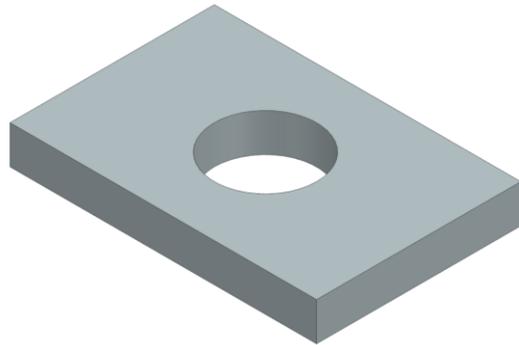
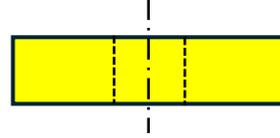
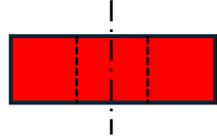
# Rappel : les "dangers" de la projection

Aide de la norme !

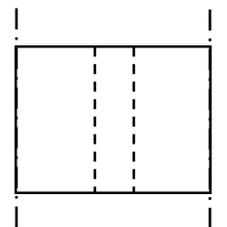
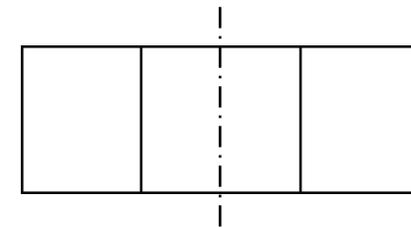
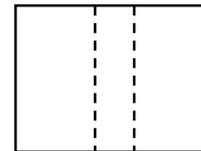
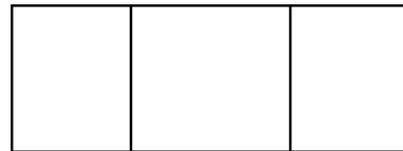
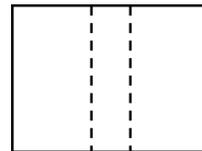
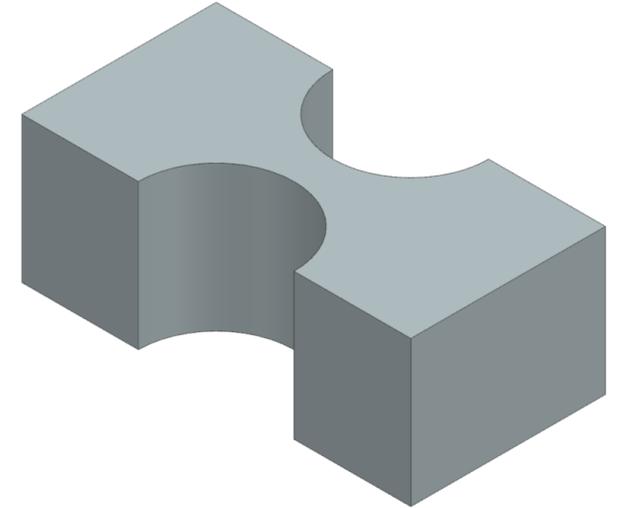
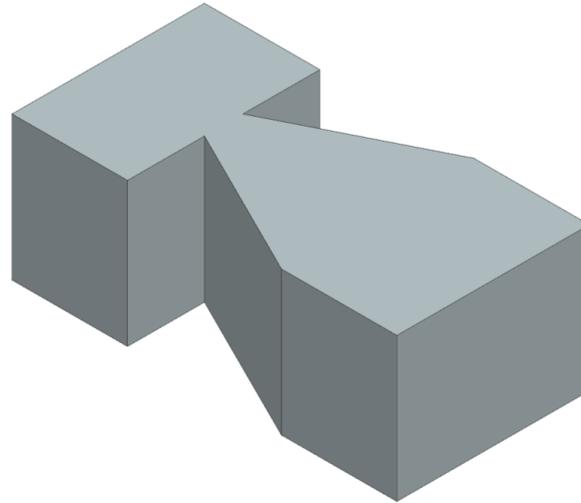
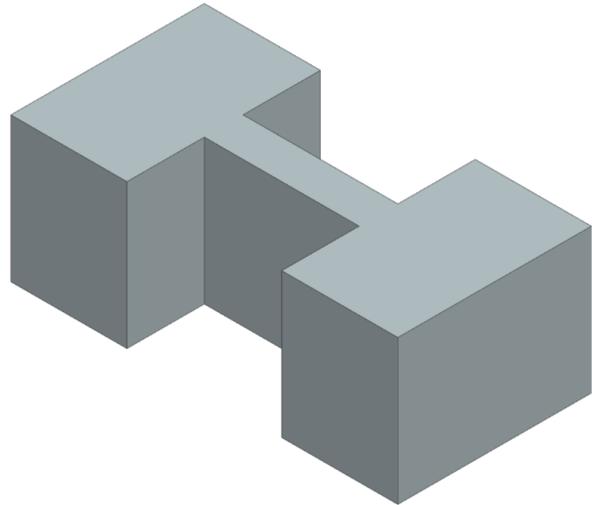


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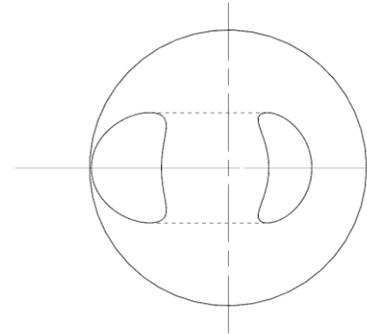
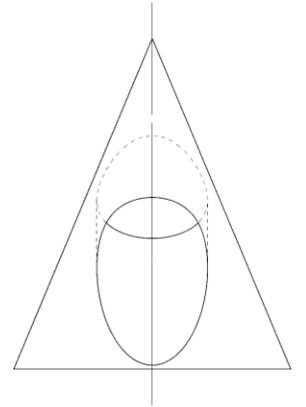
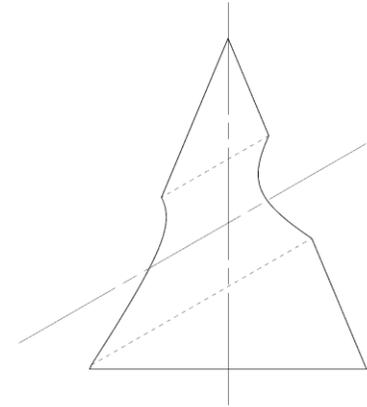
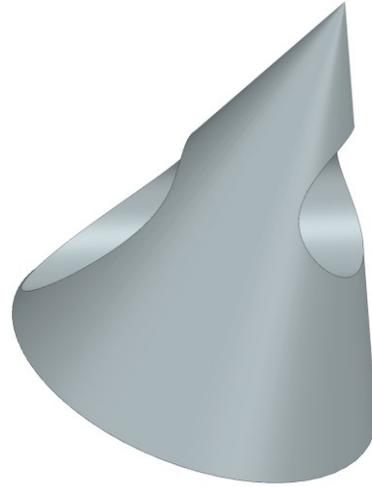
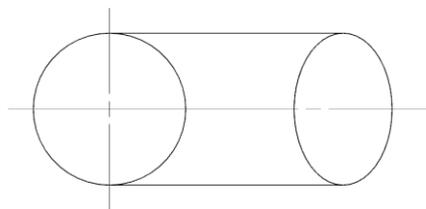
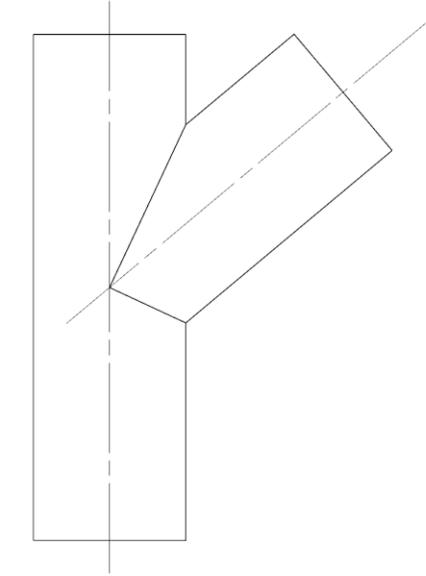
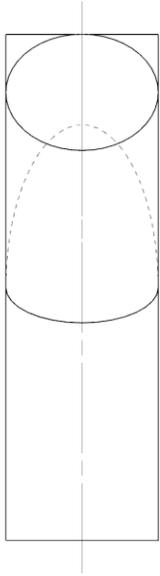
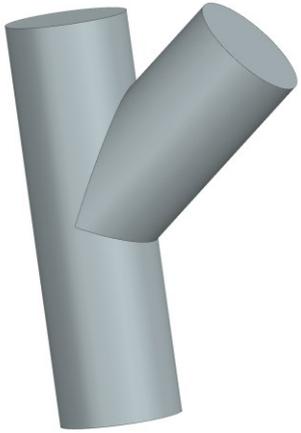
Aide de la norme !



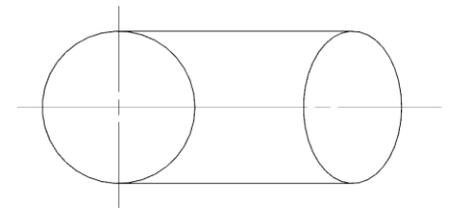
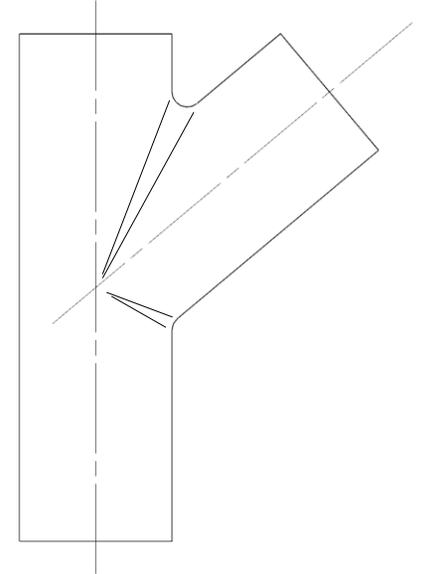
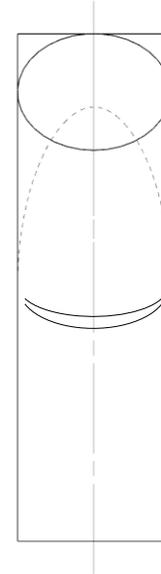
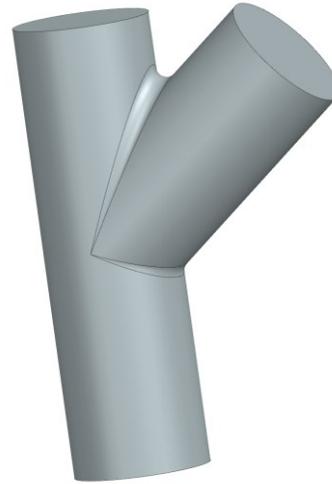
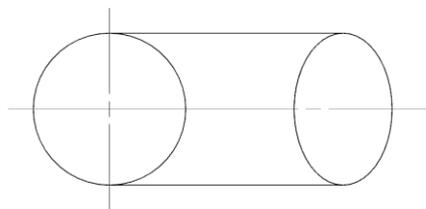
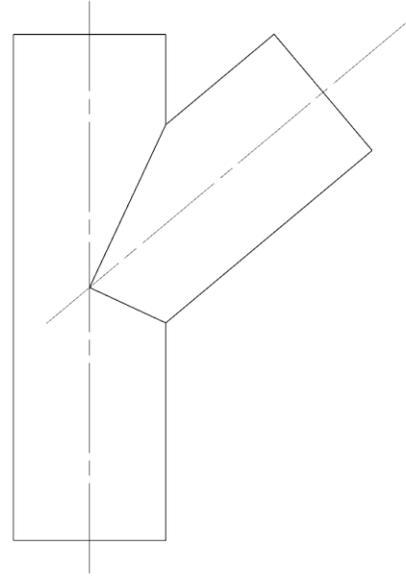
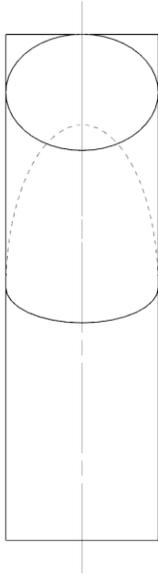
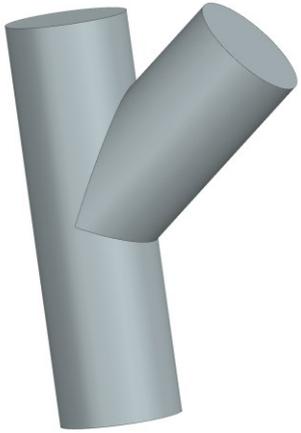
# Rappel : les "dangers" de la projection



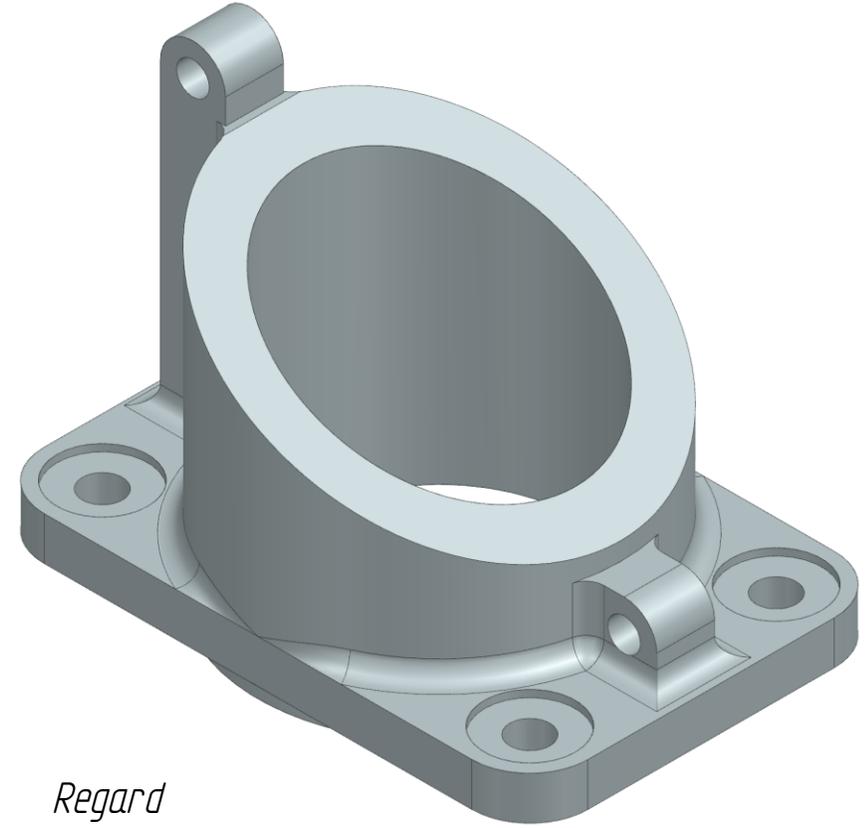
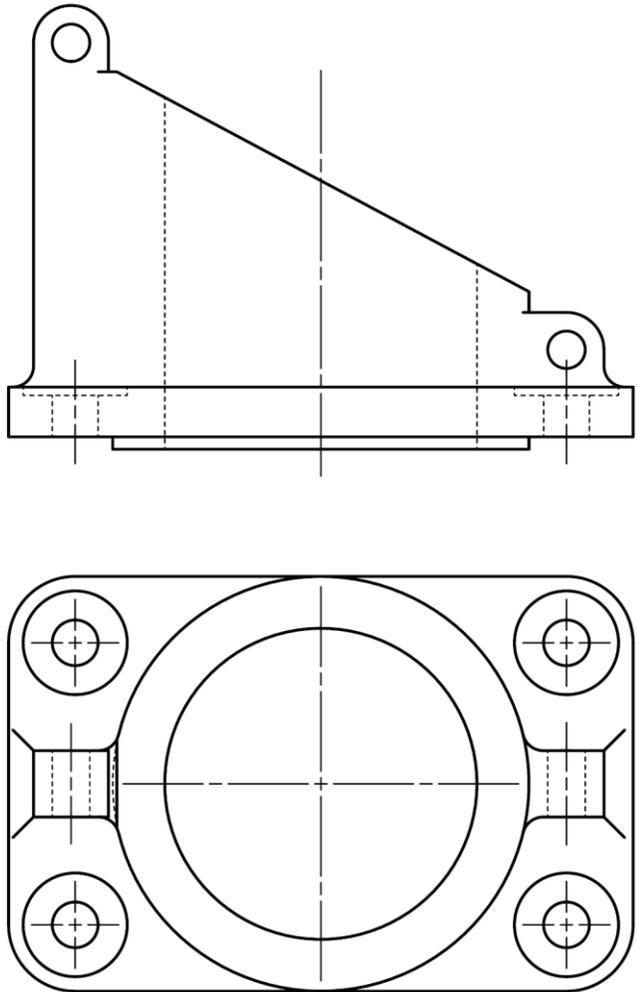
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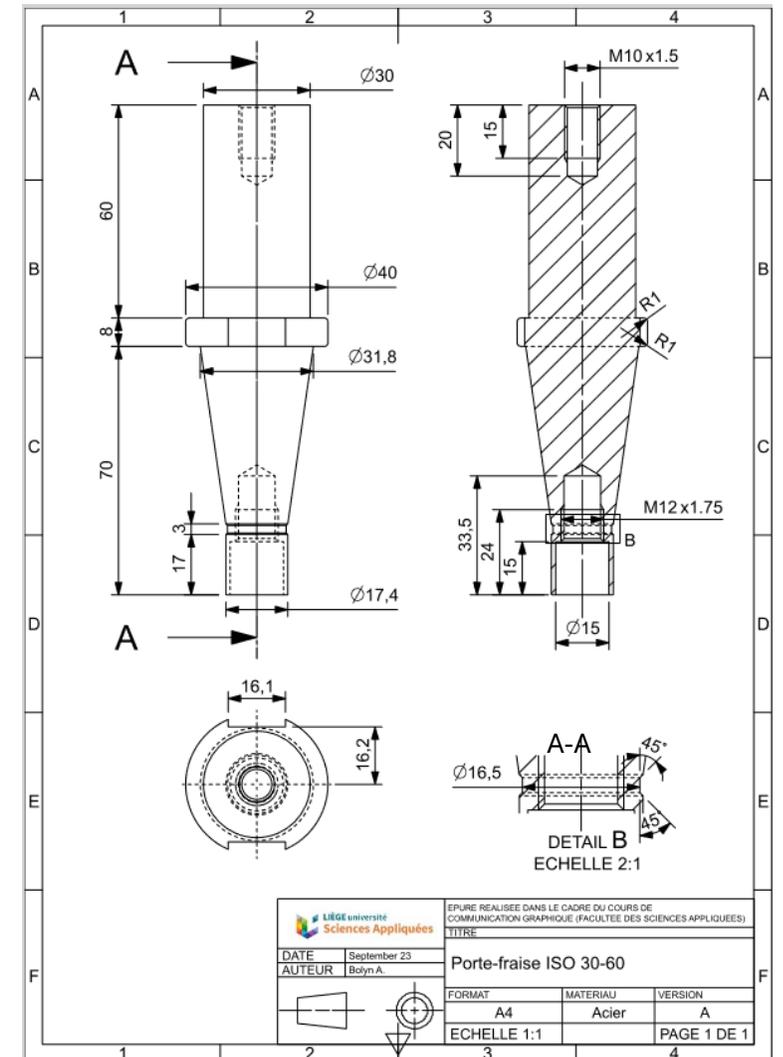
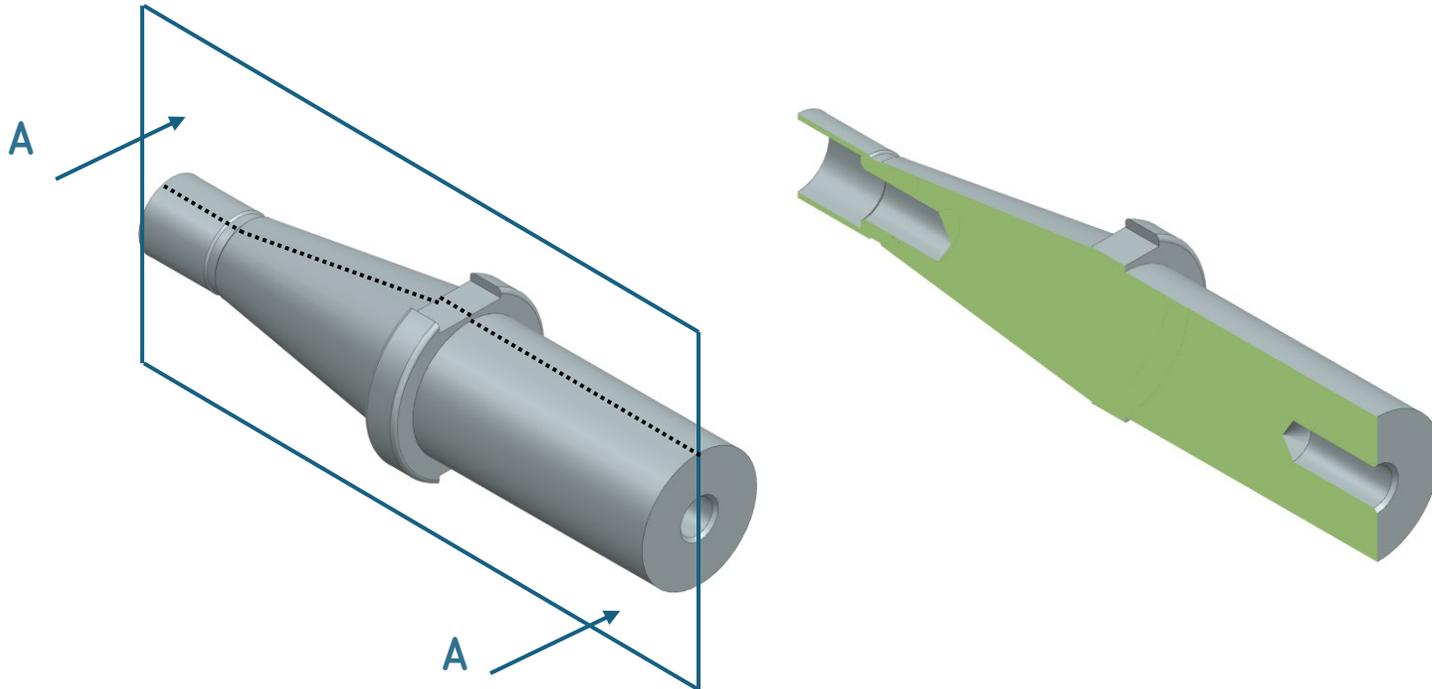


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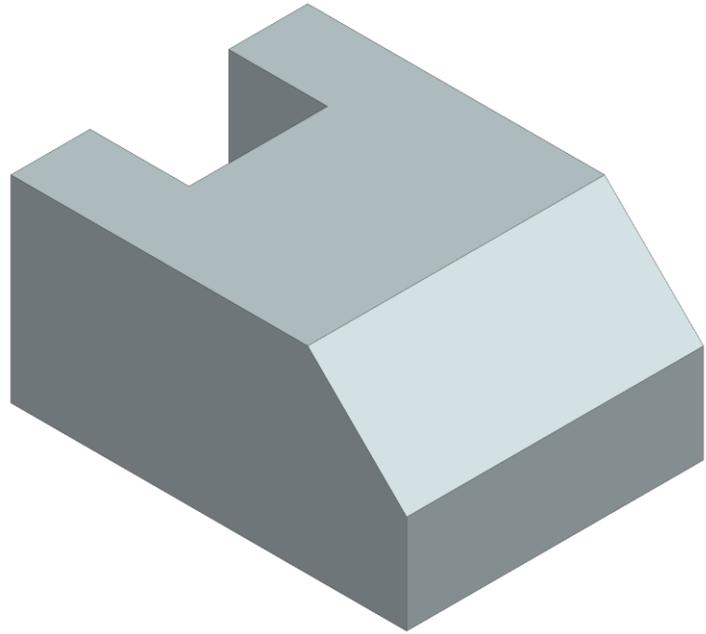


*Regard*

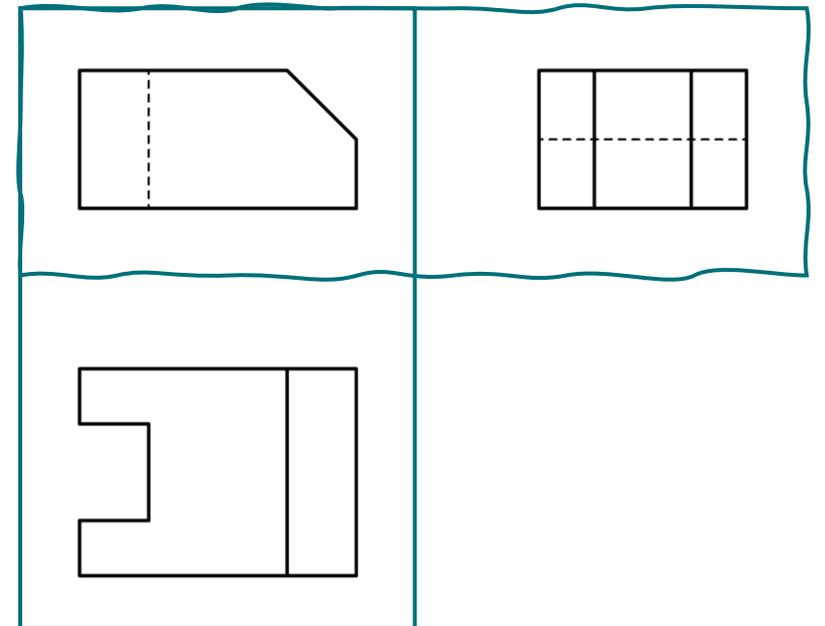
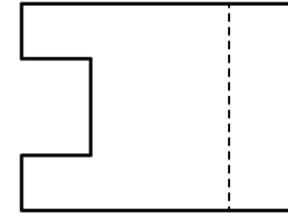
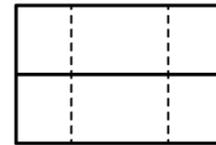
# Rappel : coupes et sections



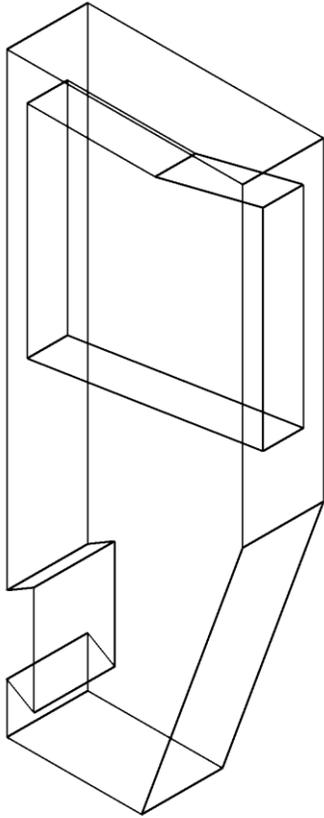
# Exercice - *Quelles vues sont utiles ?*



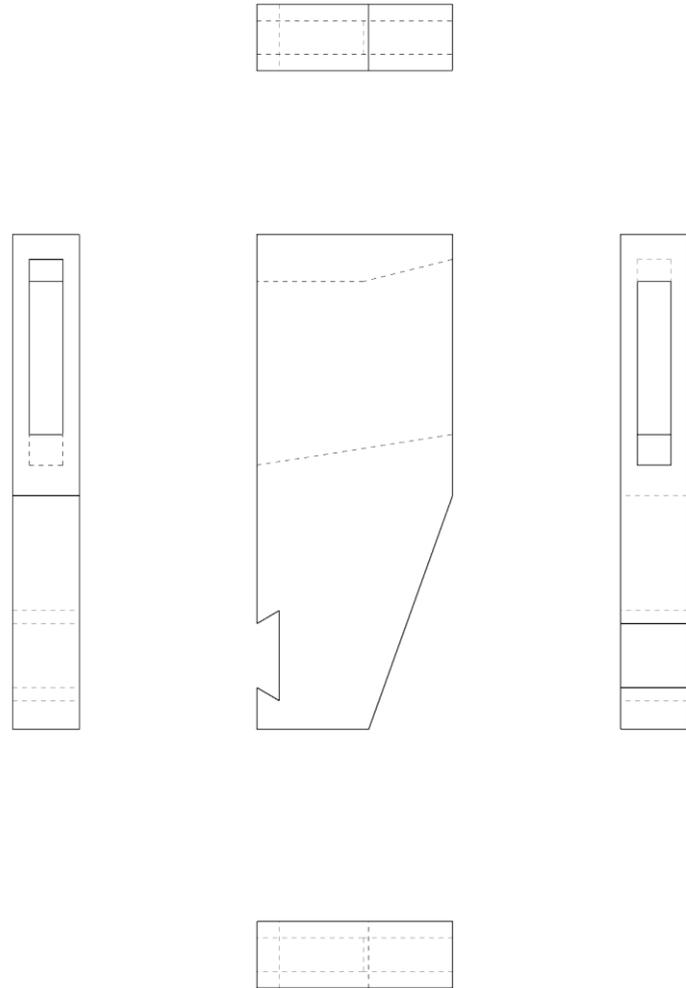
*Sabot chanfreiné*



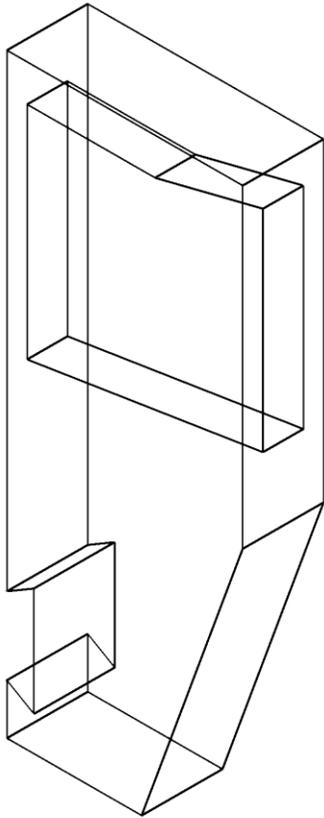
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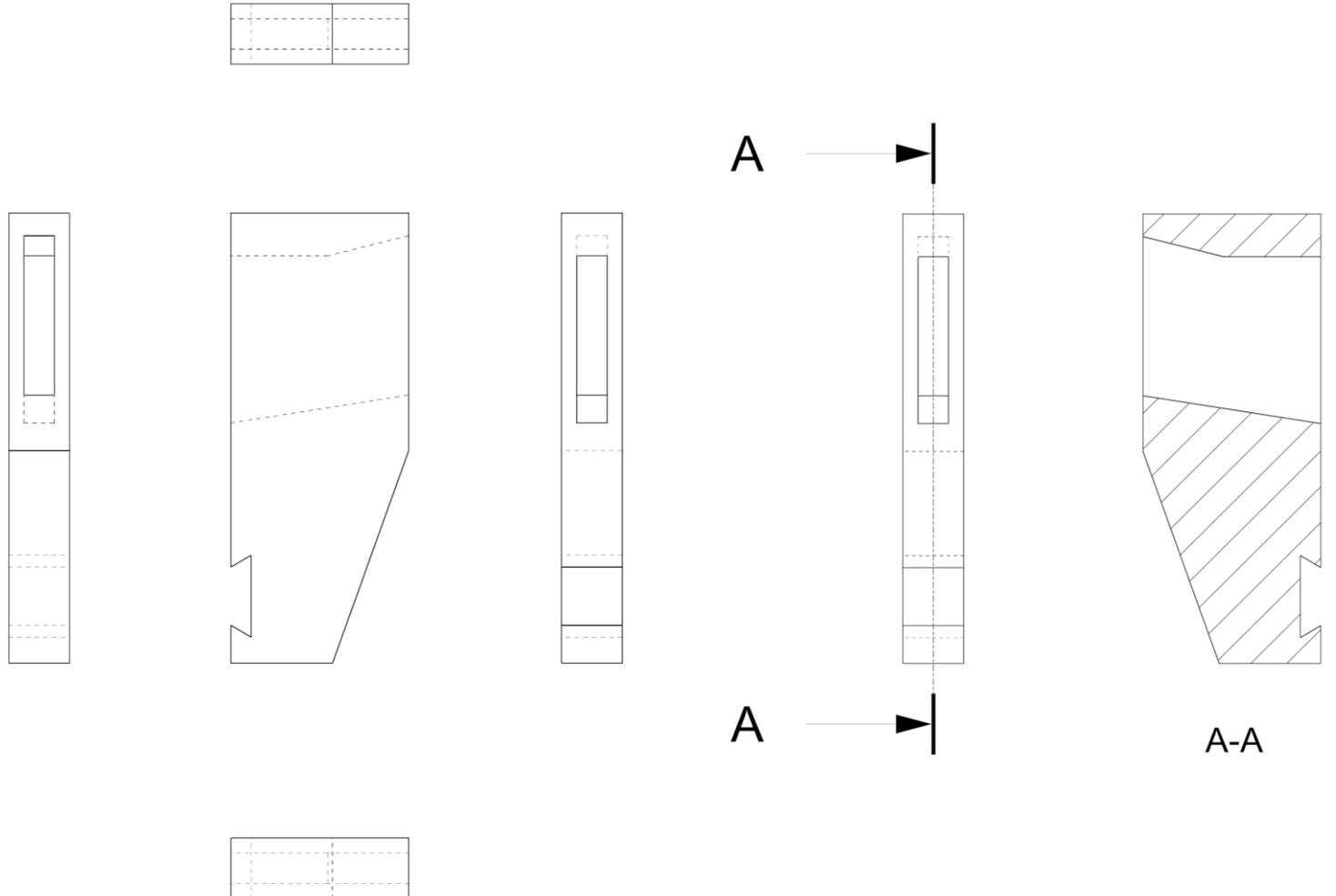
*Machoire à crémaillère*



# Exercice - *Quelles vues sont utiles ?*



*Machoire à crémaillère*



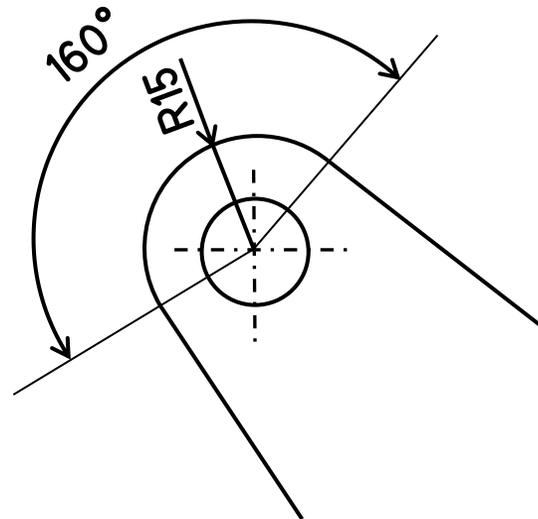
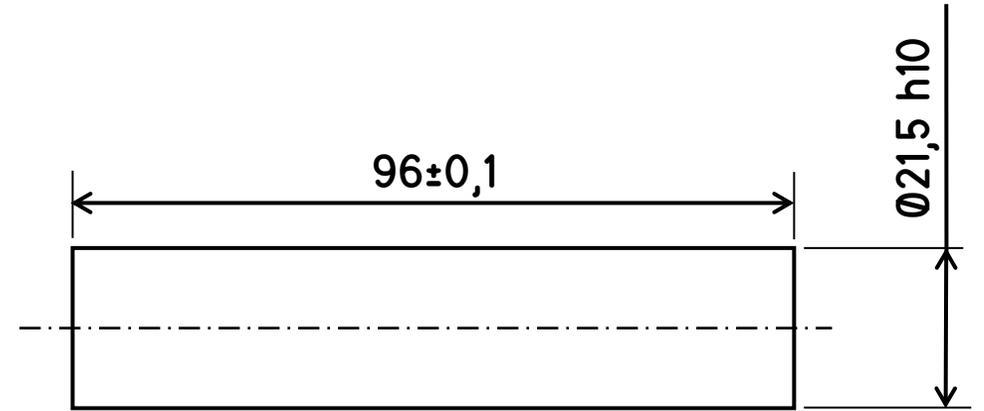
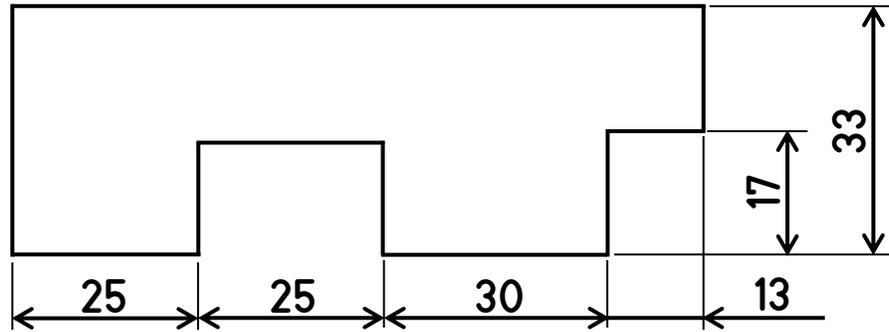
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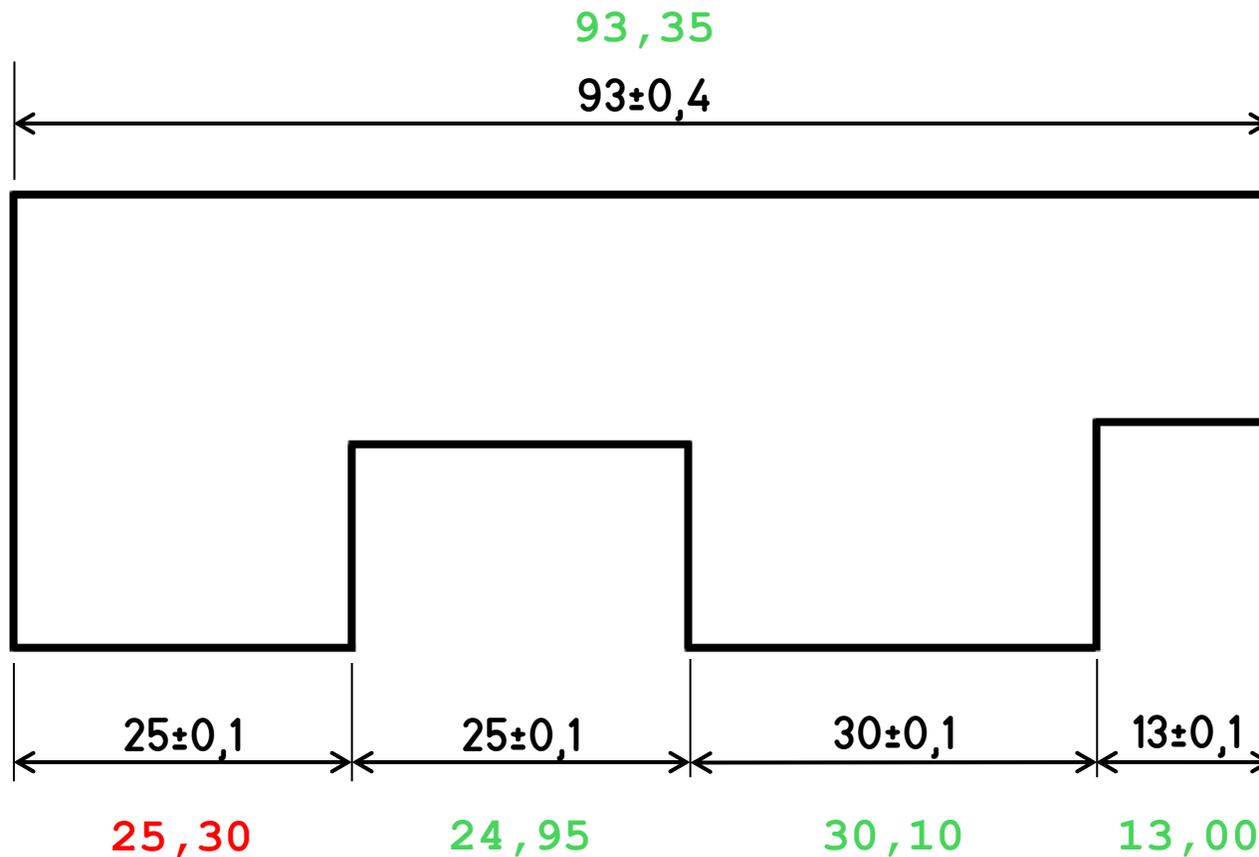
[app.wooclap.com/COMGRAPH1](https://app.wooclap.com/COMGRAPH1)

## II. Cotation

# Rappel : coter un plan



# Rappel : coter de manière suffisante

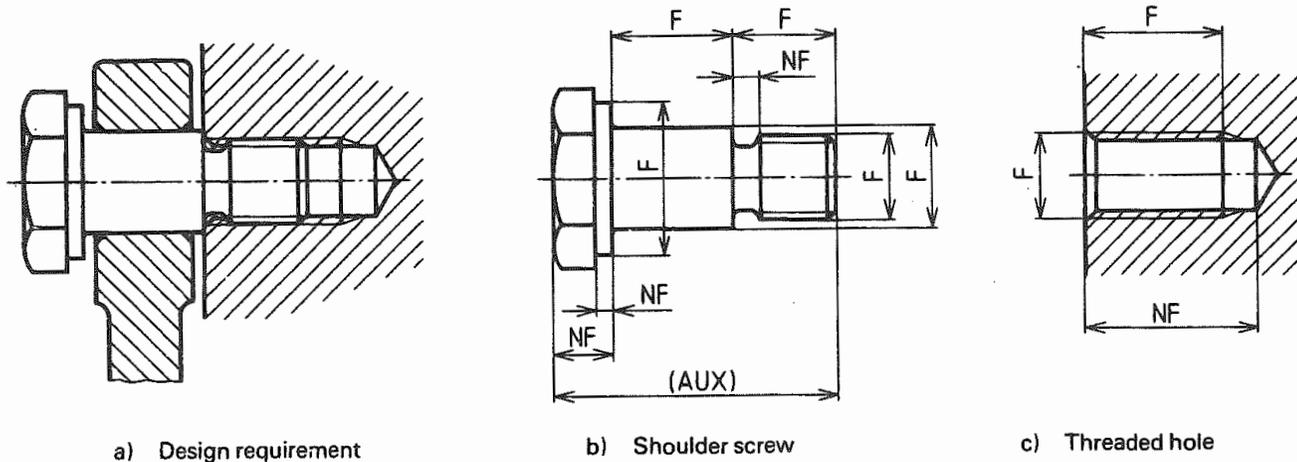


**Redondance !**

Les tolérances respectées dépendront des opérations de fabrication !

Notion de cotes fonctionnelles.

# Rappel : choisir une cote



Priorité aux cotes fonctionnelles.

Légende :

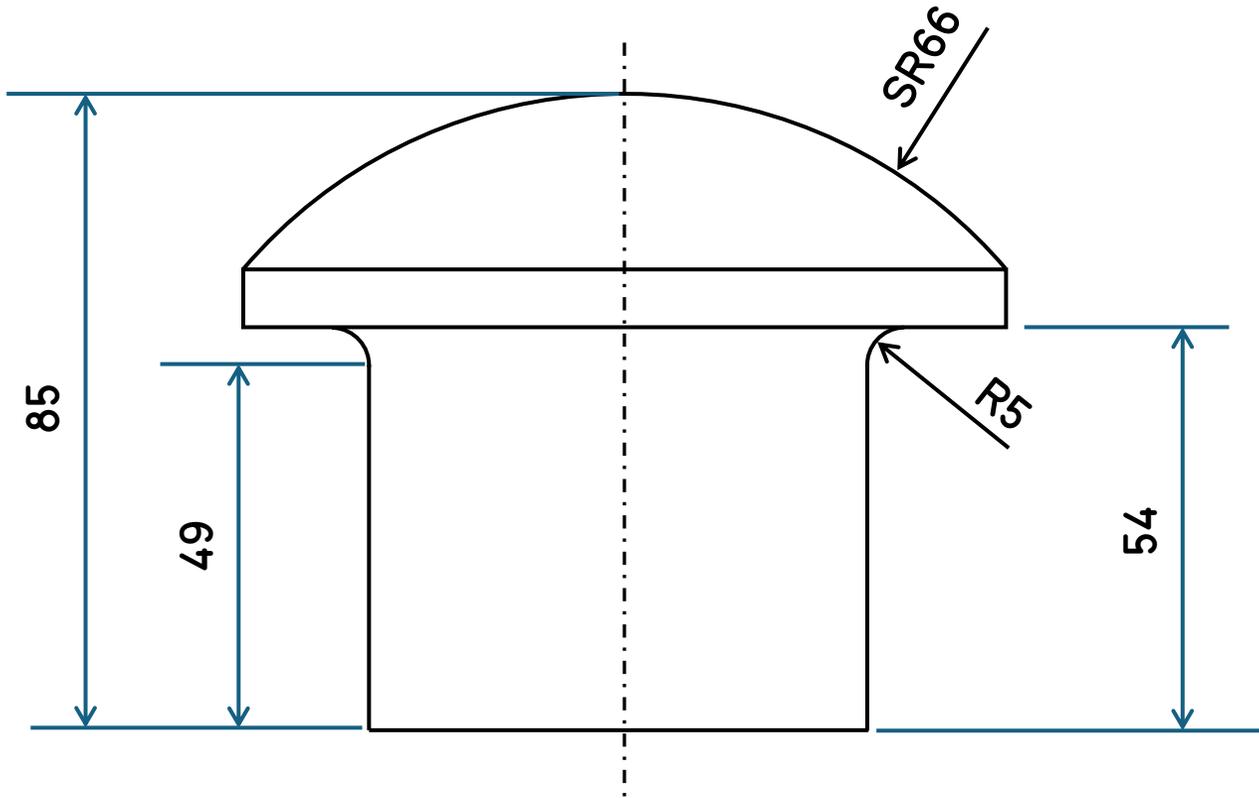
F : cote fonctionnelle

NF : cote non-fonctionnelle

AUX : dimension auxiliaire

Figure 1 — Functional, non-functional and auxiliary dimensions ISO 129-1985

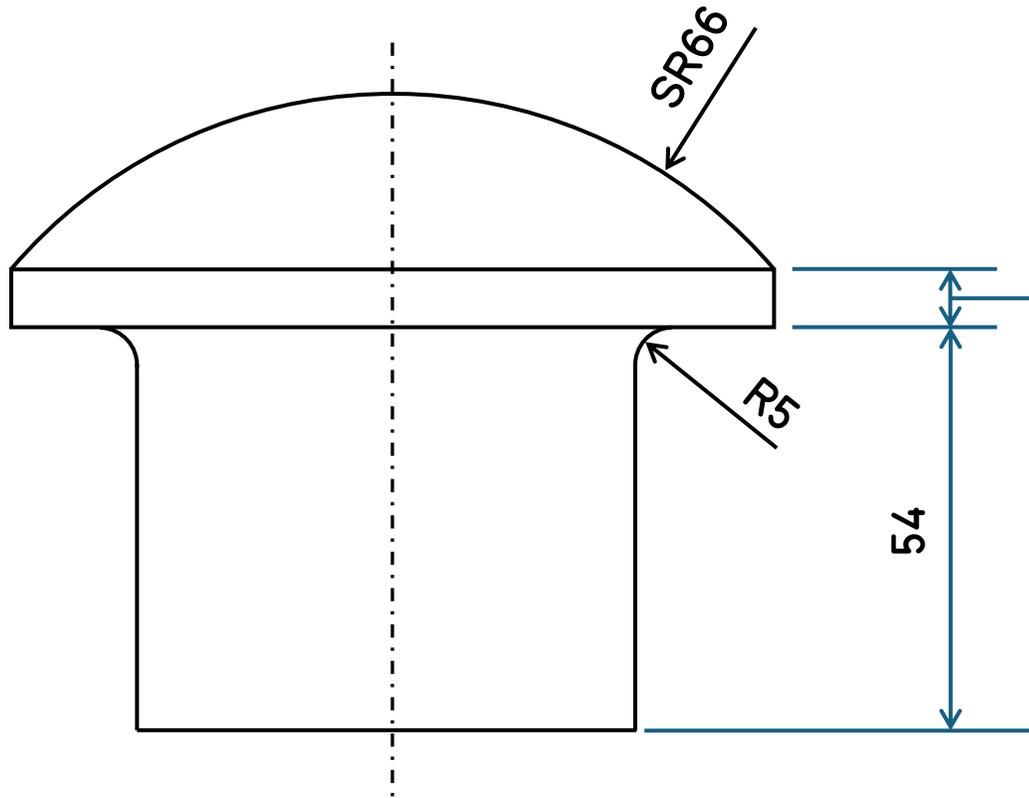
# Rappel : choisir une cote



**Recommandé : une cote mesurable**

La cote de 49 mm n'est pas mesurable car difficile de trouver le point de tangence.

# Rappel : choisir une cote

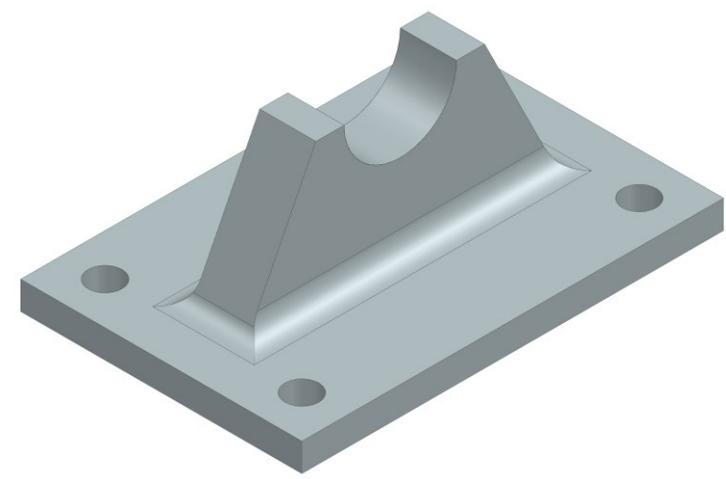
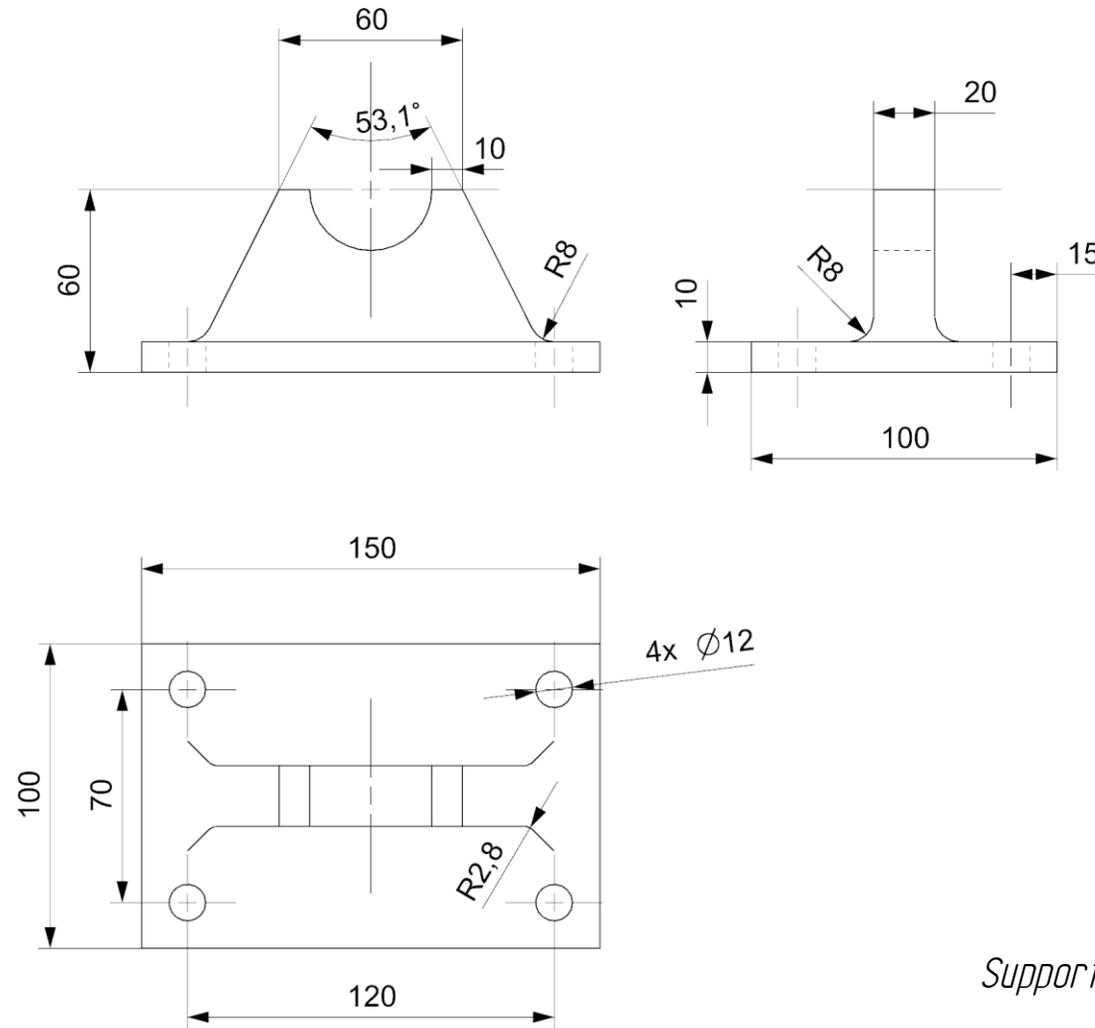


**Recommandé : une cote mesurable**

Attention aux arrondis dans la cote (NX arrondit par défaut à 2 décimales)

6,892720131...

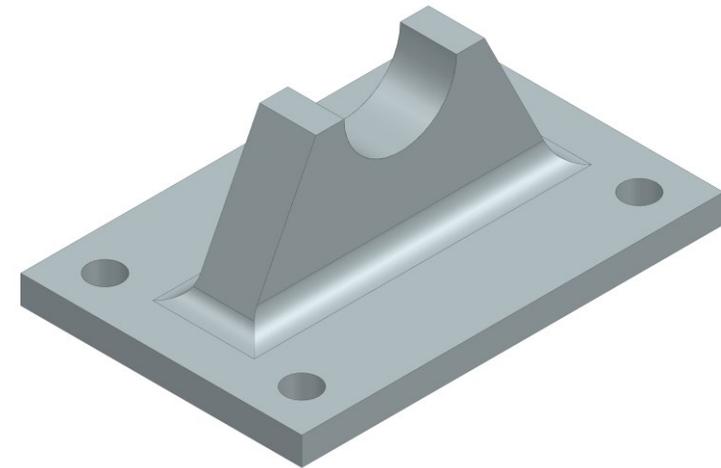
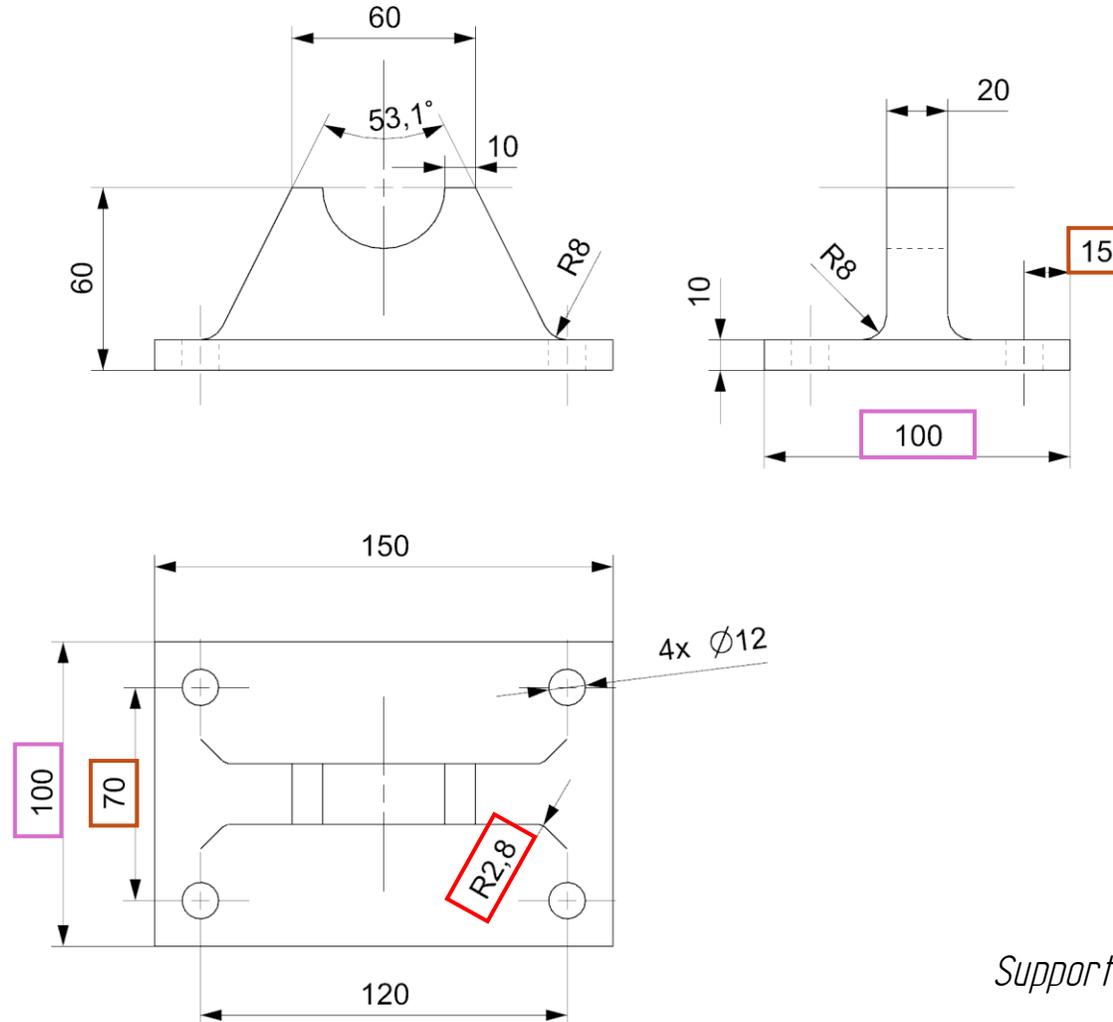
# Exercice - *Quelles cotes sont mal choisies ?*



*Support roulement - partie inférieure*

# Exercice - Quelles cotes sont mal choisies ?

Comment  
determiner le  
diamètre de l'axe ?



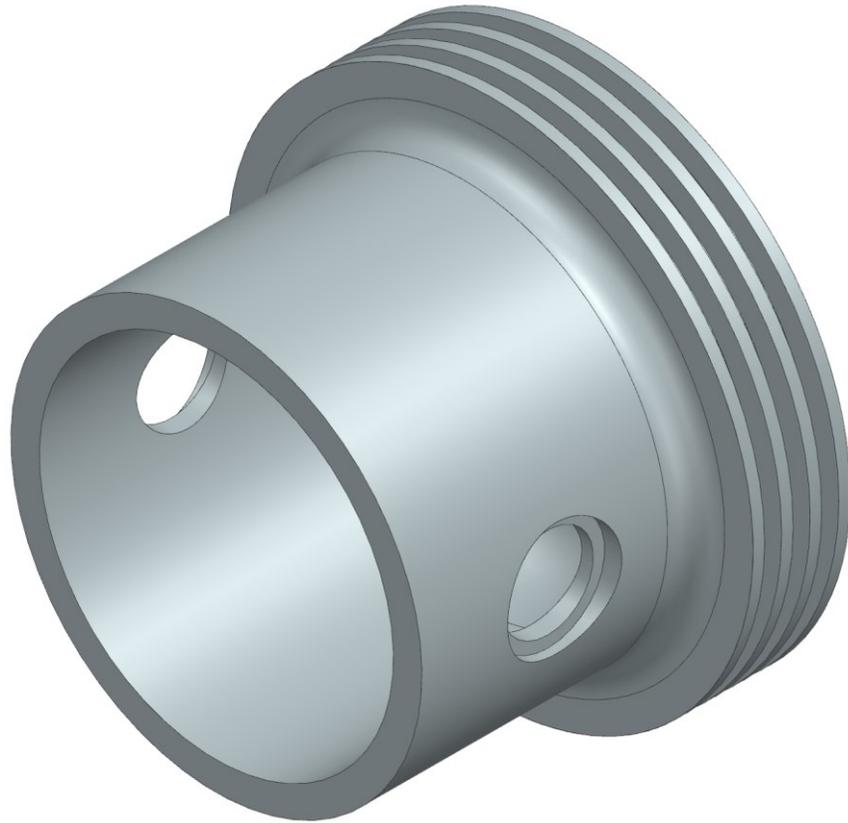
Support roulement - partie inférieure

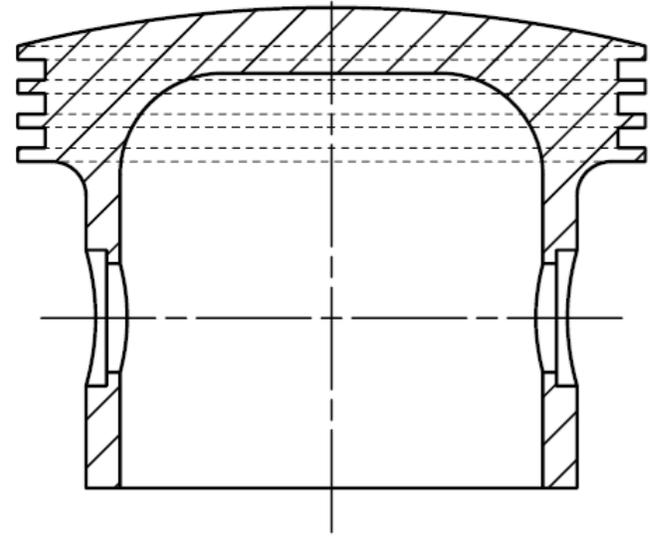
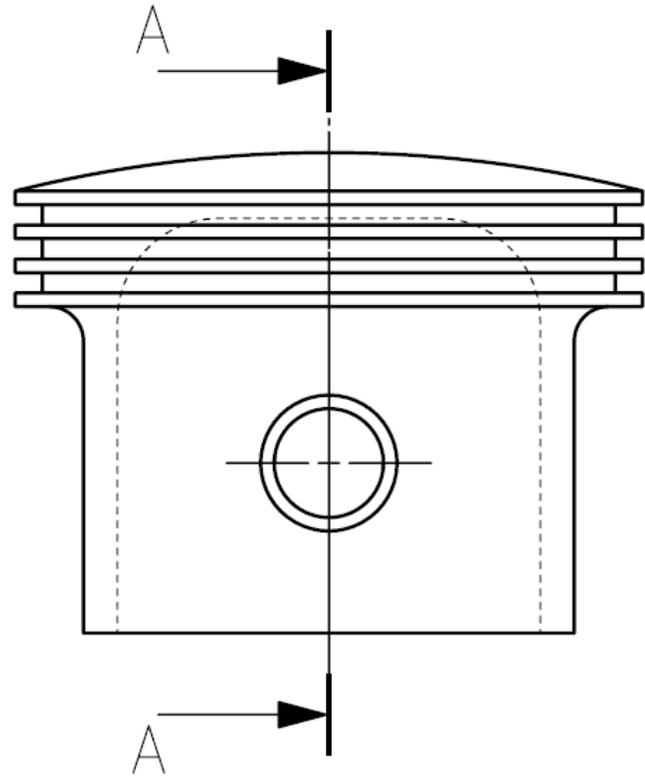
**Exercice** - *Quel(s) plan(s) est/sont correct(s) ?*



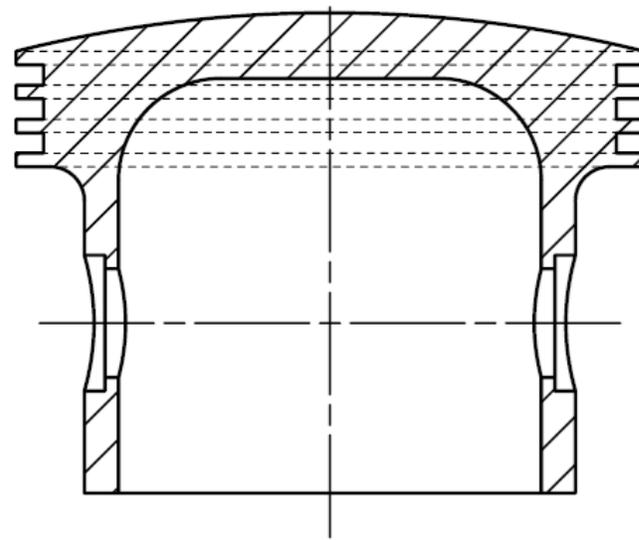
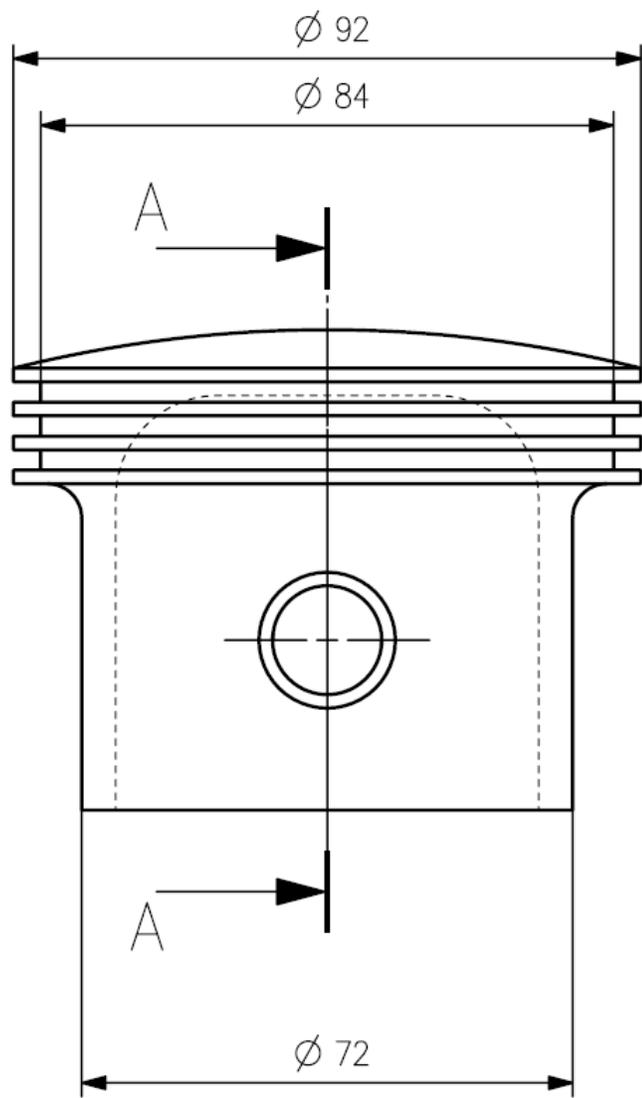
[app.wooclap.com/COMGRAPH2](https://app.wooclap.com/COMGRAPH2)

**Exercice** - *Faire le plan de la pièce suivante : piston*

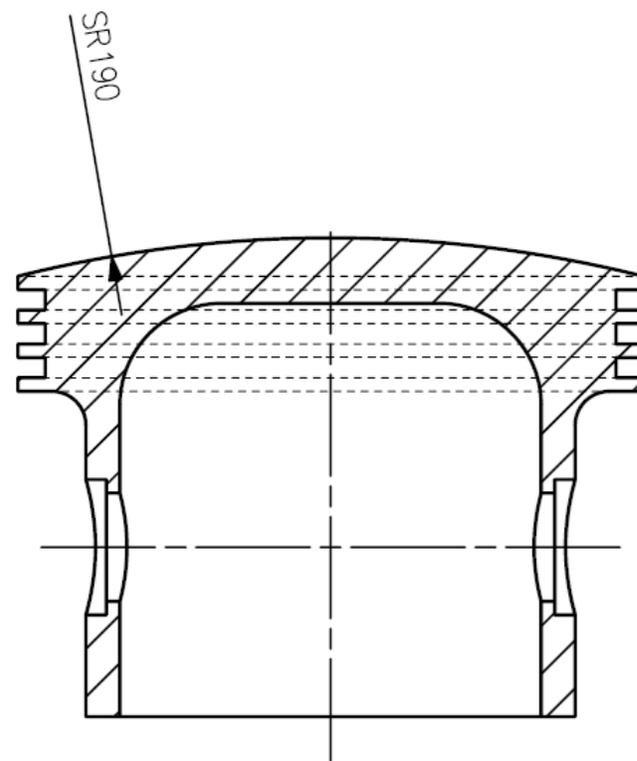
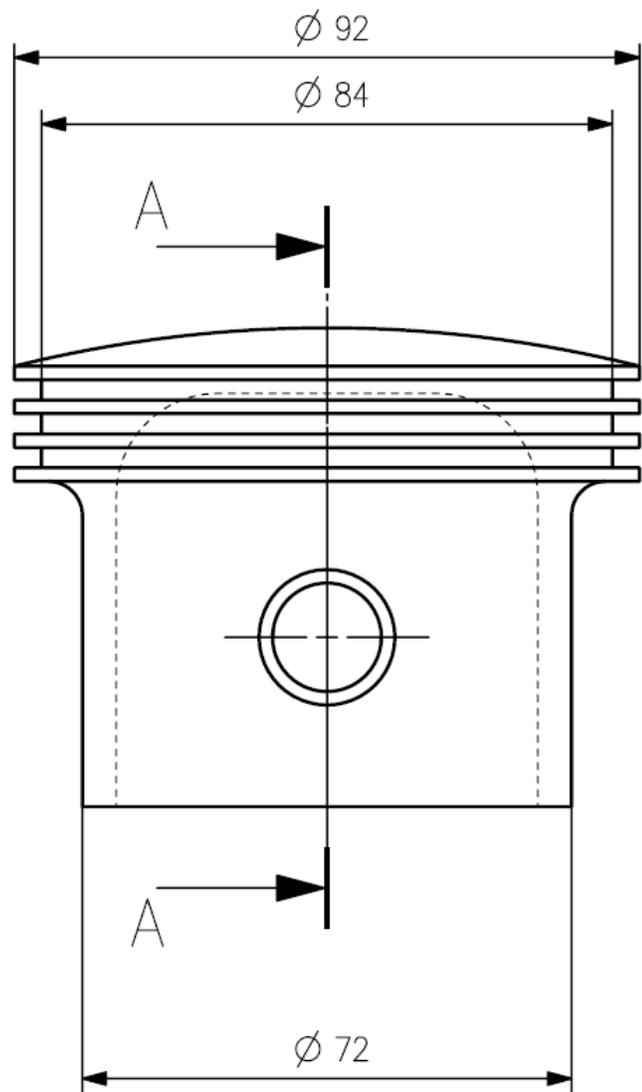




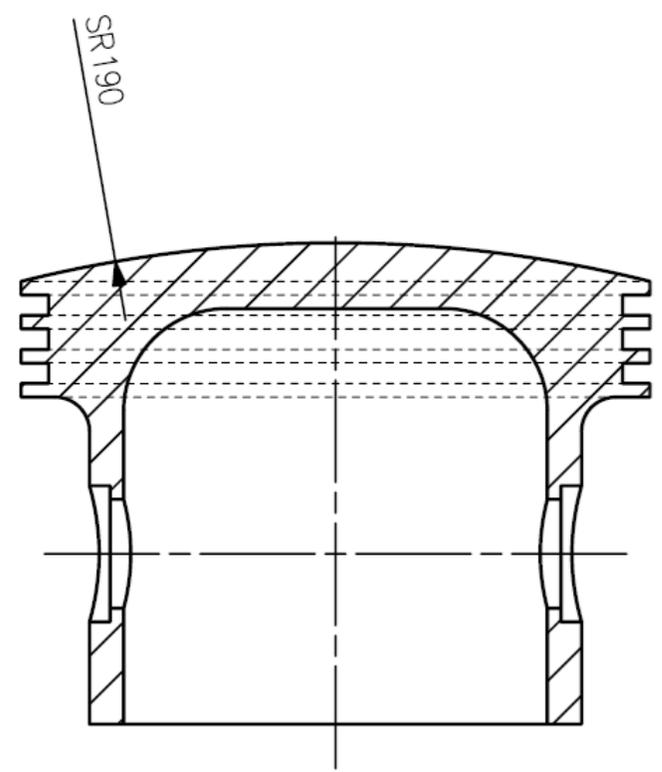
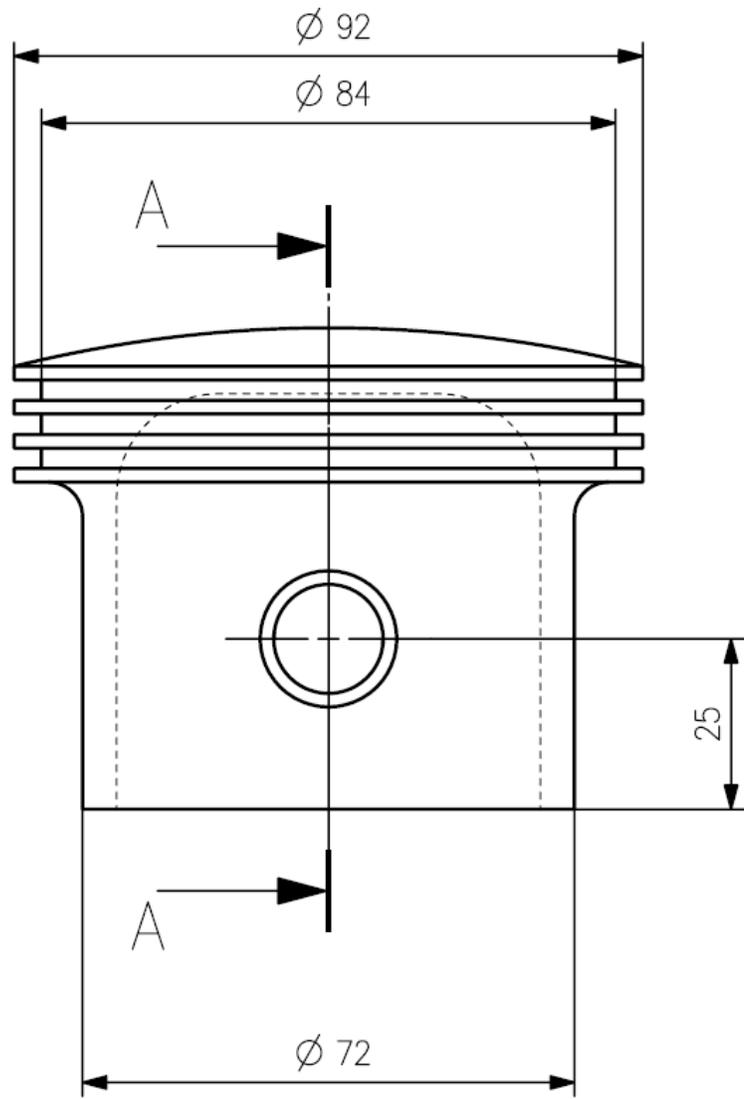
COUPE A-A



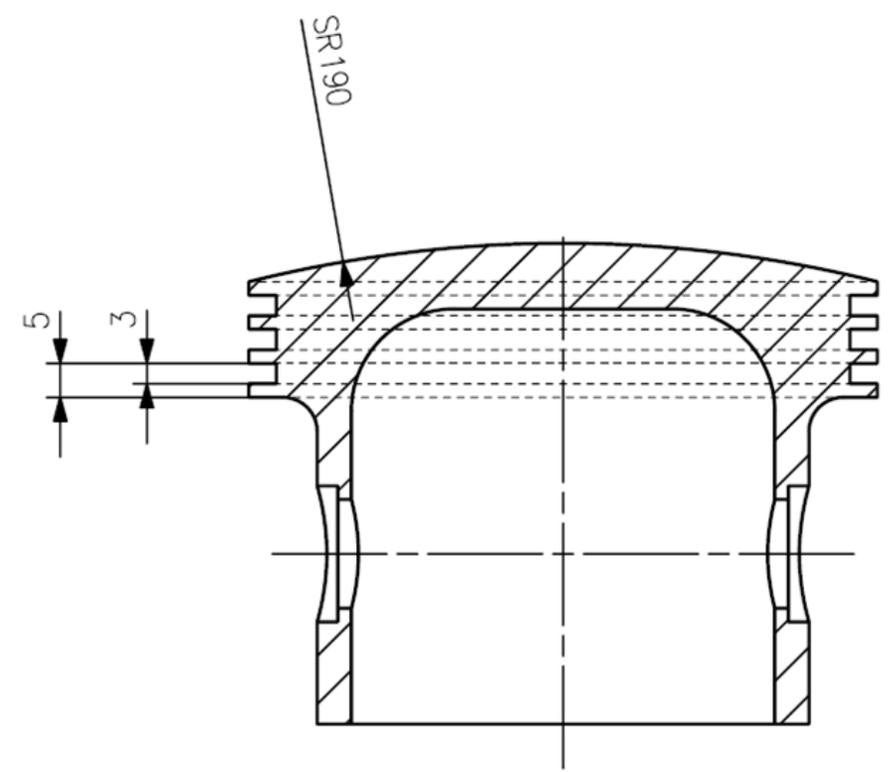
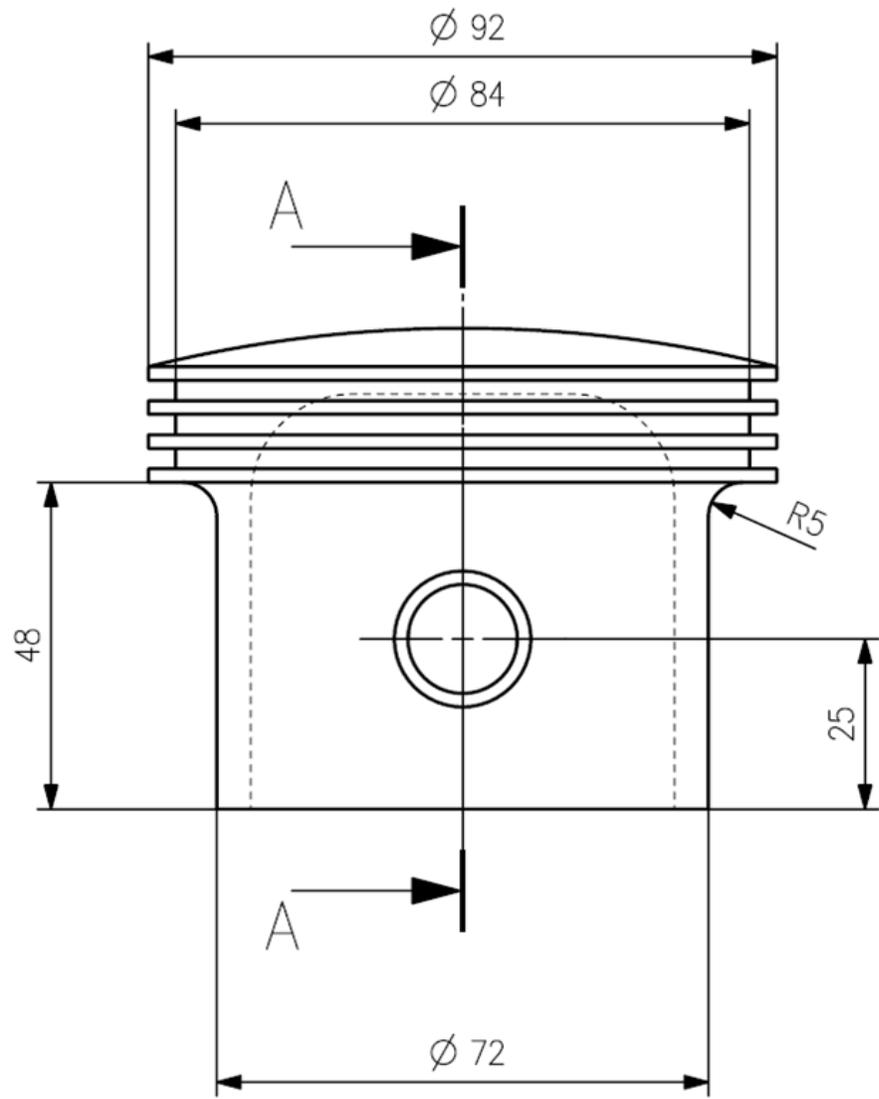
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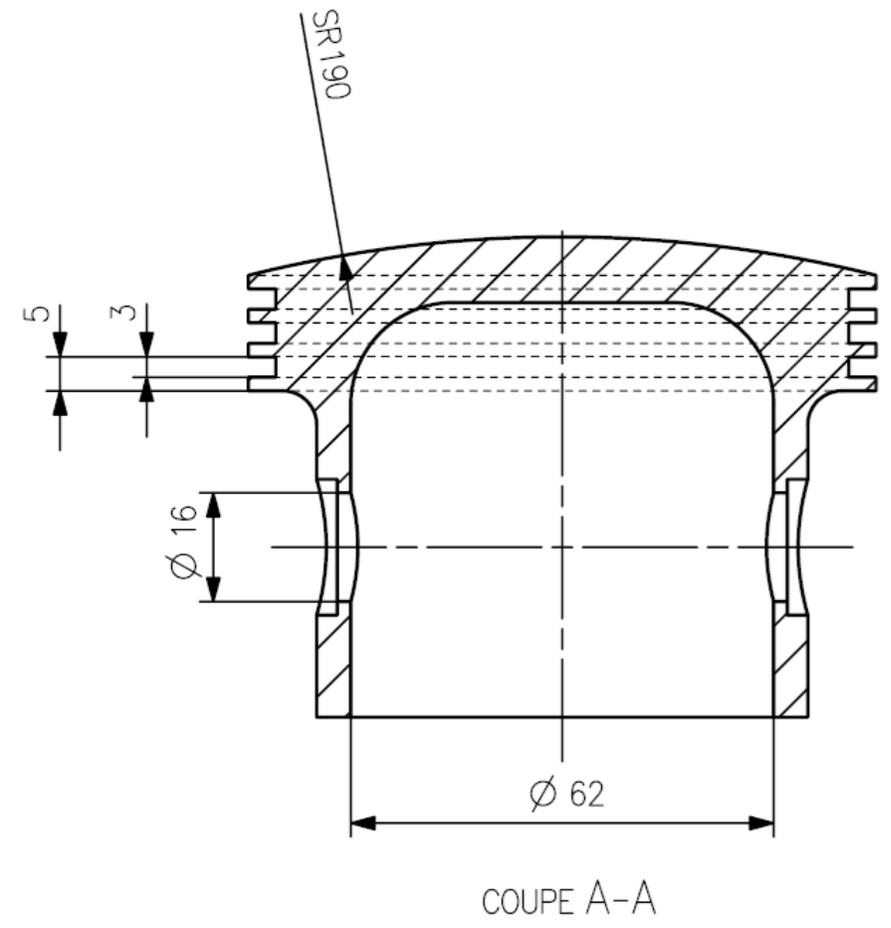
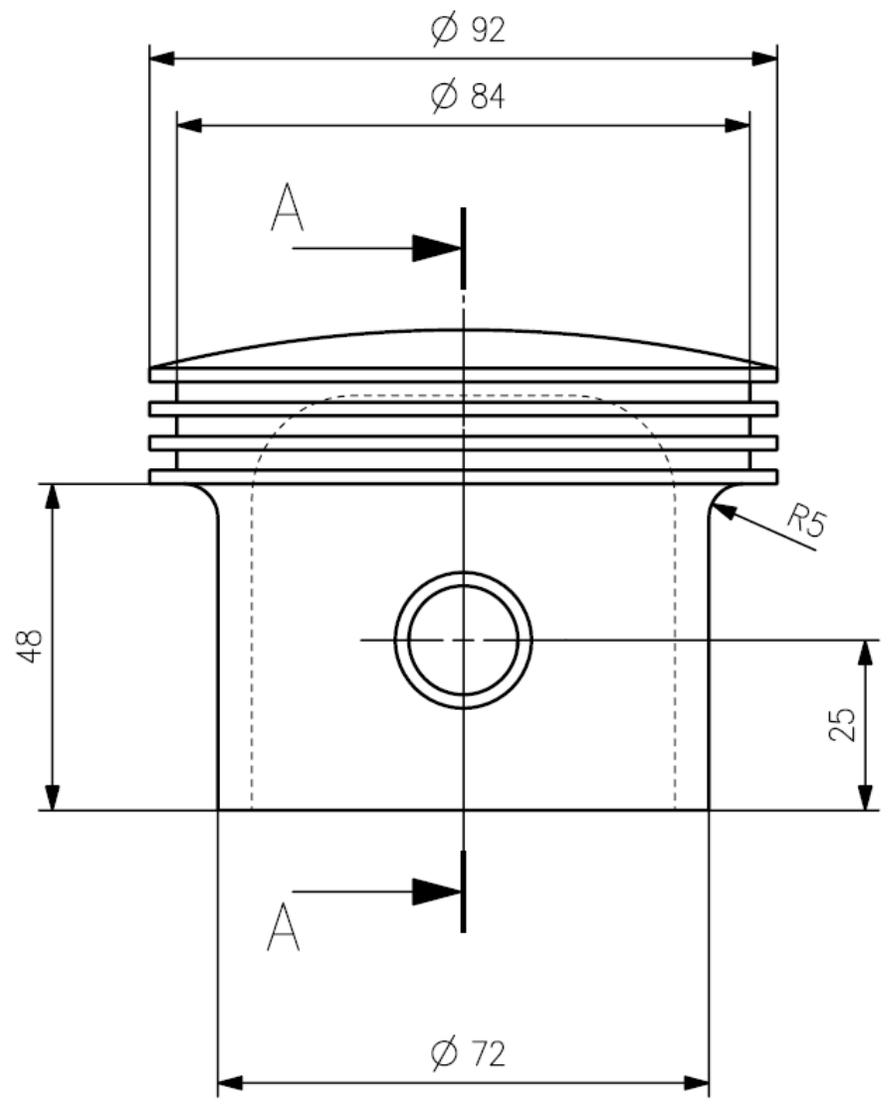
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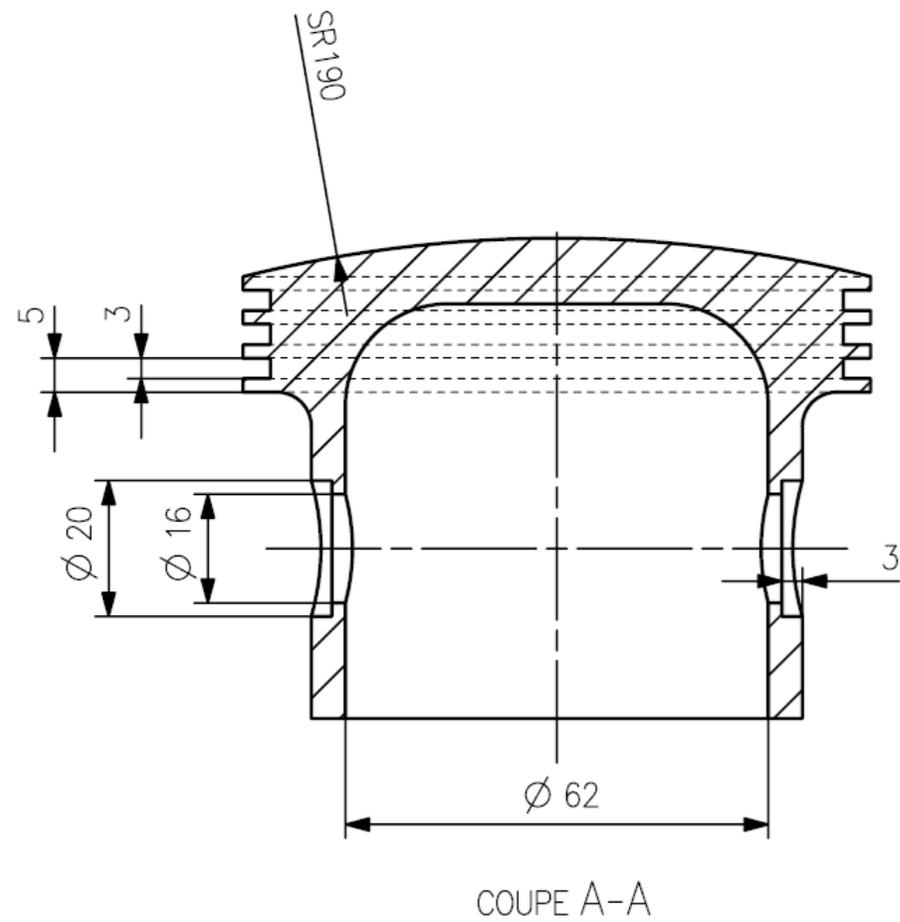
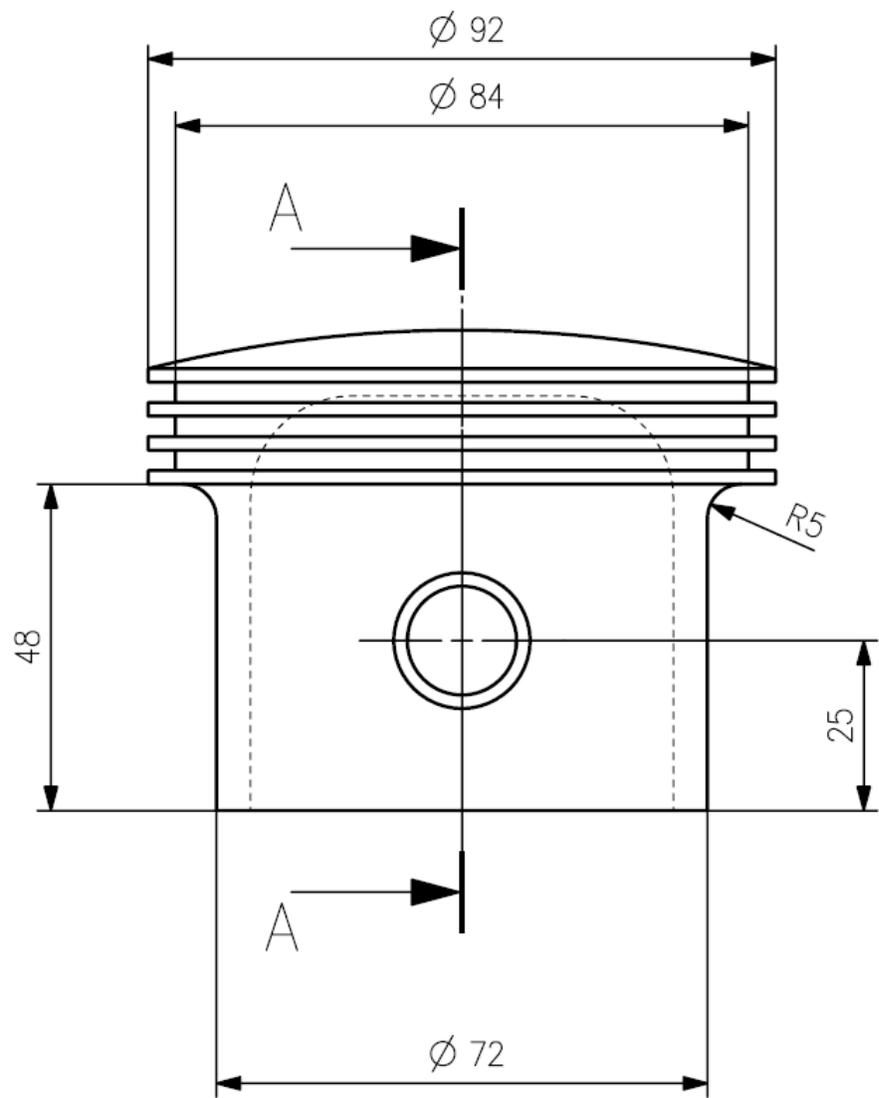


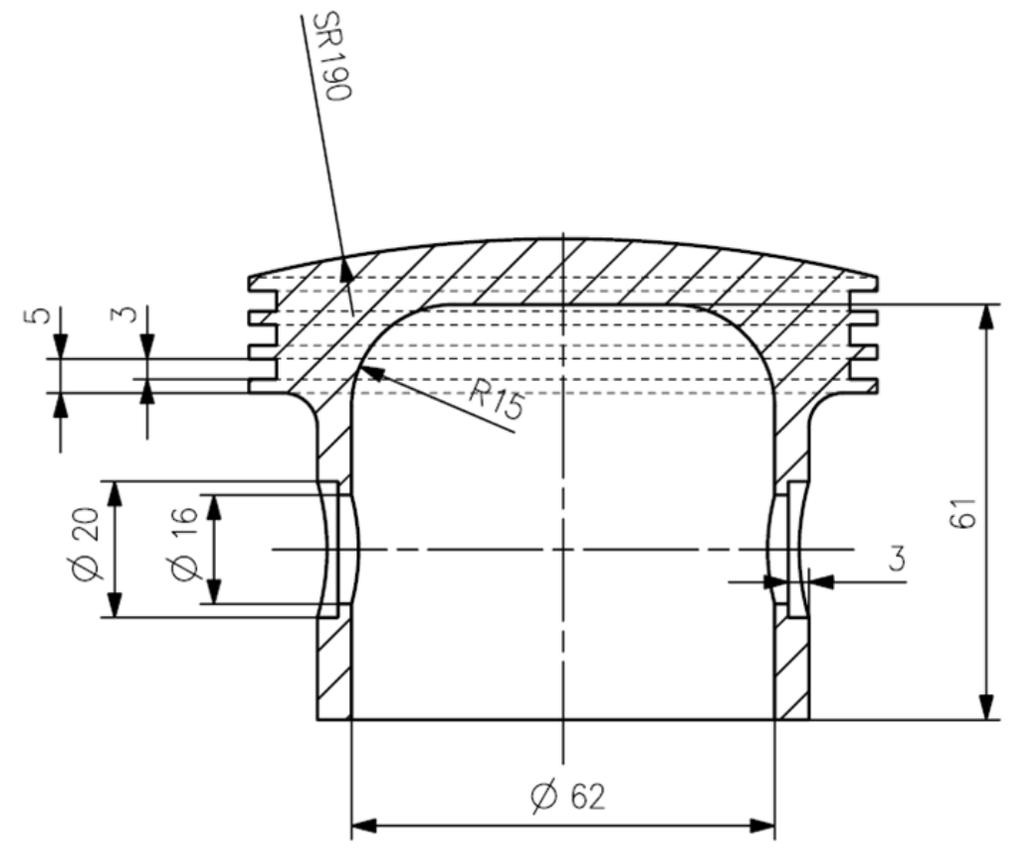
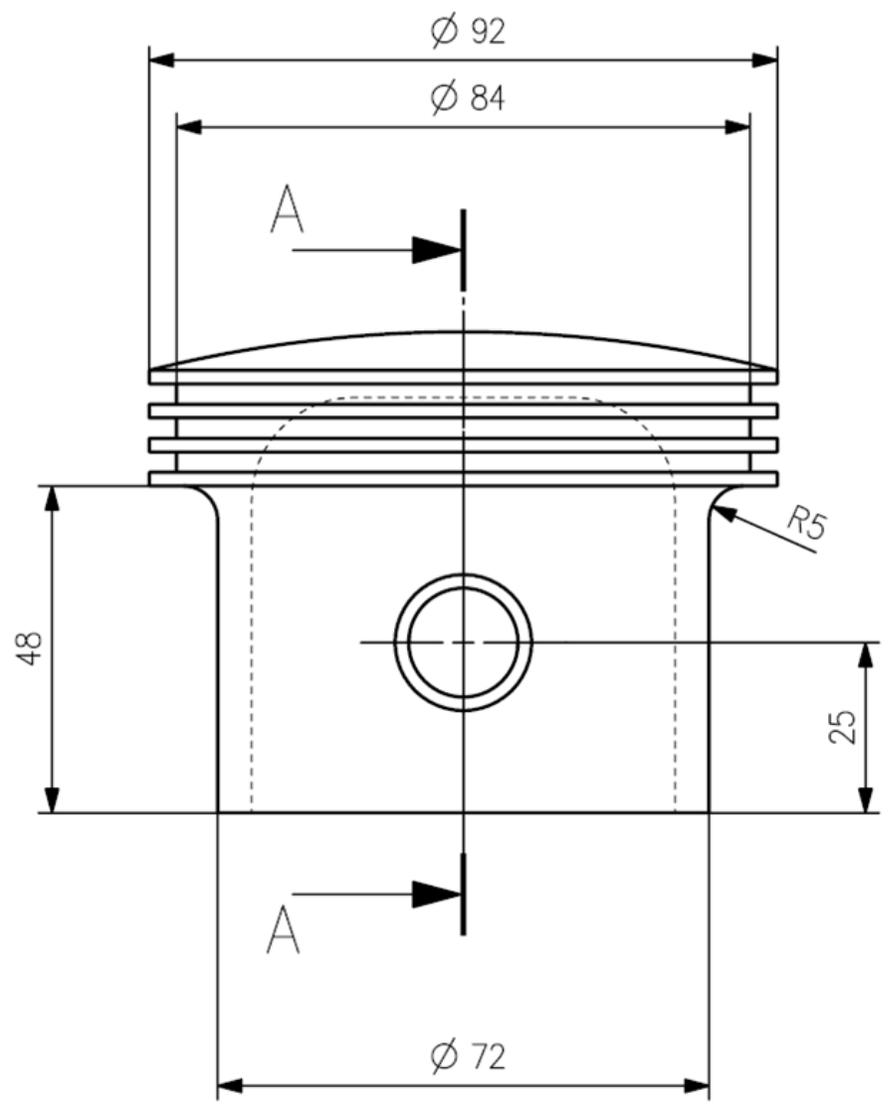
COUPE A-A



COUPE A-A







COUPE A-A