

Dessin Technique :

.I BUT :

Le but du dessin technique est de décrire fidèlement les formes des objets tridimensionnels à l'aide d'une ou plusieurs représentations de ceux-ci sur le plan d'une feuille.

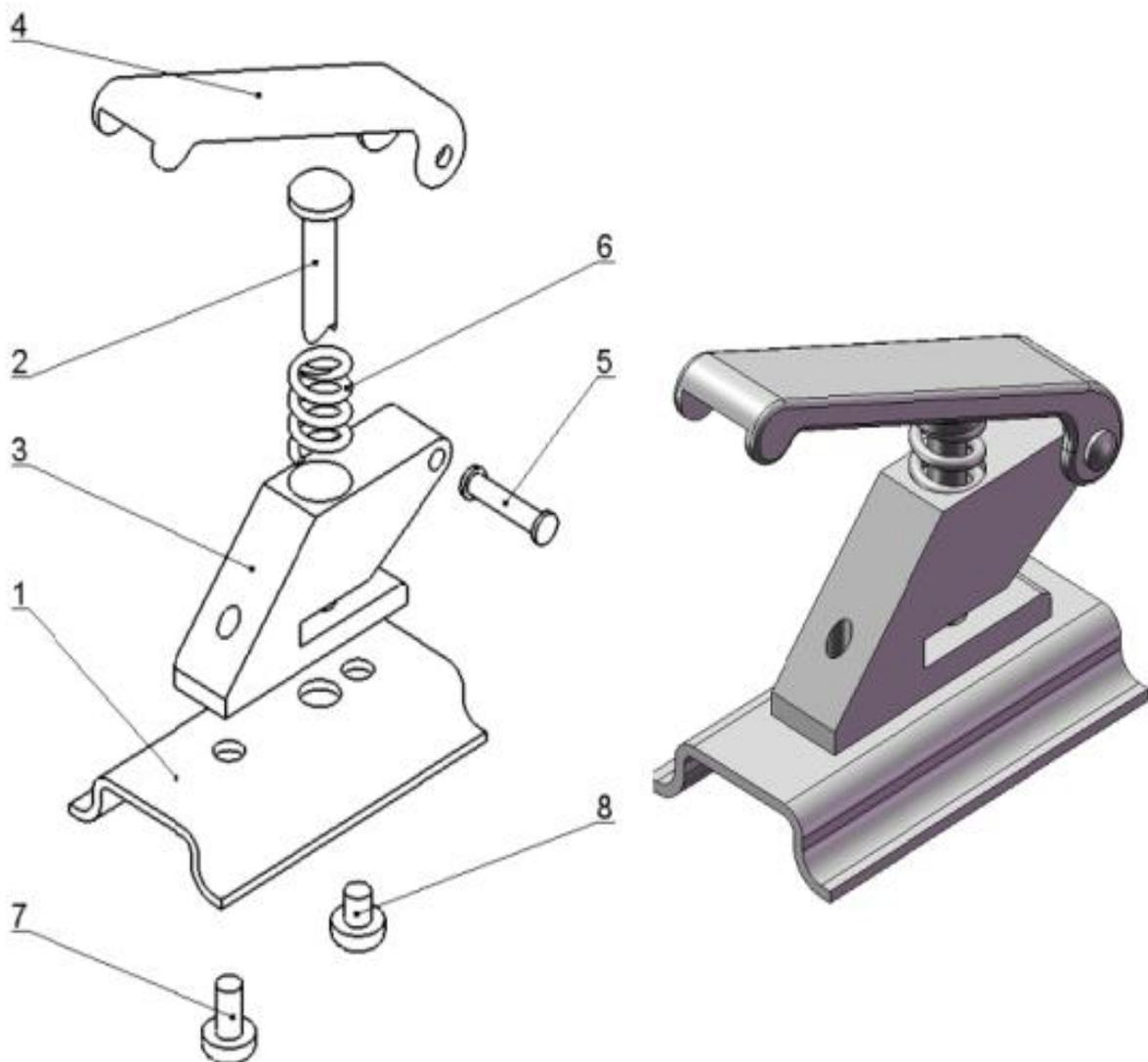
.II Normalisation :

Les règles du dessin technique sont normalisées : Un organisme international (I.S.O.) a codifié ces outils graphiques pour les rendre universels.

.III Différents types de dessins techniques :

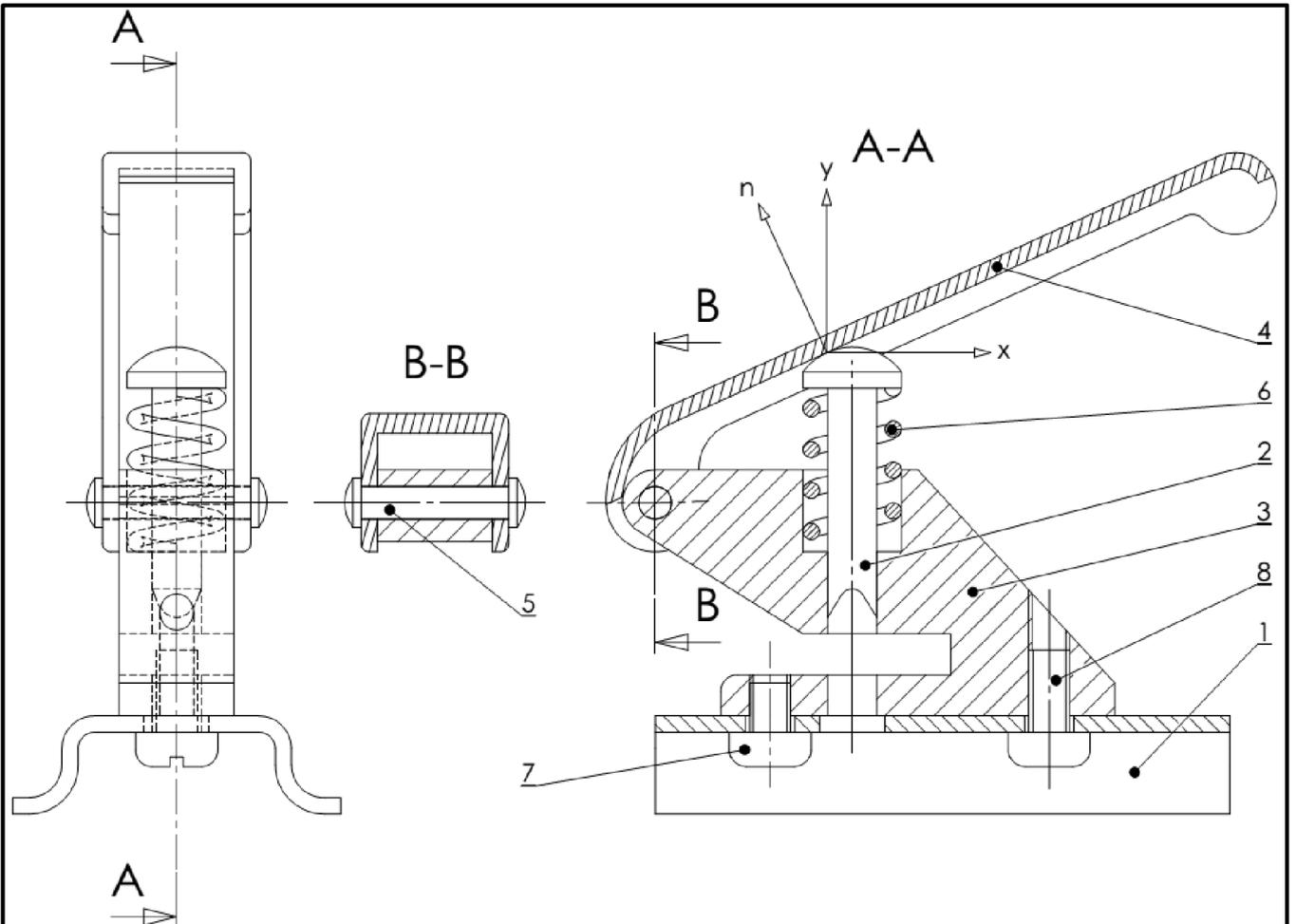
.1) Le dessin en perspective

Il représente l'objet en volume. Il le montre tel que l'œil pourrait le voir.



.2) Dessin d'ensemble

Il représente l'objet en totalité. Toutes les pièces sont numérotées et dessinées à leur emplacement définitif. Il est accompagné de la nomenclature.



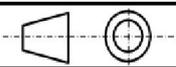
8	1	Vis cylindrique fendue ISO 7045-M2,5x3	S 355	
7	1	Vis cylindrique fendue ISO 7045-M2,5x5	S 355	
6	1	Ressort	C 60	
5	1	Axe	E 235	Serré sur 4
4	1	Poignée	S 235	
3	1	Corps	E 295	
2	1	Poinçon	C 60	Trempé revenu
1	1	Socle	S 235	Cambré
REP	NB	DESIGNATION	MATIERE	OBSERVATIONS

a La nomenclature

C'est la liste complète des pièces qui constituent un ensemble dessiné. Il est lié au dessin par les repères des pièces

b Le Cartouche :

Le cartouche est la carte d'identité du dessin technique. Il est situé au bas du format. Il permet l'identification et l'exploitation du document

<i>Echelle</i> :	<i>Lycée</i>	Nom & prénom :
	TITRE DU DESSIN	Date :
A4		

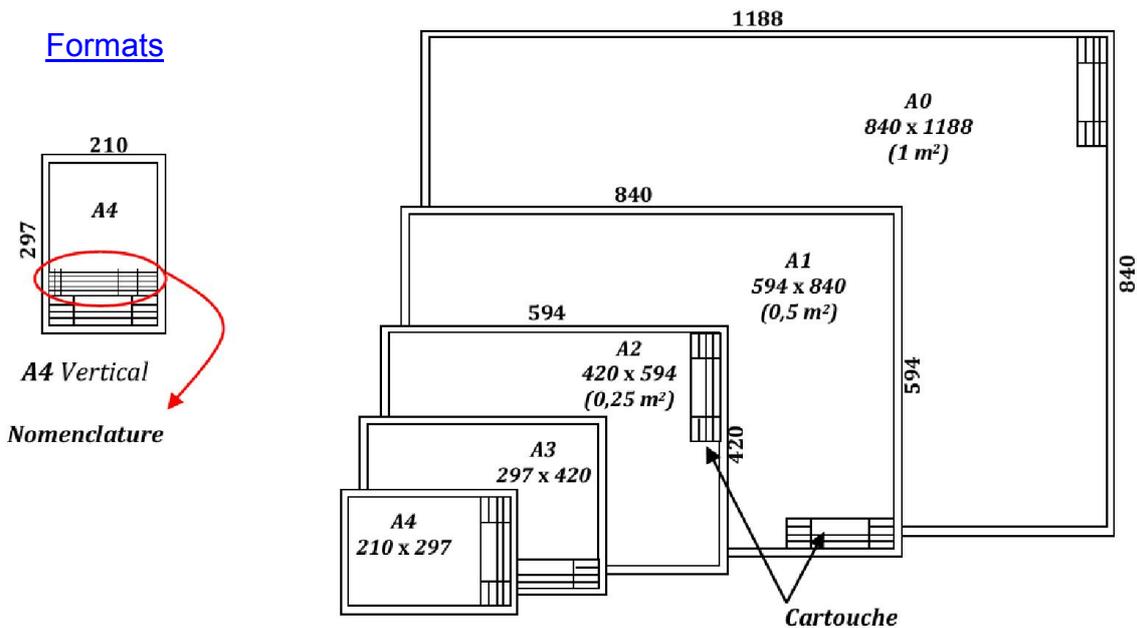
c Echelle :

$$\text{Echelle} = \frac{\text{Dimensions dessinées}}{\text{Dimensions réelles}} \quad (1:1, \quad 1:2, \quad 3:1)$$

.3) Dessin de définition.

Il représente une pièce de l'objet. Il détaille avec précision ses formes et ses dimensions (cotation) en vue de sa fabrication.

.4) Formats



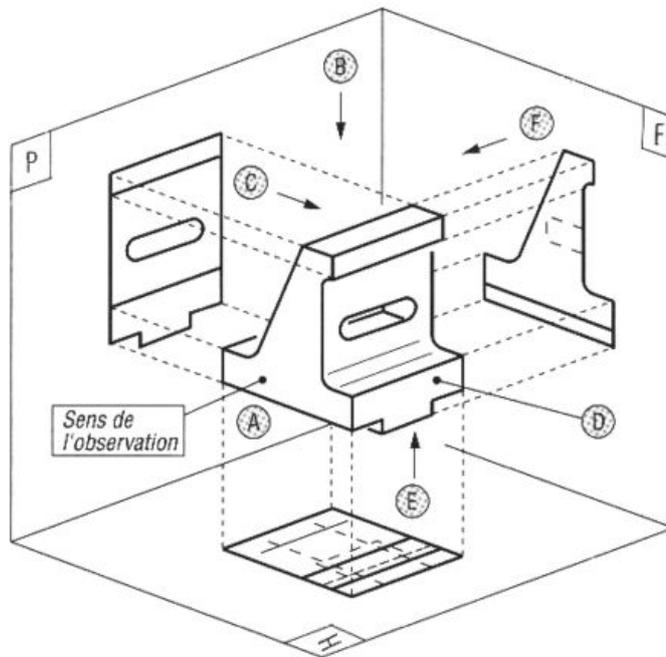
.5) Les Types de trait

Représentations	Désignations	Applications
—————	Contours et arêtes visibles
- - - - -	Contours et arêtes cachés
- · - · -	Axes et plans de symétrie
———/———	Hachures, fonds de filet (filetage- taraudage)

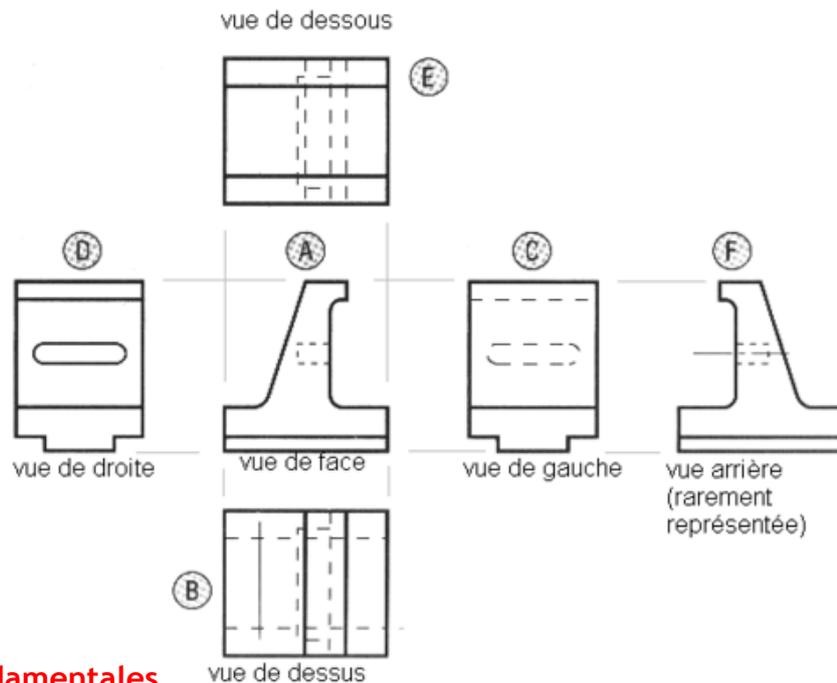
Projection Orthogonale :

.I Principe :

L'objet à représenter est placé à l'intérieur d'un cube. Ses faces principales orientées parallèlement aux faces du cube. Les projections sont faites sur les faces intérieures de ce cube



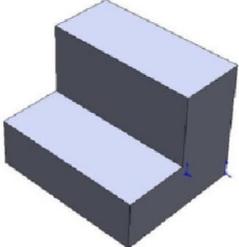
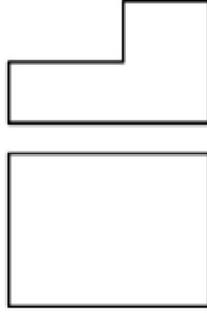
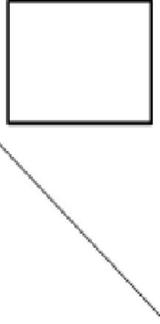
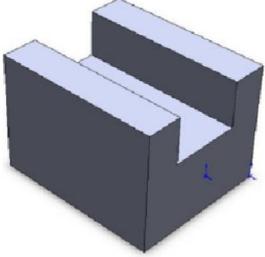
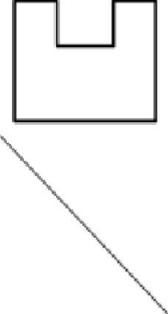
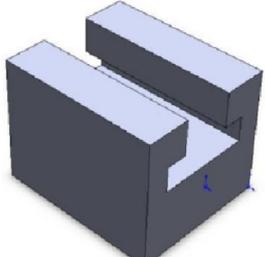
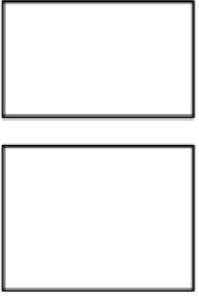
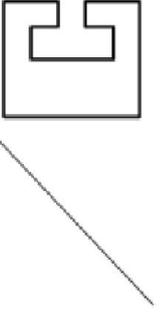
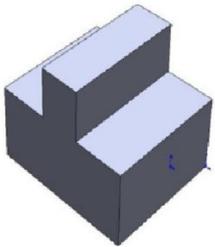
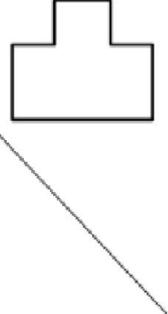
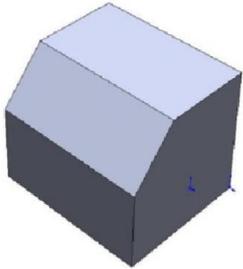
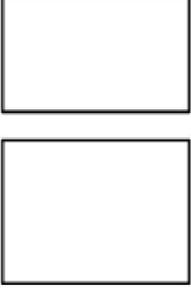
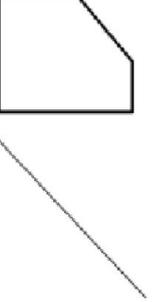
.II Disposition des vues



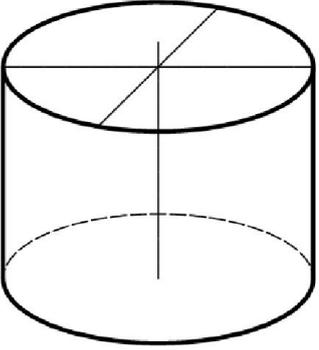
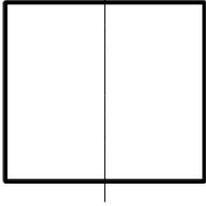
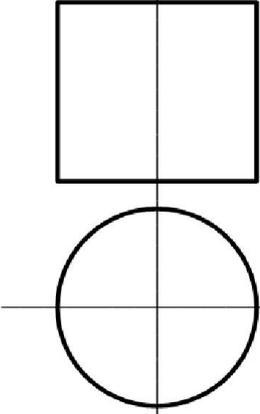
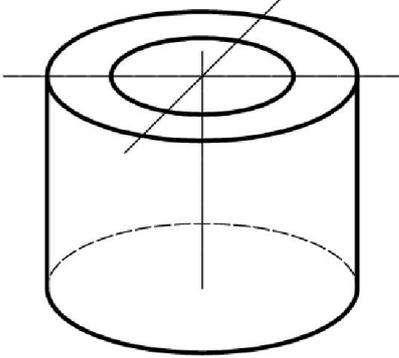
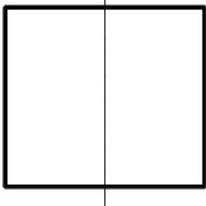
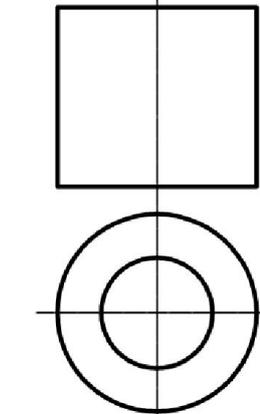
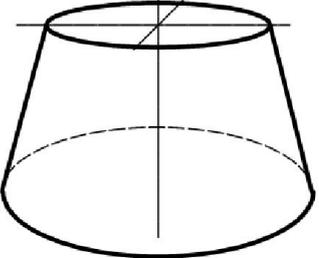
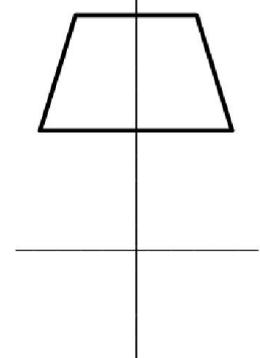
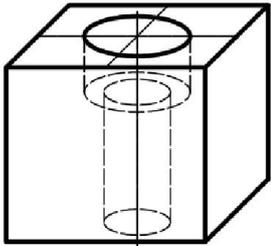
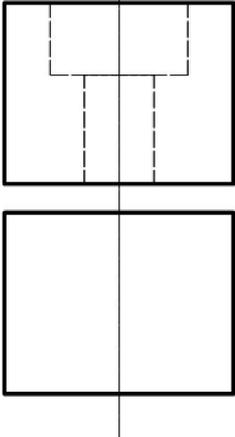
.III Quelques règles fondamentales

- Les arrêtes vues sont représentés en **trait fort**
- Les arrêtes vues sont représentés en **trait fin interrompu**
- Deux traits continus forts ne se coupent jamais
- Pour toutes formes cylindriques, l'axe de symétrie est en **trait mixte**

.IV Formes Simples Usuelles

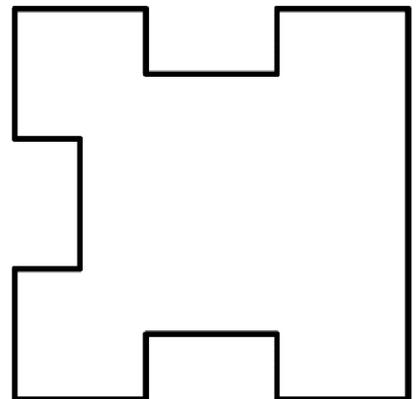
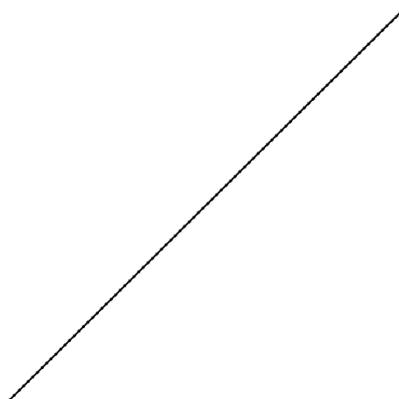
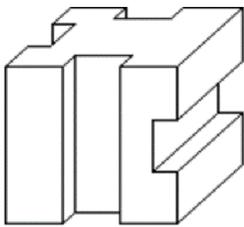
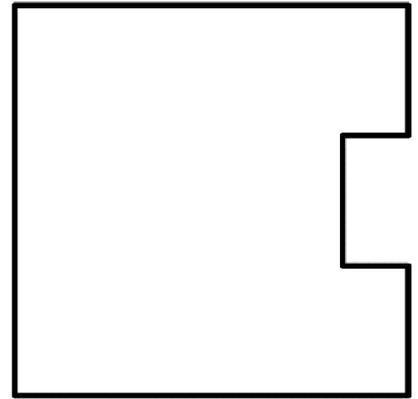
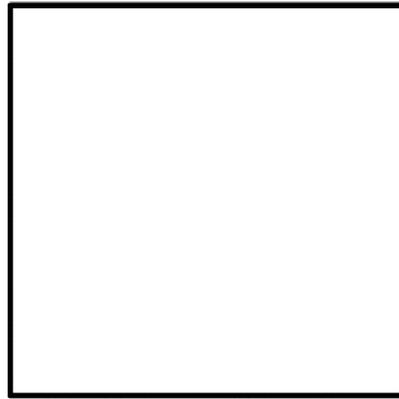
<p>Entaille</p>			
<p>Rainure en U</p>			
<p>Rainure en T</p>			
<p>Tenon</p>			
<p>Chanfrein</p>			

.V Formes cylindriques et coniques

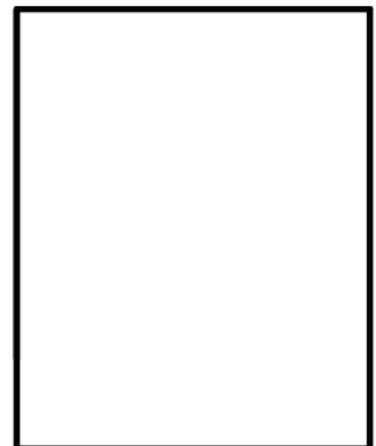
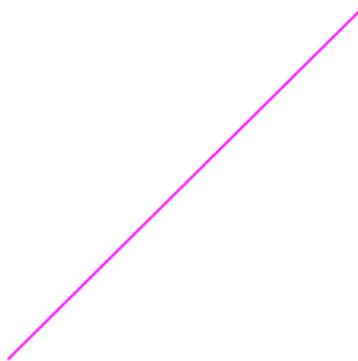
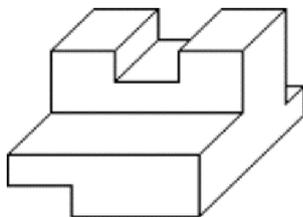
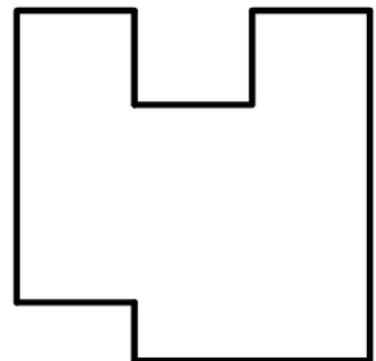
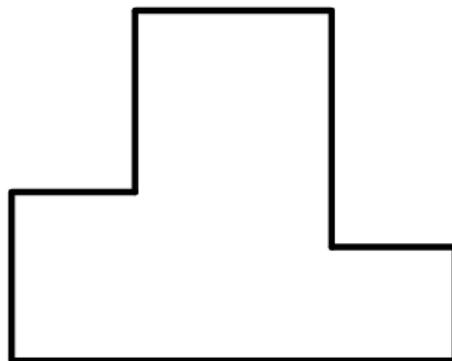
		
		
		
		

.VI Applications : Compléter les vues suivantes

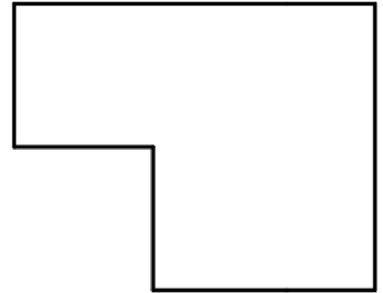
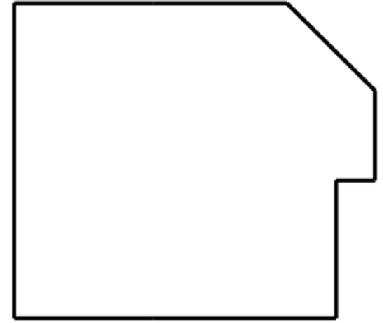
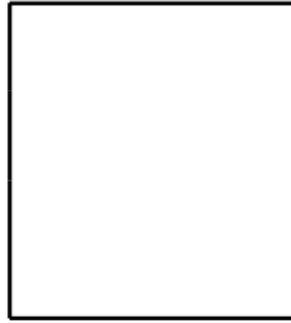
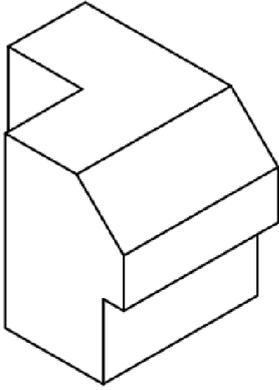
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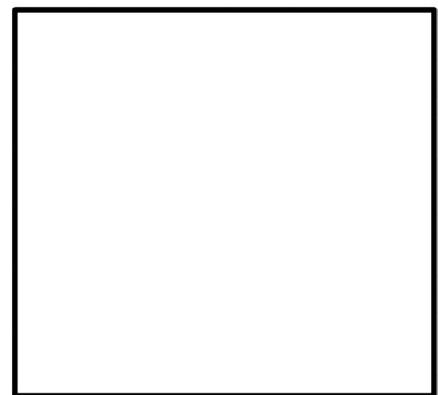
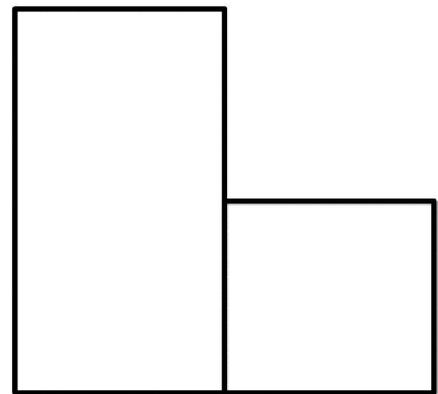
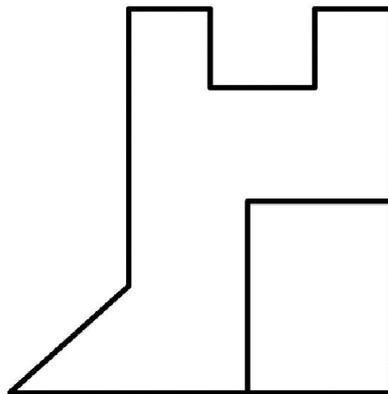
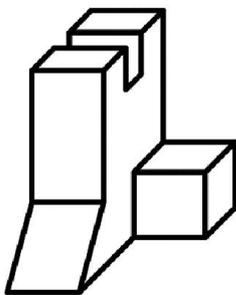
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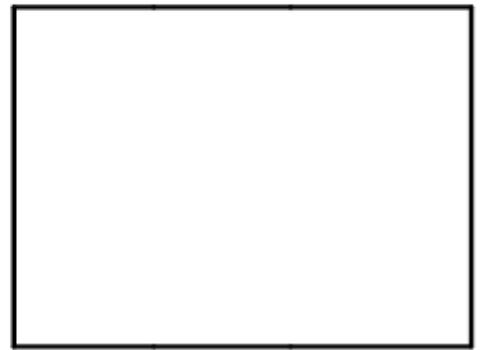
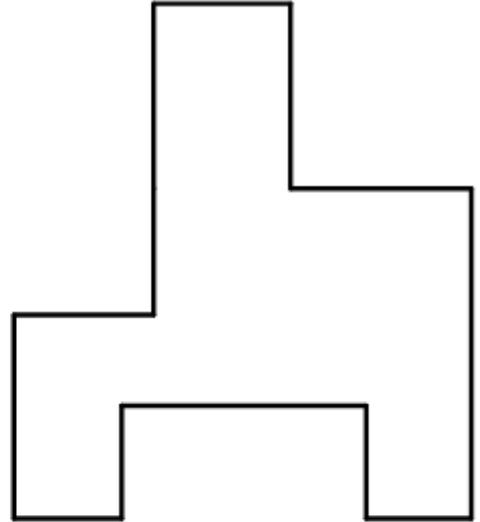
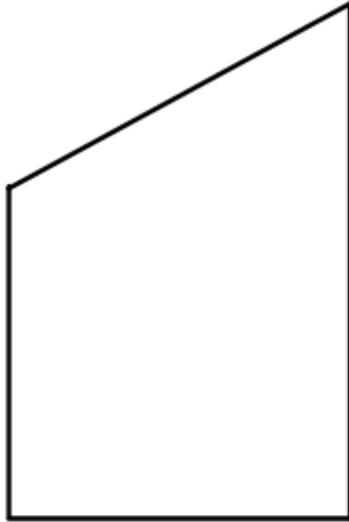
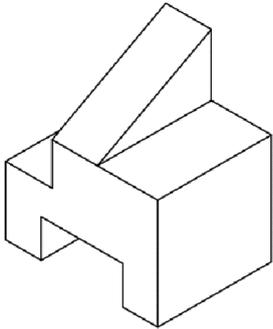
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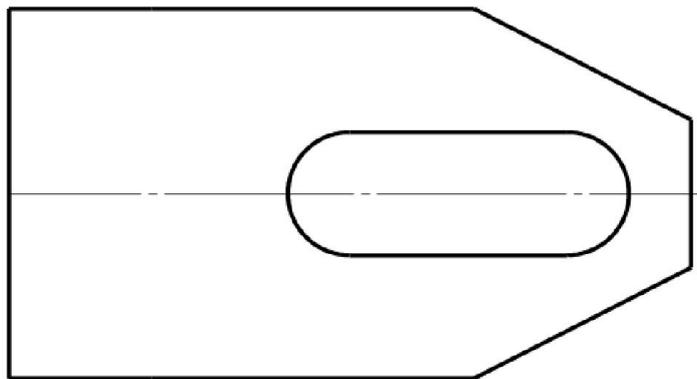
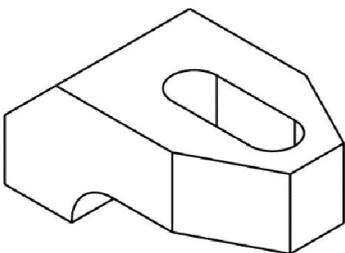
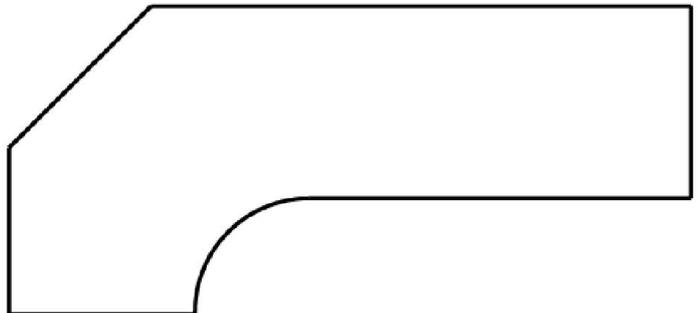
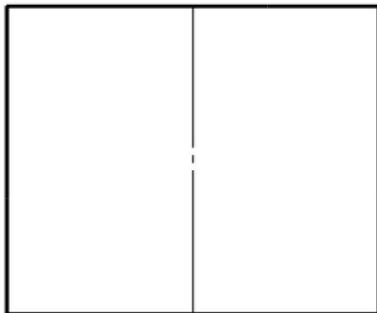
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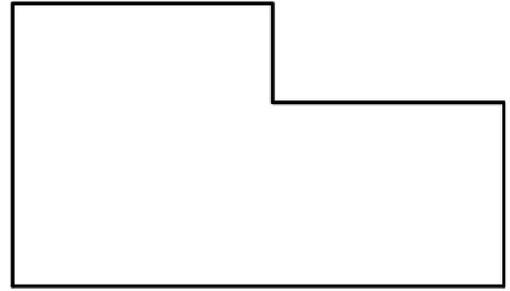
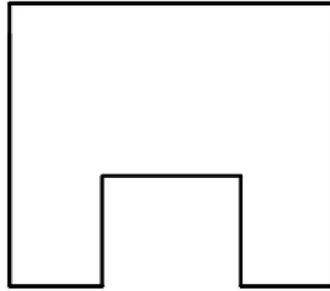
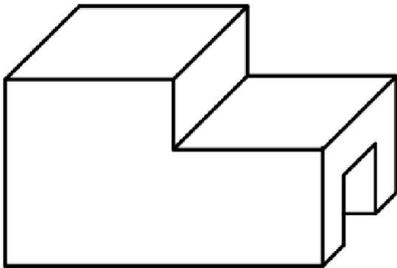
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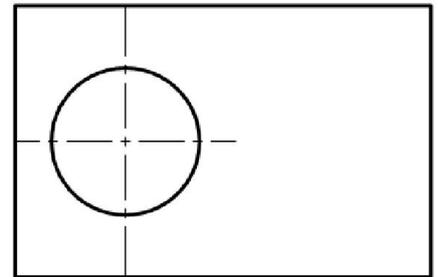
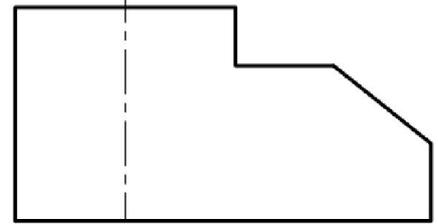
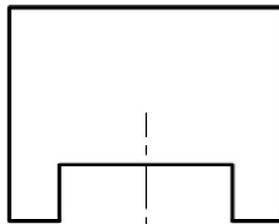
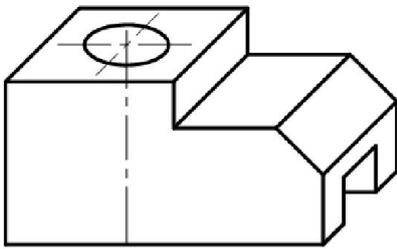
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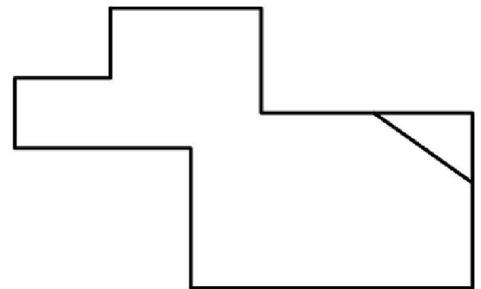
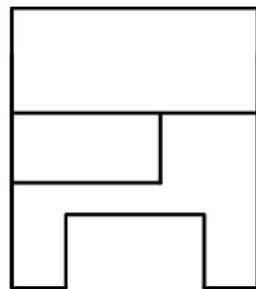
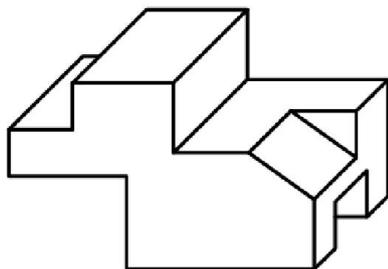
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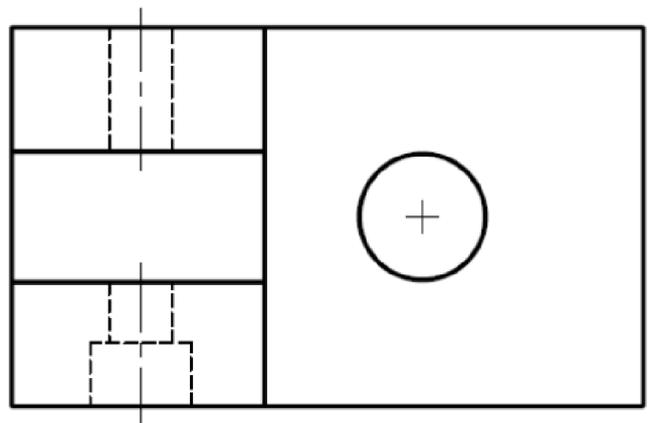
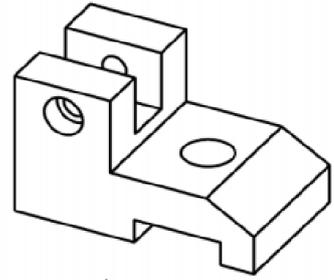
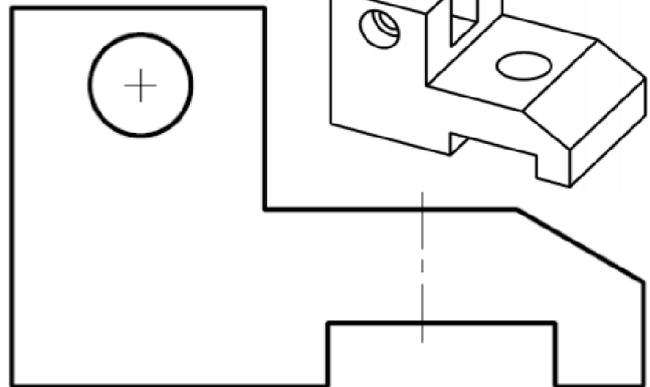
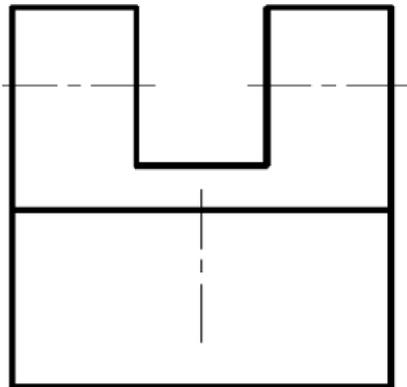
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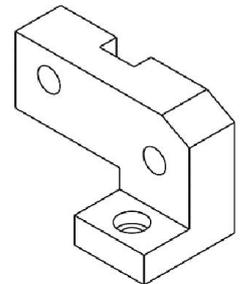
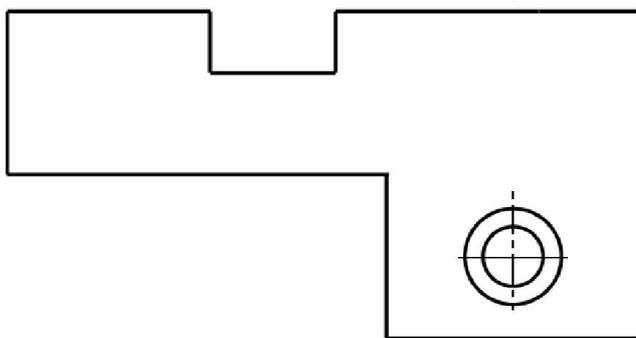
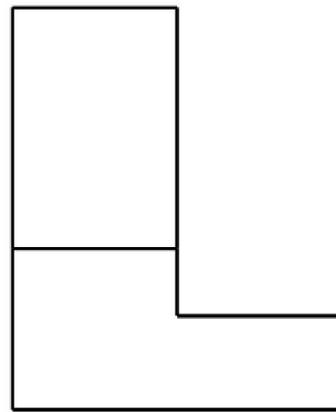
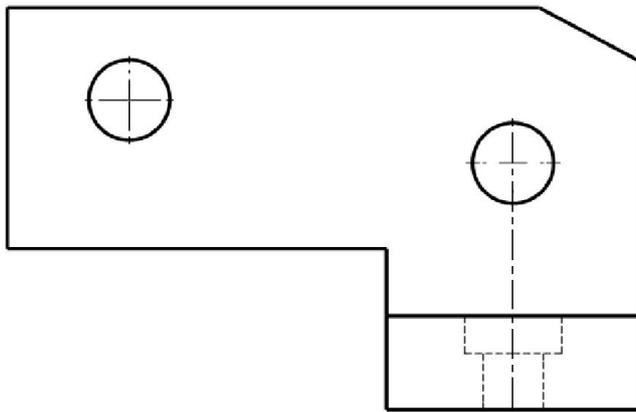
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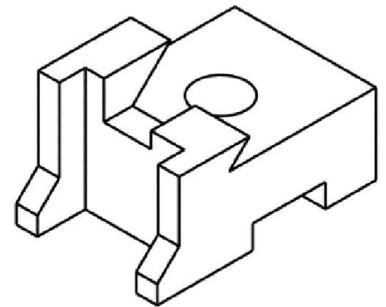
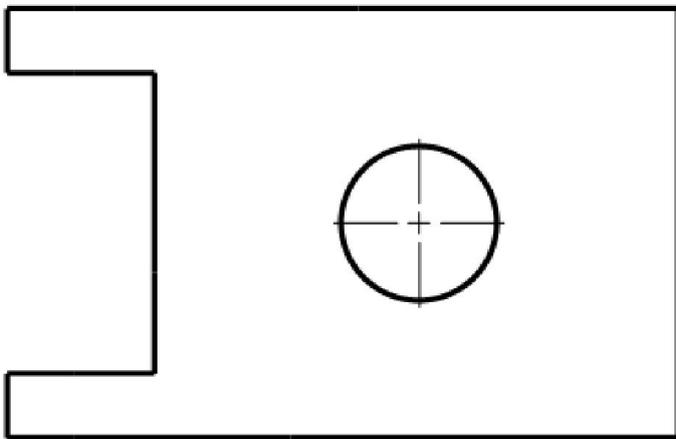
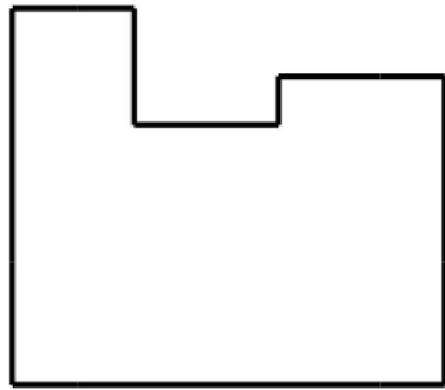
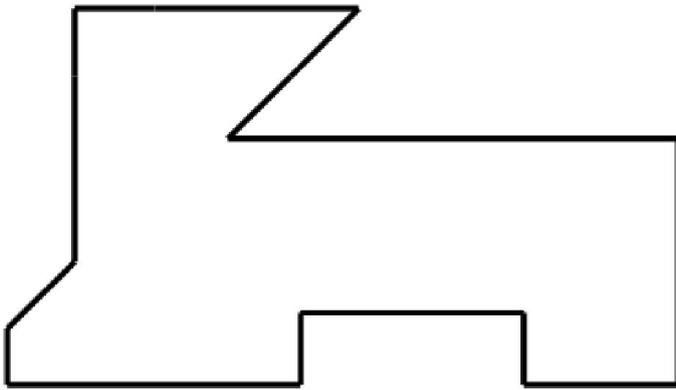
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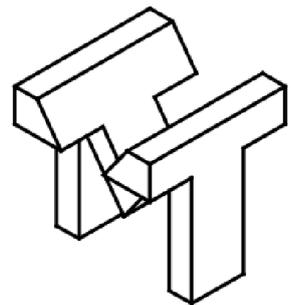
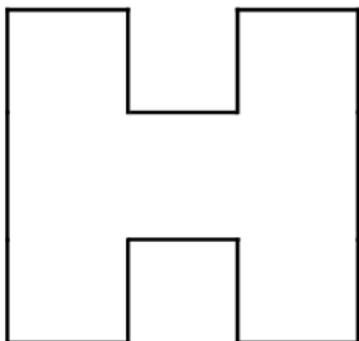
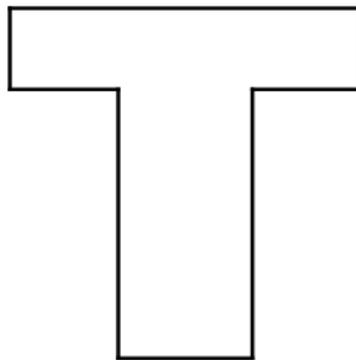
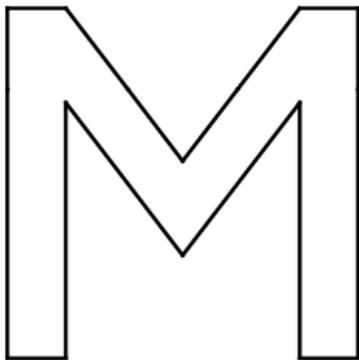
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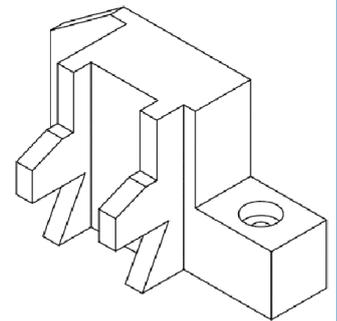
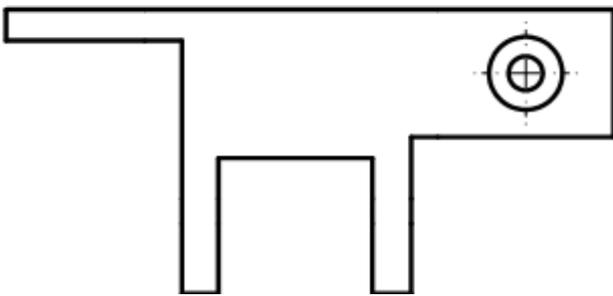
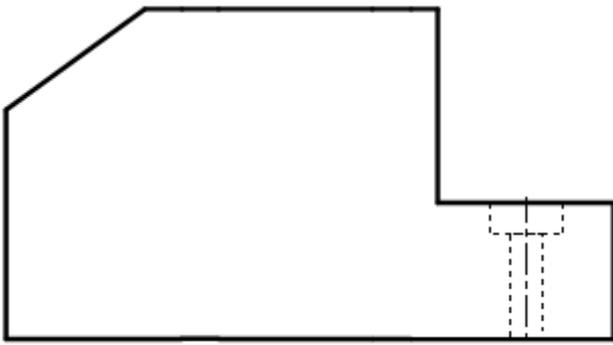
.12) [TD N: 12](#)



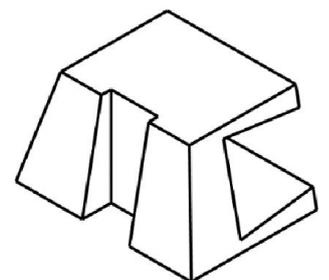
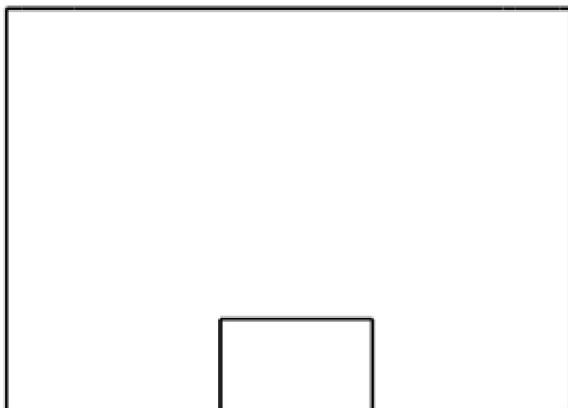
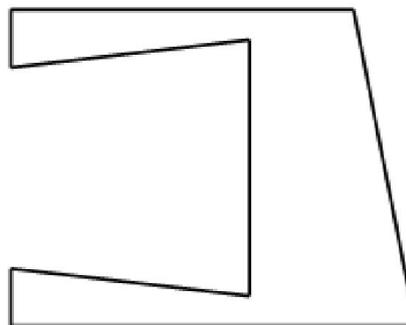
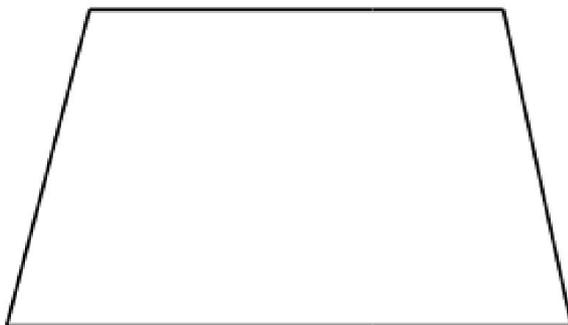
.13) [TD N: 13](#)



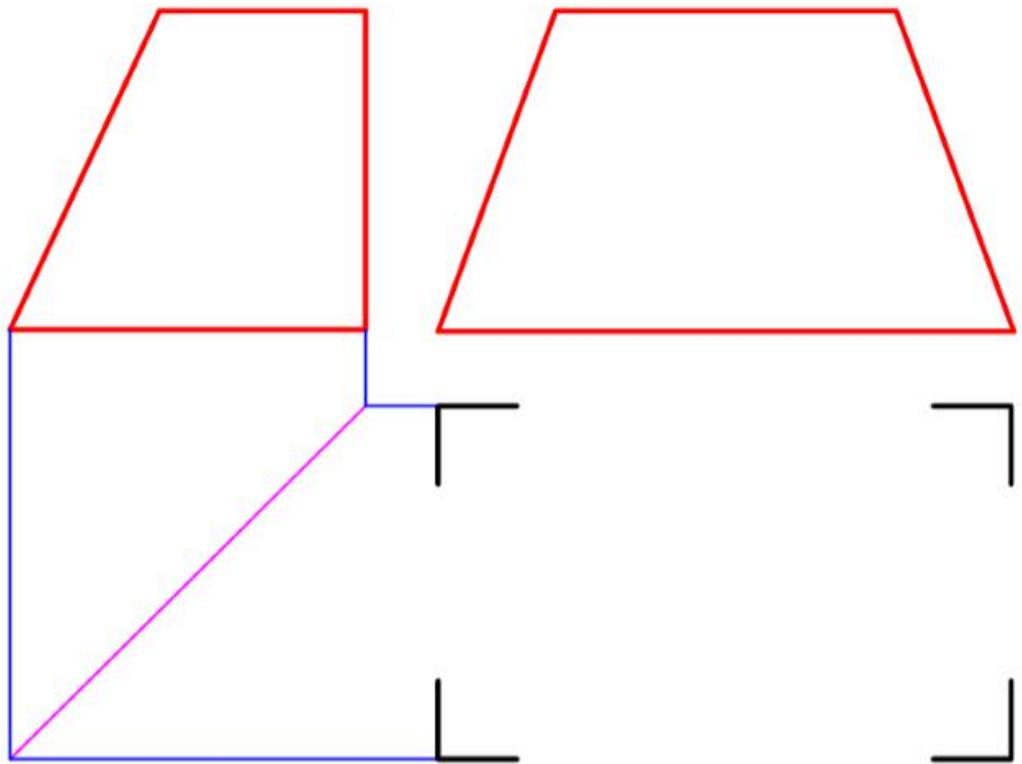
.14) TD N: 14



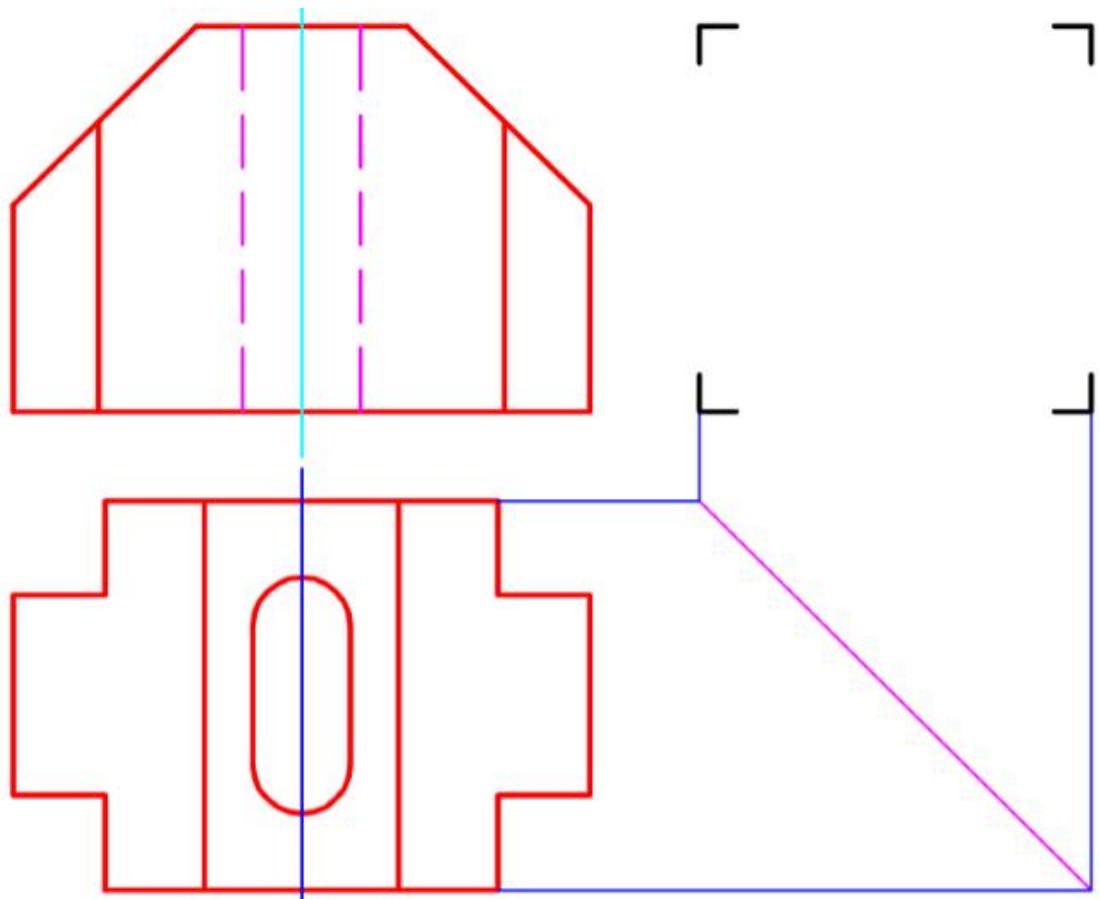
.15) TD N: 15



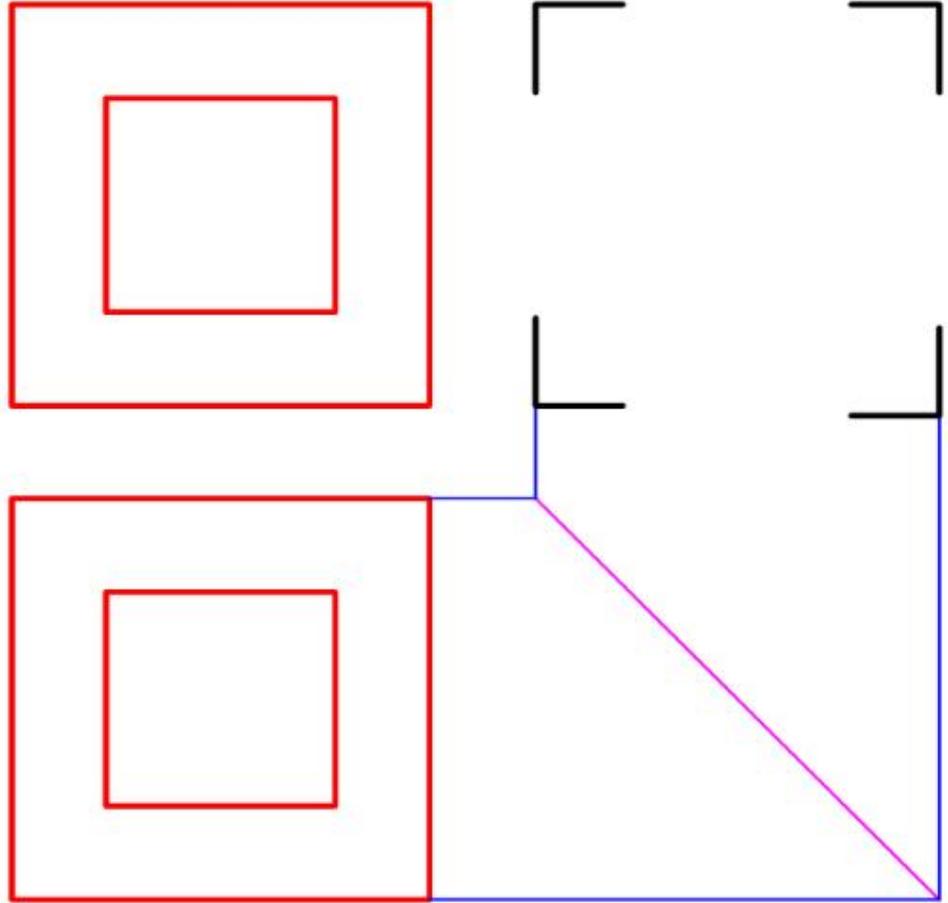
.16) TD N: 16



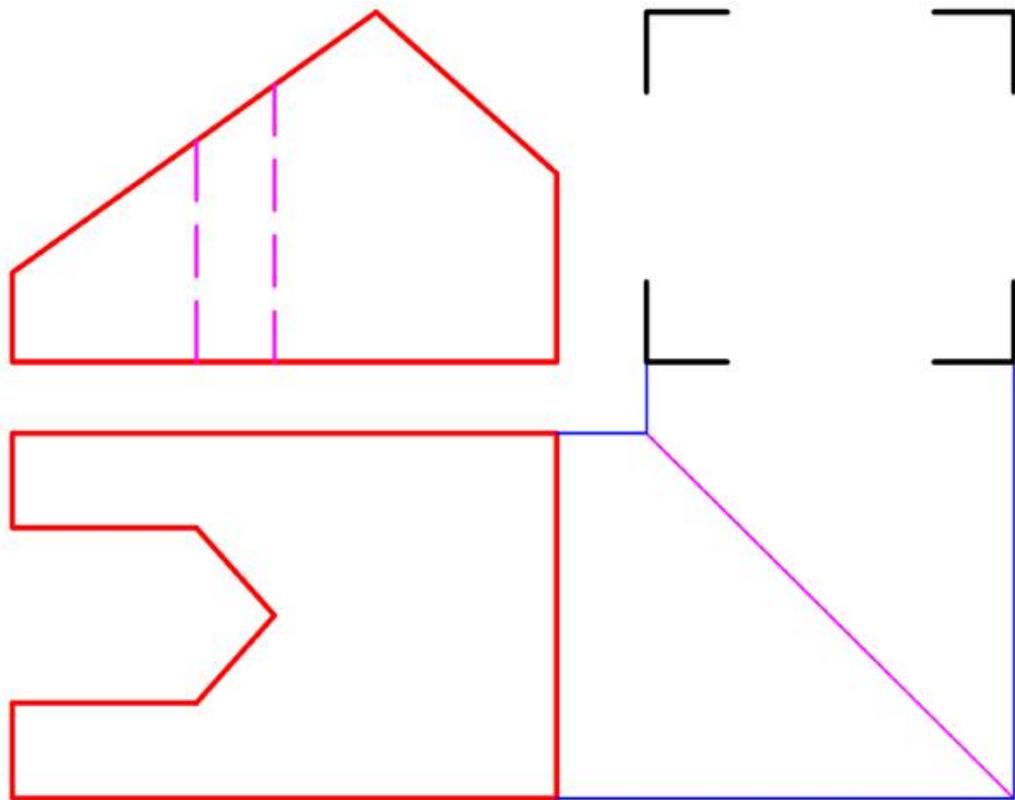
.17) TD N: 17



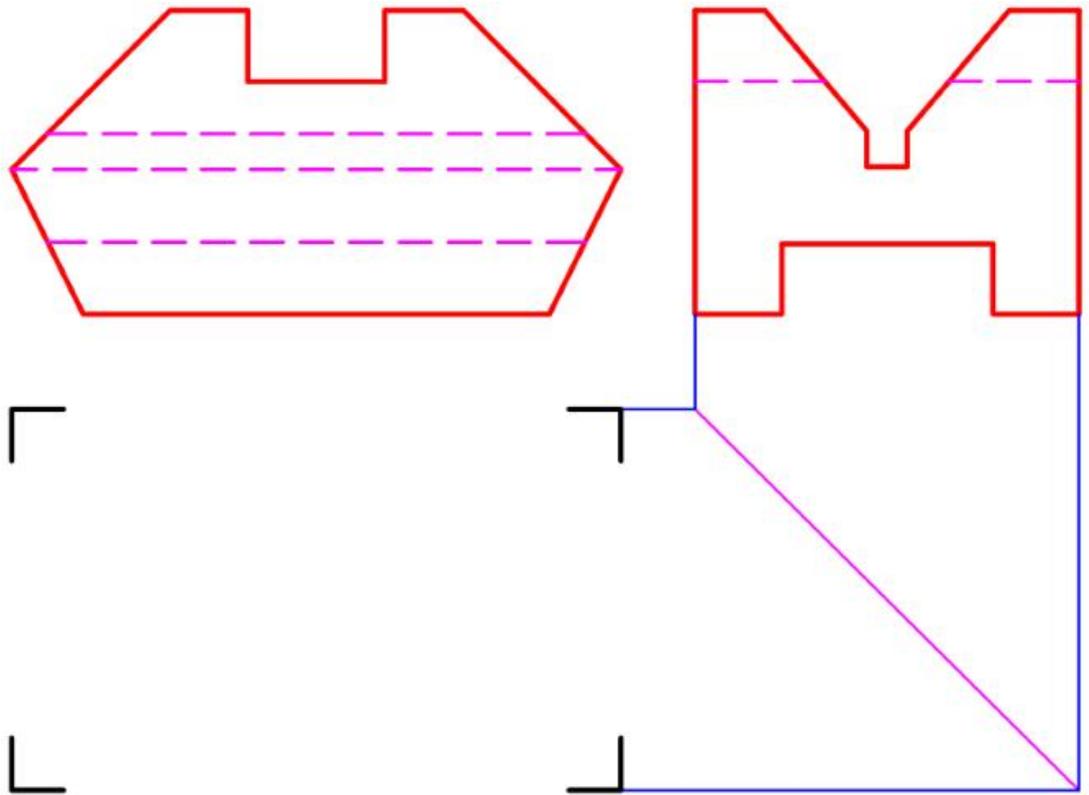
.18) TD N: 18



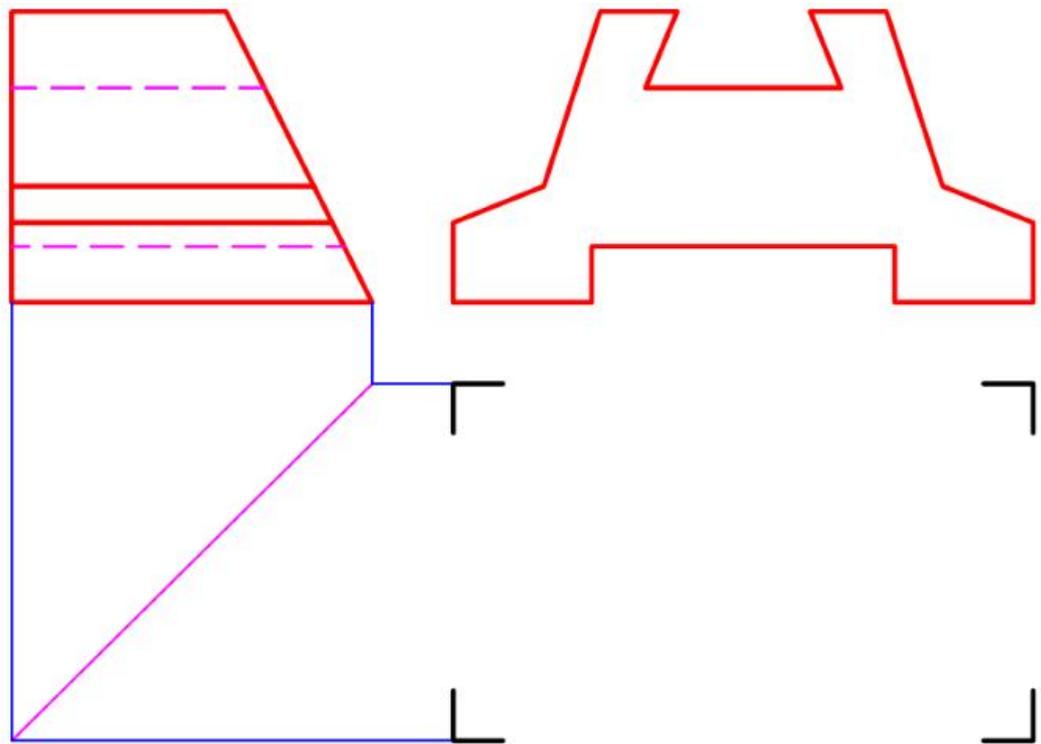
.19) TD N: 19



.20) TD N: 20



.21) TD N: 21



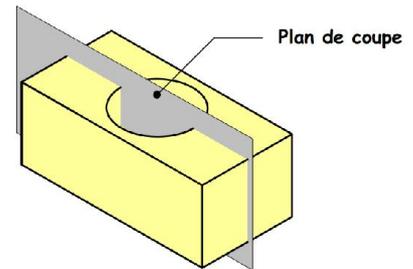
Coupe simple

.I But

I Afin de rendre visibles les détails cachés (les formes intérieures), on réalise une coupe simple, selon le principe suivant :

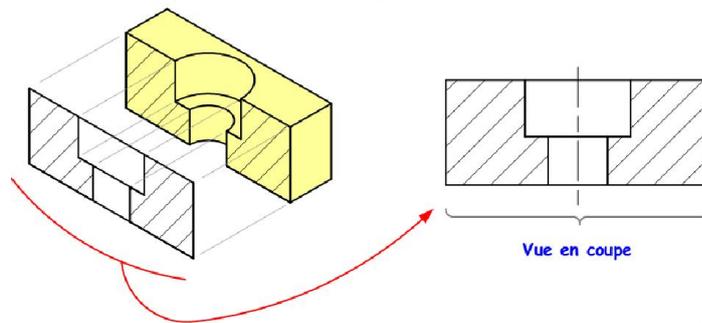
.II Principe :

On imagine que la pièce est coupée en deux suivant un plan de coupe.

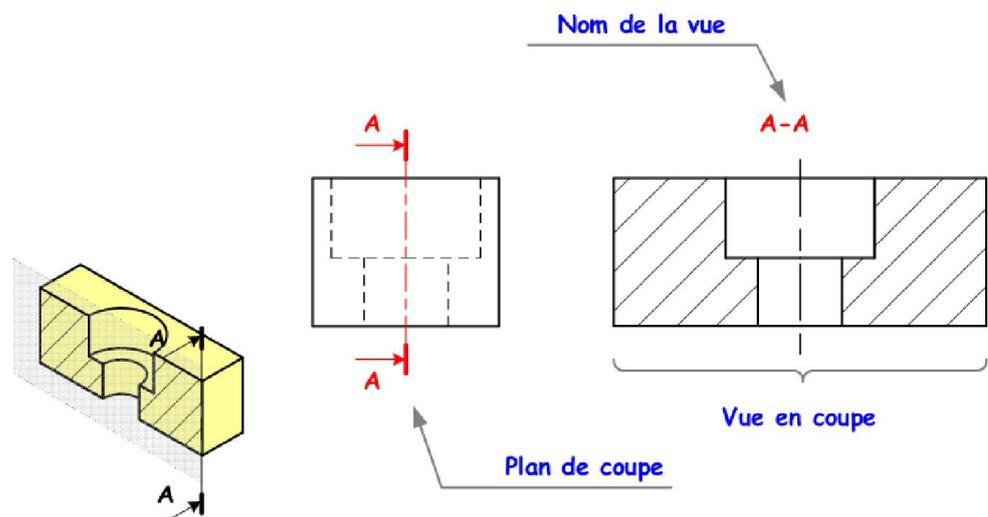


On isole l'un des deux morceaux obtenus.

On le dessine en hachurant les zones qui ont été coupées.



On désigne le plan de coupe et la vue en coupe, Ex : (A-A, B-B,)



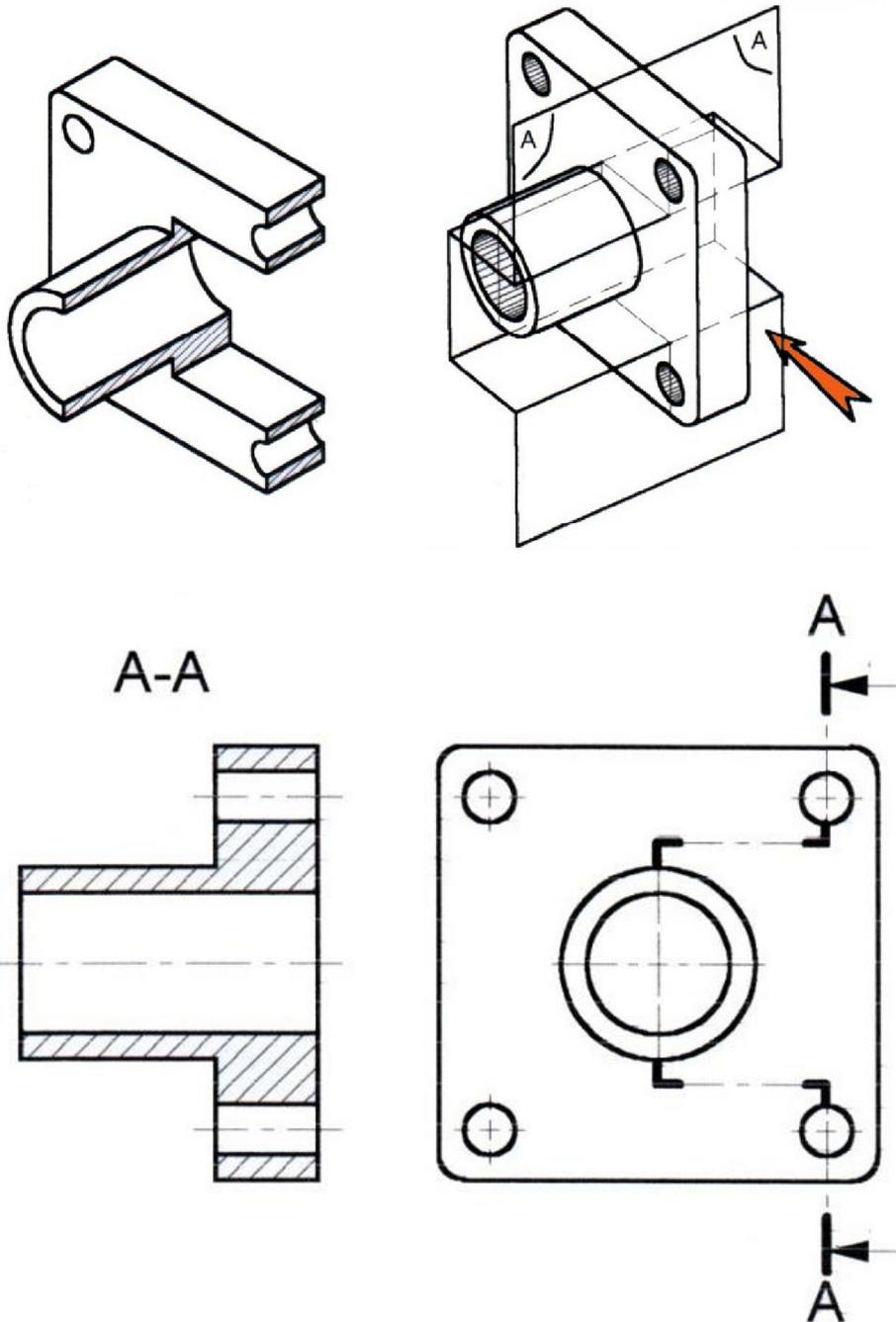
selon la matière de la pièce les hachures en traits fins, inclinées de 30 , 45 ou 60

Tous métaux et alliages	Métaux et alliages légers (Aluminium)	Cuivre et ses alliages, béton léger	Matières plastiques ou isolantes	Bobinage électroaimant

COUPES PARTICULIERES.

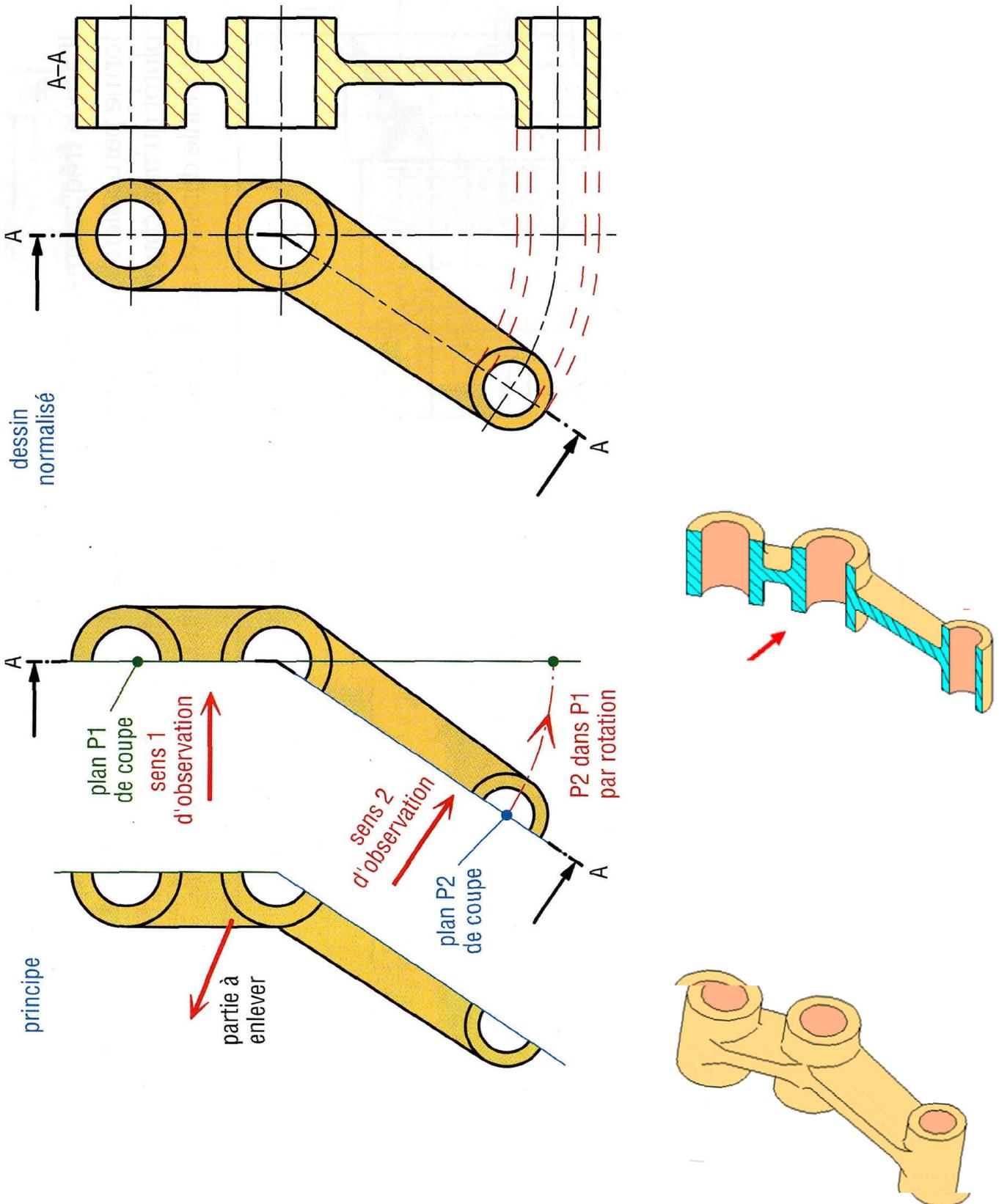
.I Coupe par plans parallèles

C'est une représentation qui permet de montrer les formes intérieures d'une pièce situées dans des plans parallèles
Les discontinuités du plan de coupe ne sont pas dessinées.



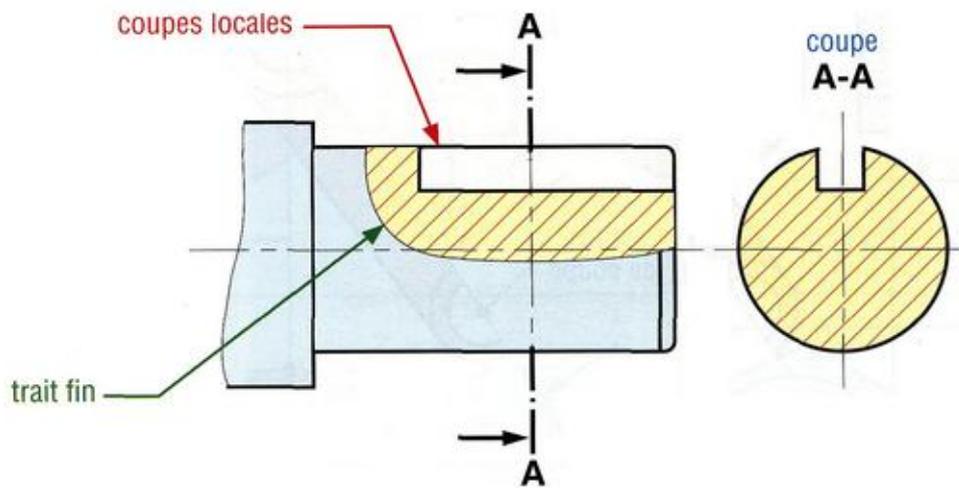
.II Coupe à plans sécants

I À l'aide d'une rotation d'angle α le plan de coupe est ramené dans le prolongement du plan de projection de la vue coupée.

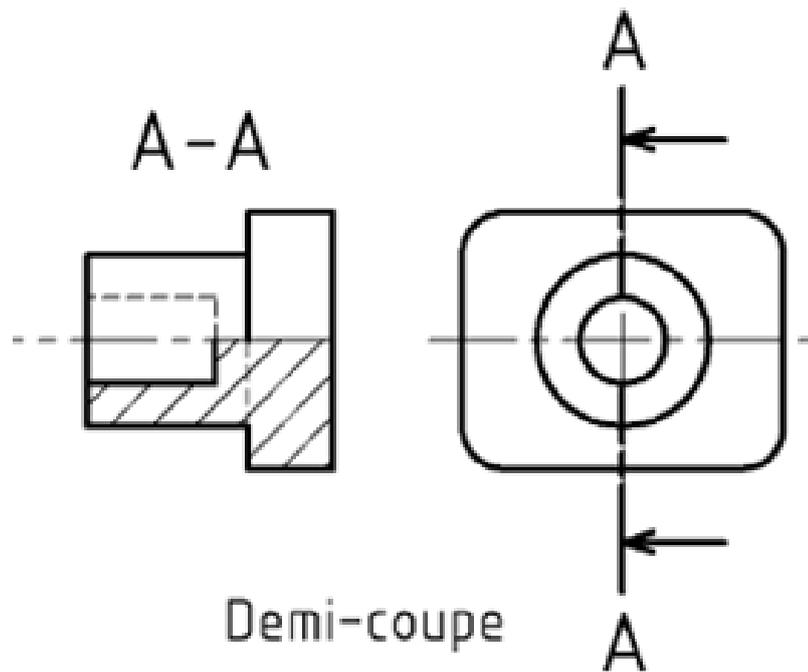


.III Coupe locale

Elles permettent de mettre en évidence un détail, elles sont délimitées par un trait fin.



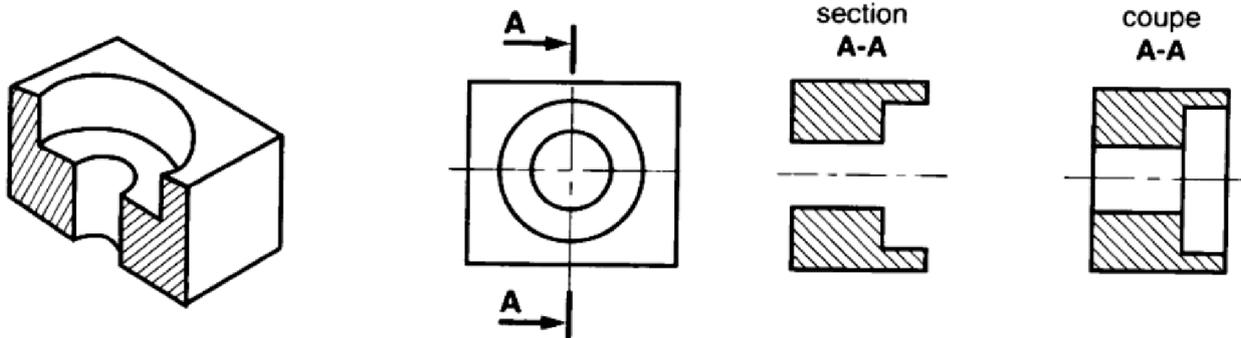
.IV Demi coupe



Les sections

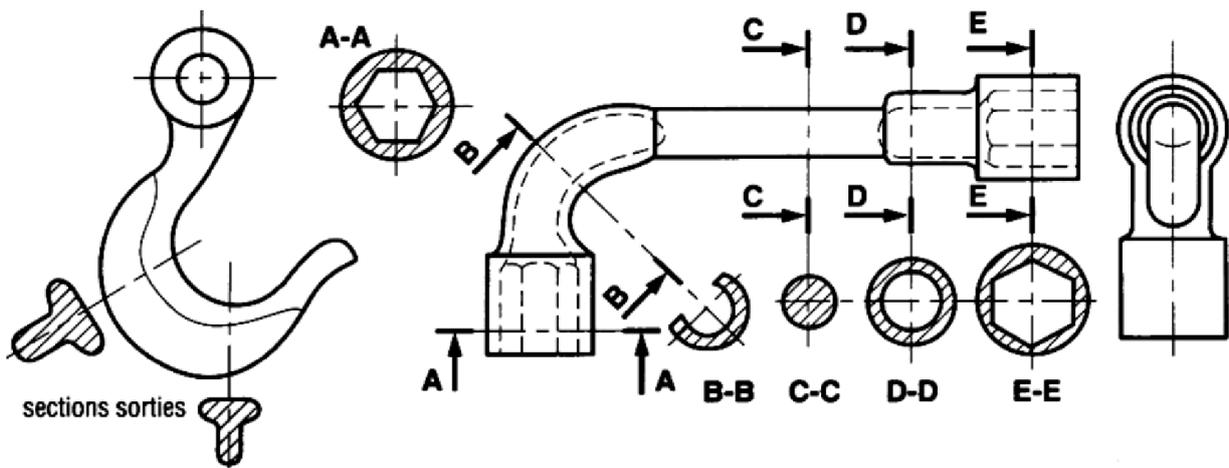
.I Définition :

Une section représente, exclusivement, la partie de l'objet située dans le plan de coupe.



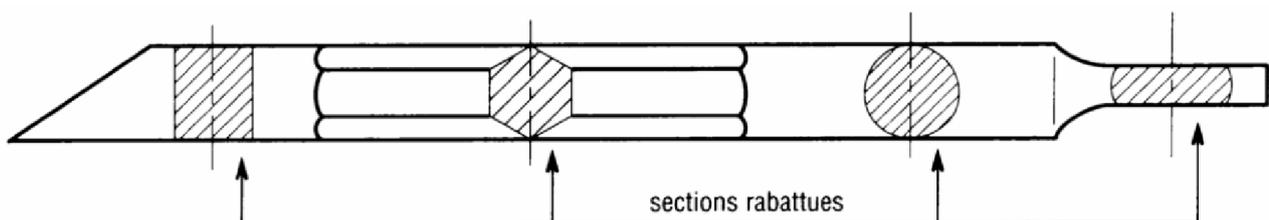
.II Sections sorties

Elles sont dessinées le plus souvent sur l'axe du plan de coupe, si la place le permet ; l'inscription du plan de coupe peut être omise



.III Sections rabattues

Dessinées complètement en traits fins, ces sections sont dessinées directement sur la vue usuelle. Par soucis de clarté, les formes apparaissant sous la section rabattue sont supprimées. L'indication du plan de coupe est généralement inutile.



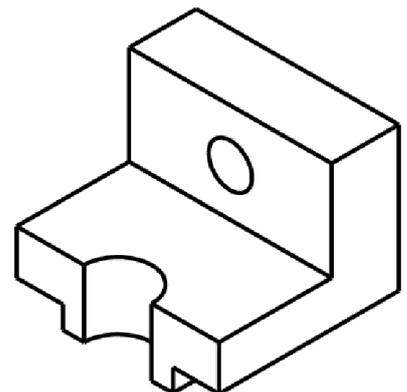
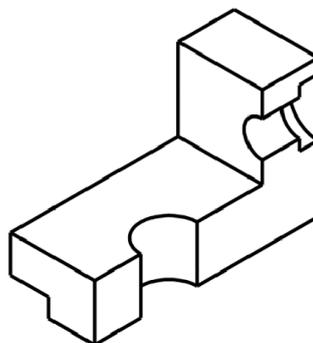
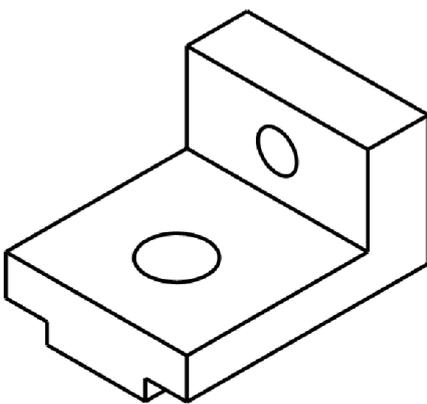
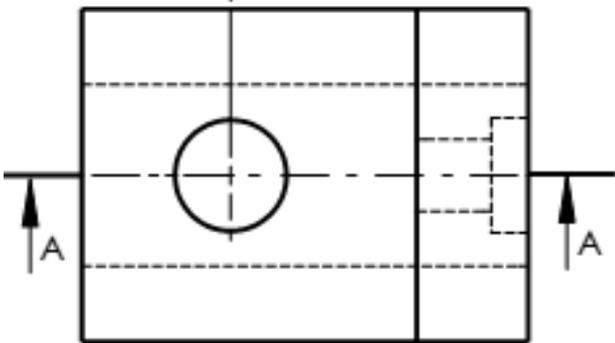
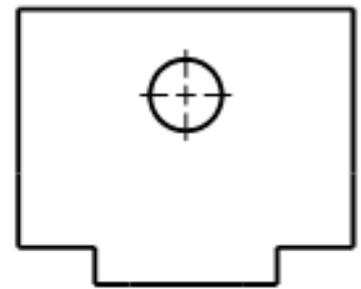
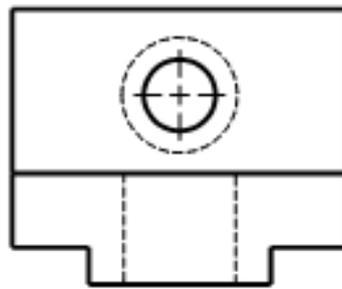
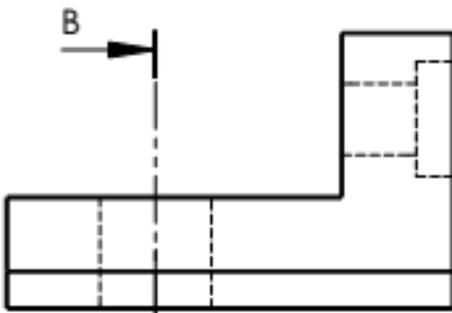
.IV Applications :

.1) TD N:1

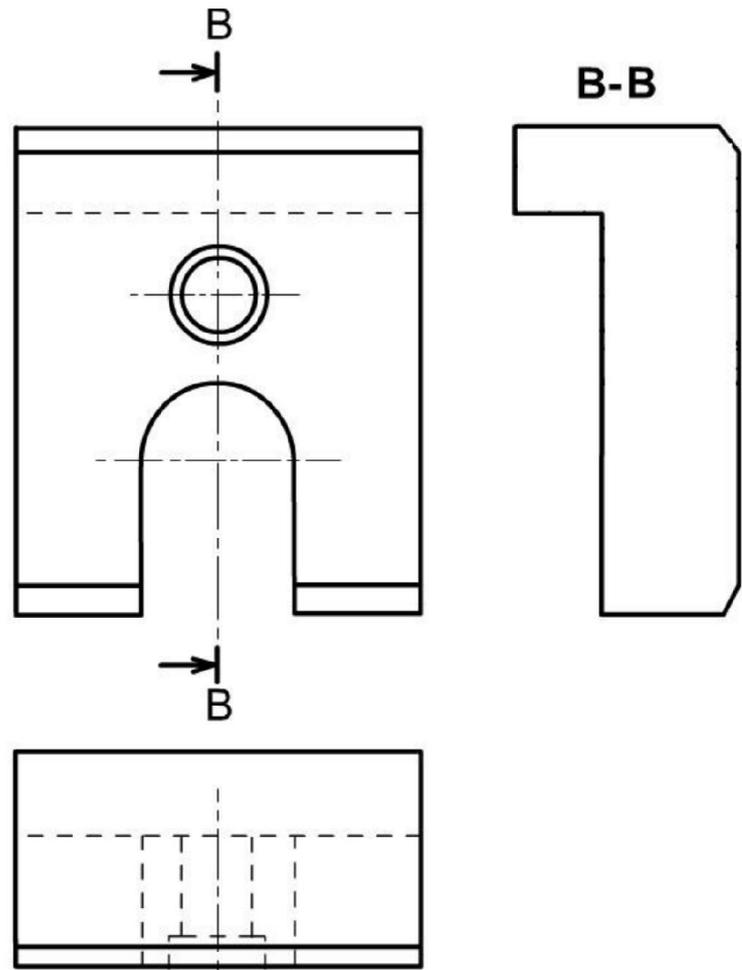
COUPE A-A



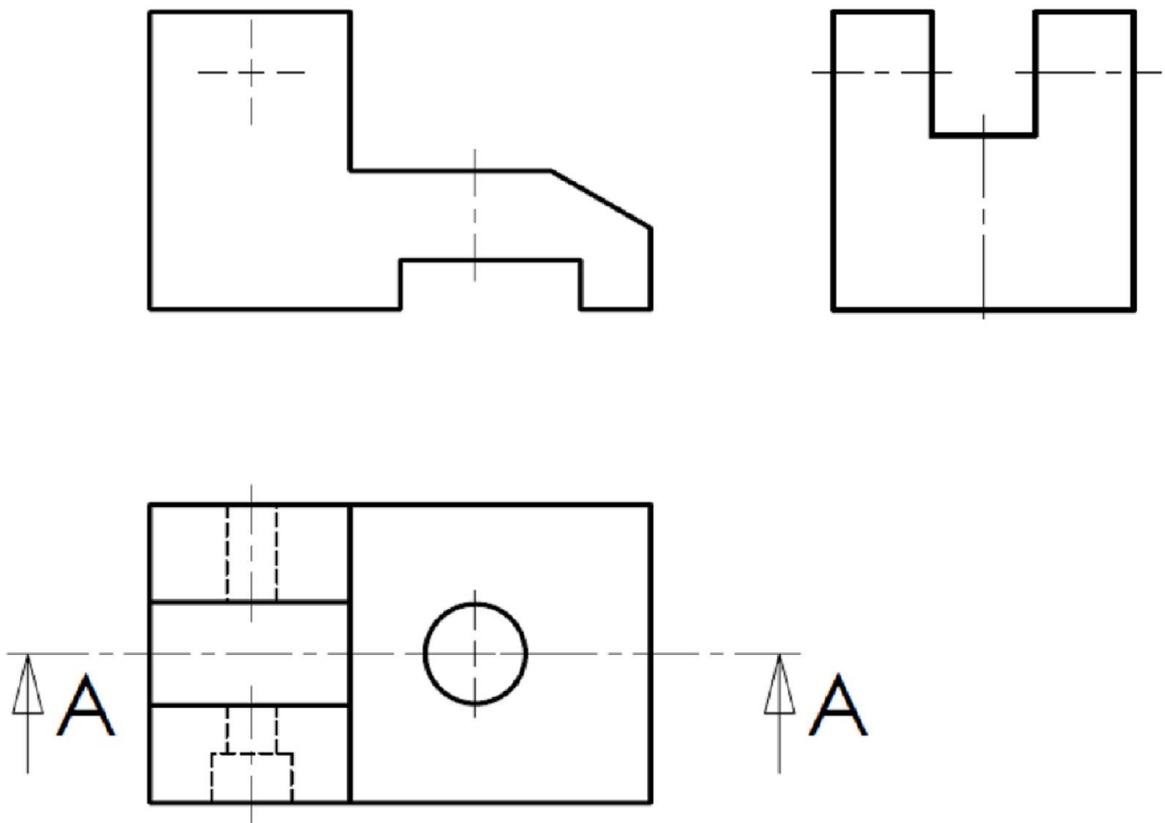
COUPE B-B



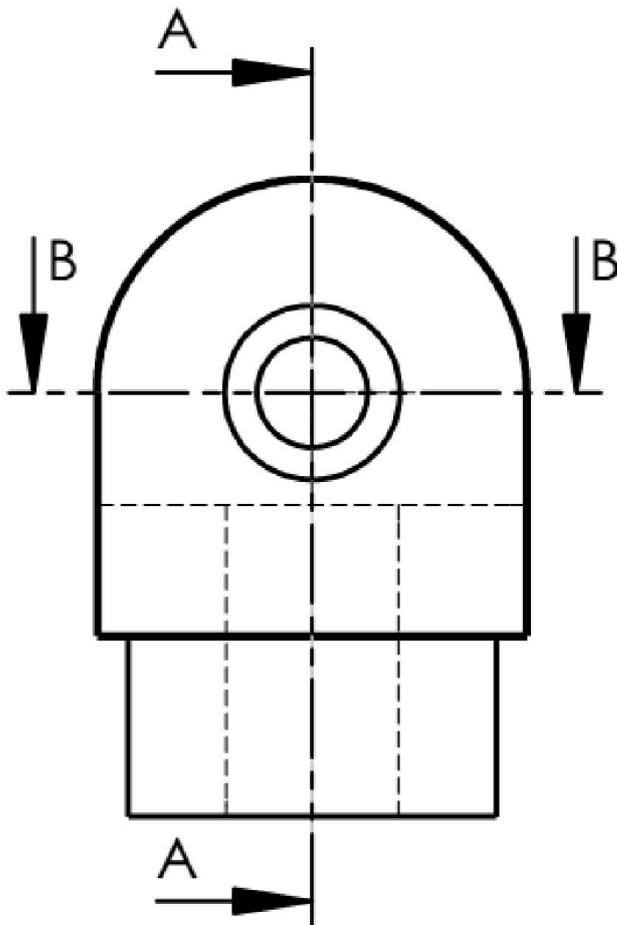
.2) TD N:2



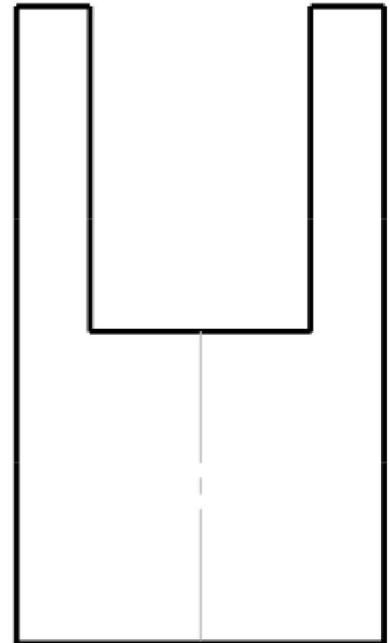
.3) TD N:3



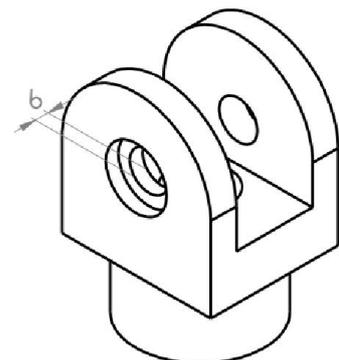
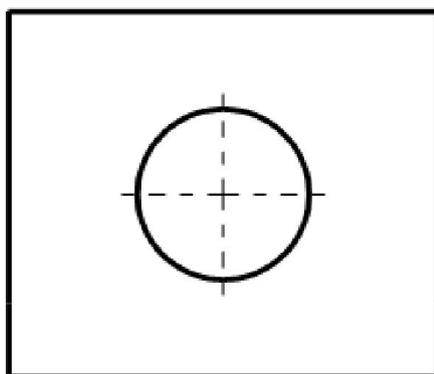
.4) TD N:4



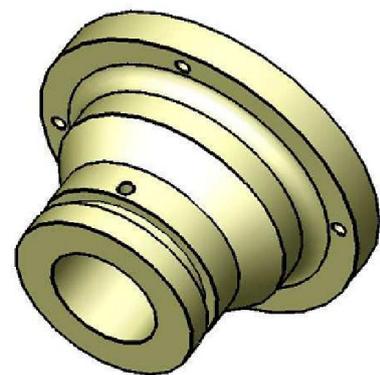
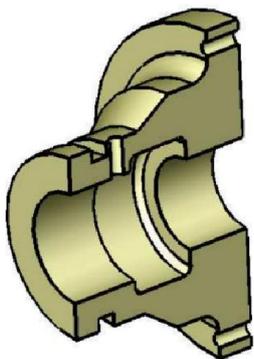
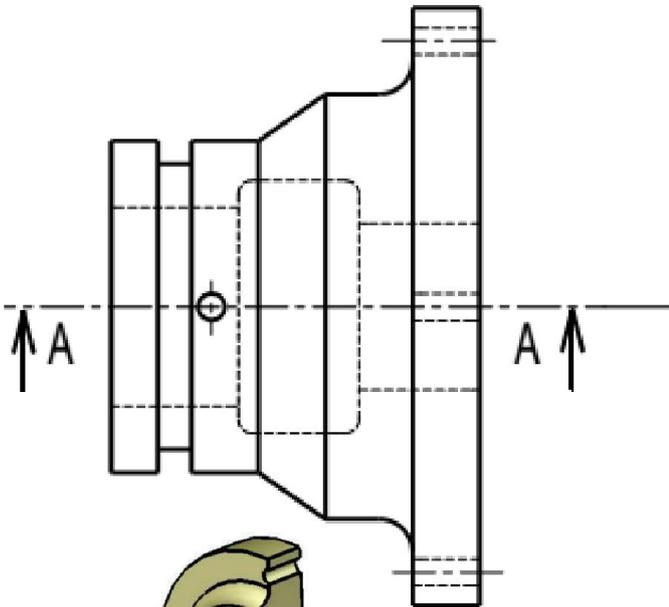
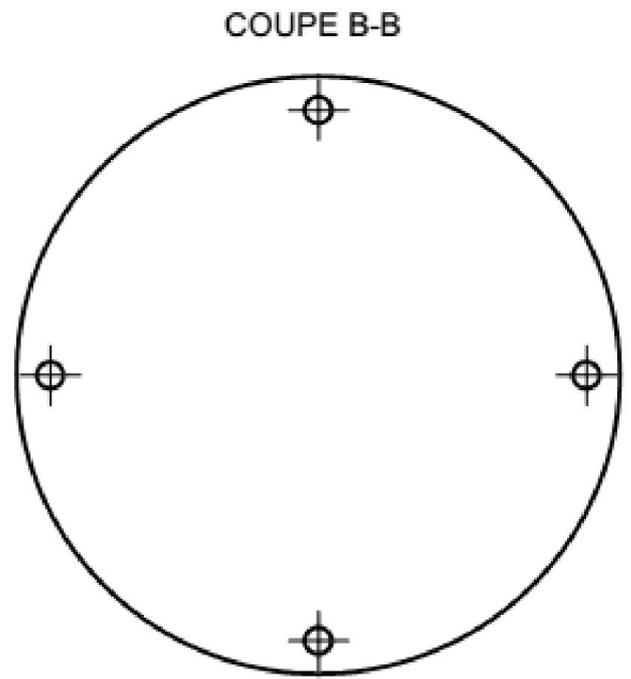
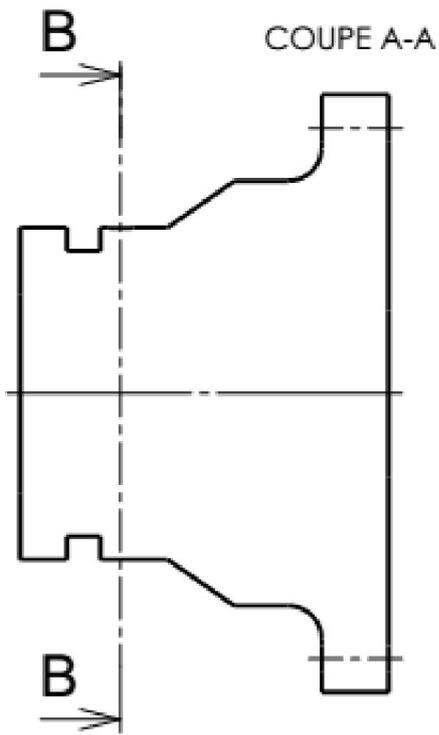
COUPE A-A



COUPE B-B

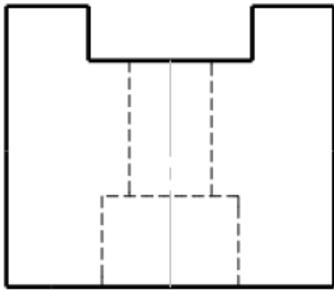


.5) TD N:5

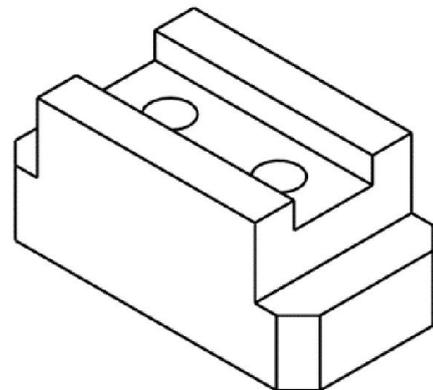
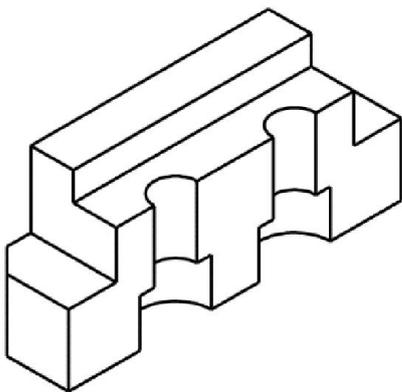
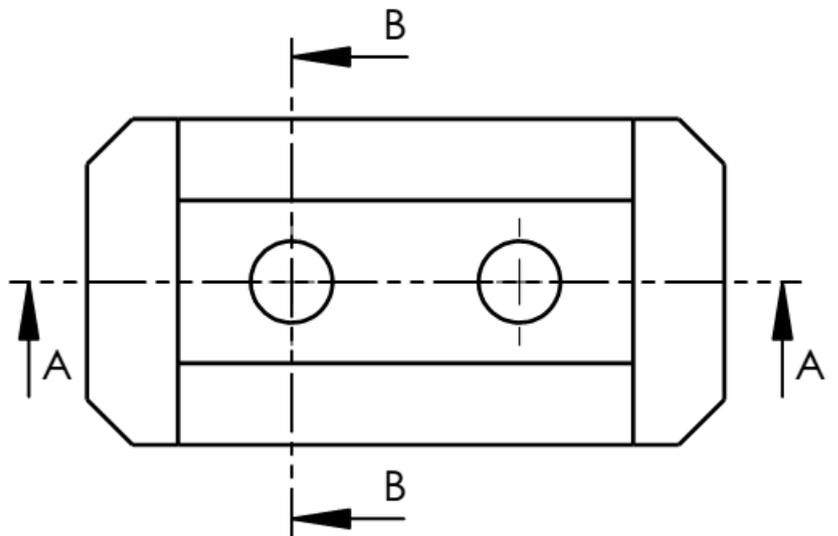


.6) TD N:6

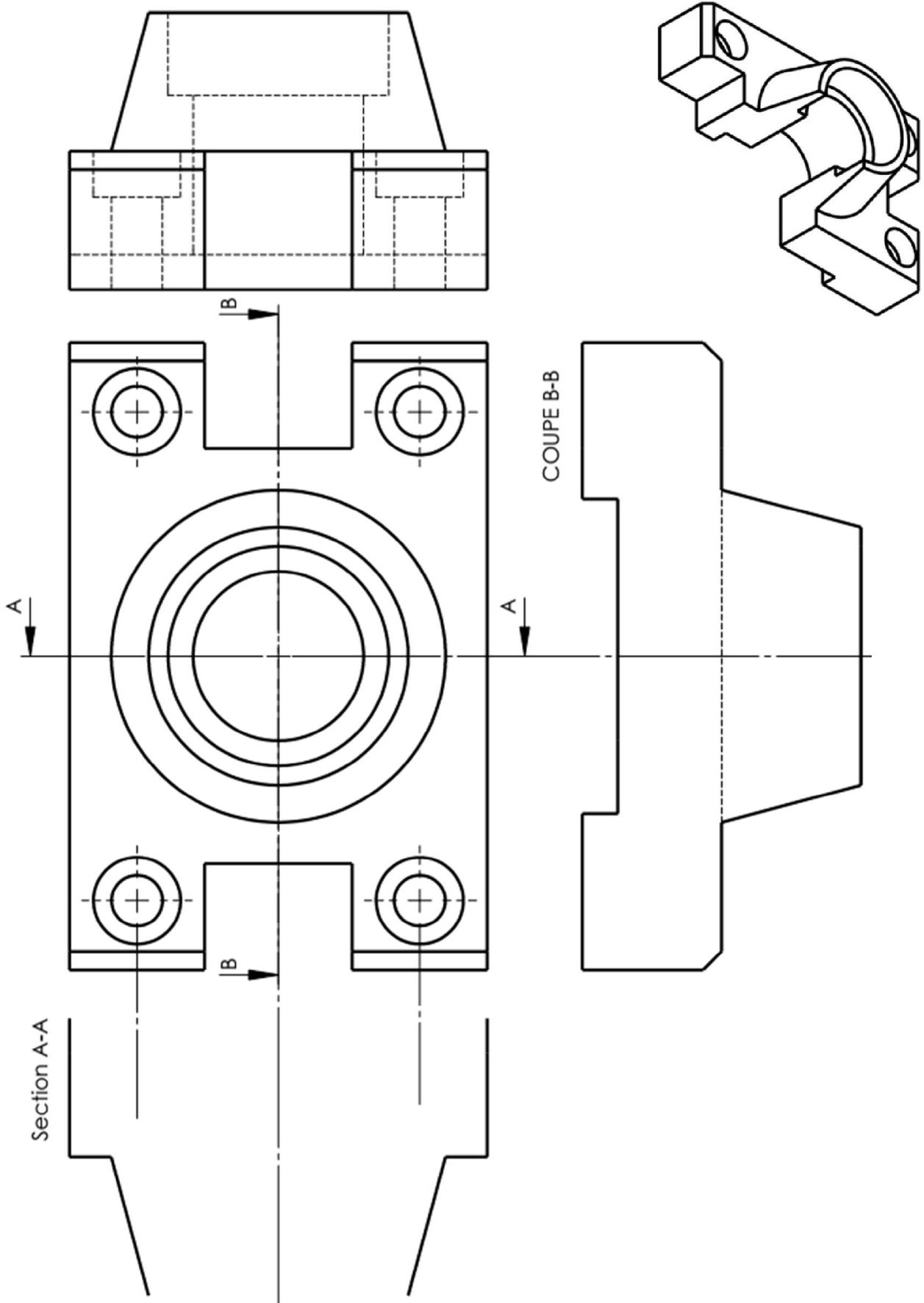
Coupe A-A



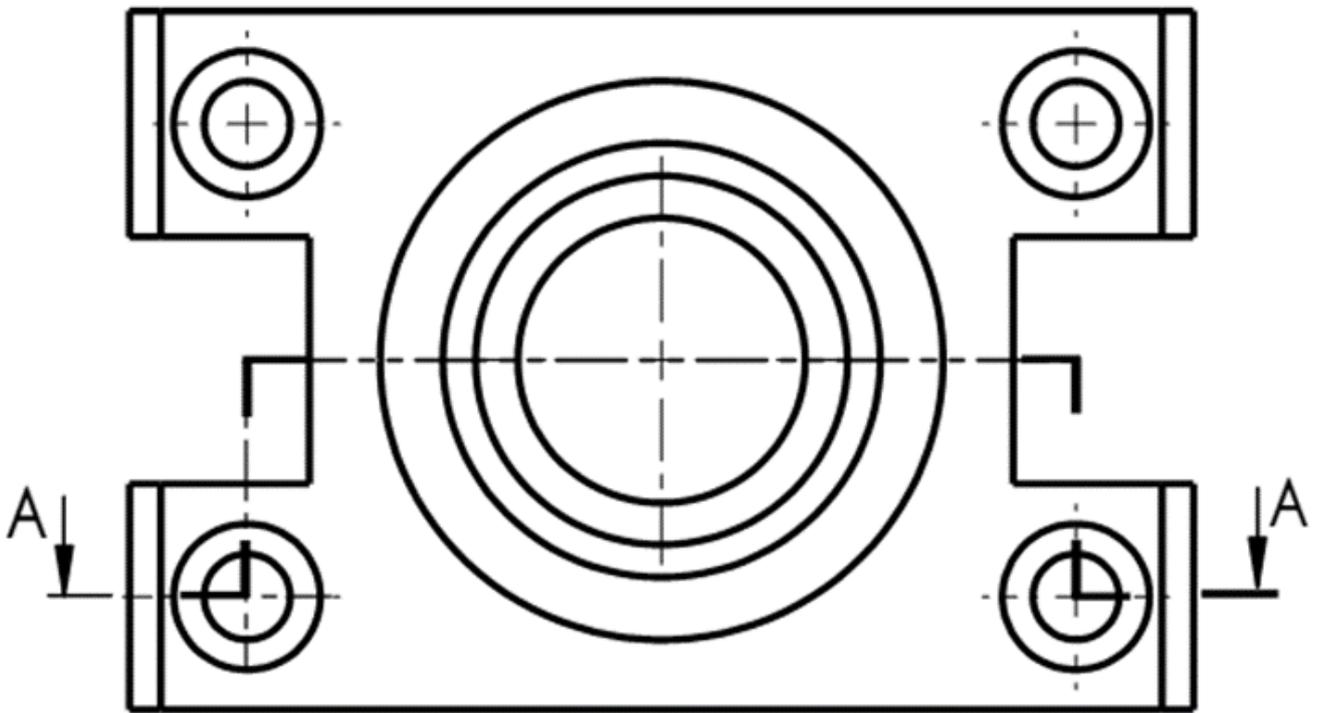
Section B-B



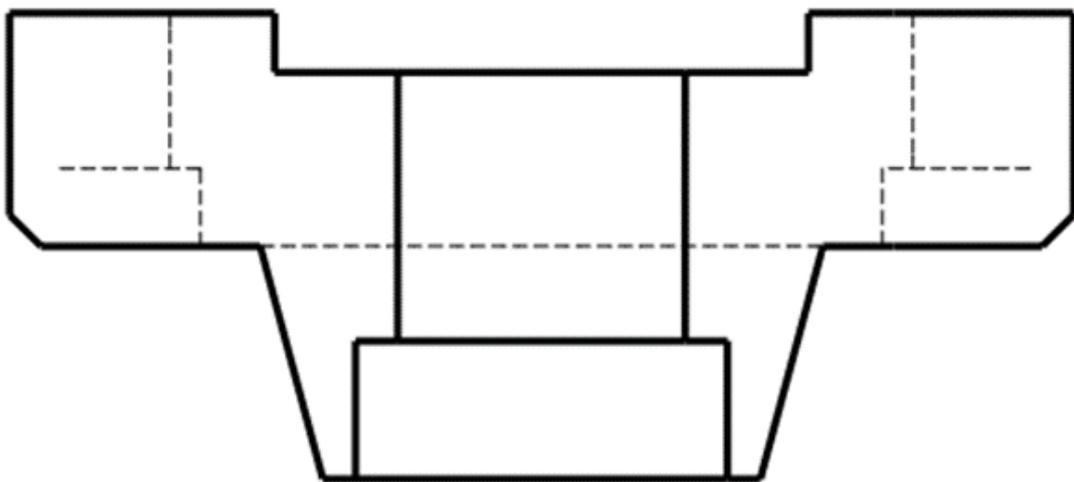
.7) TD N° 7



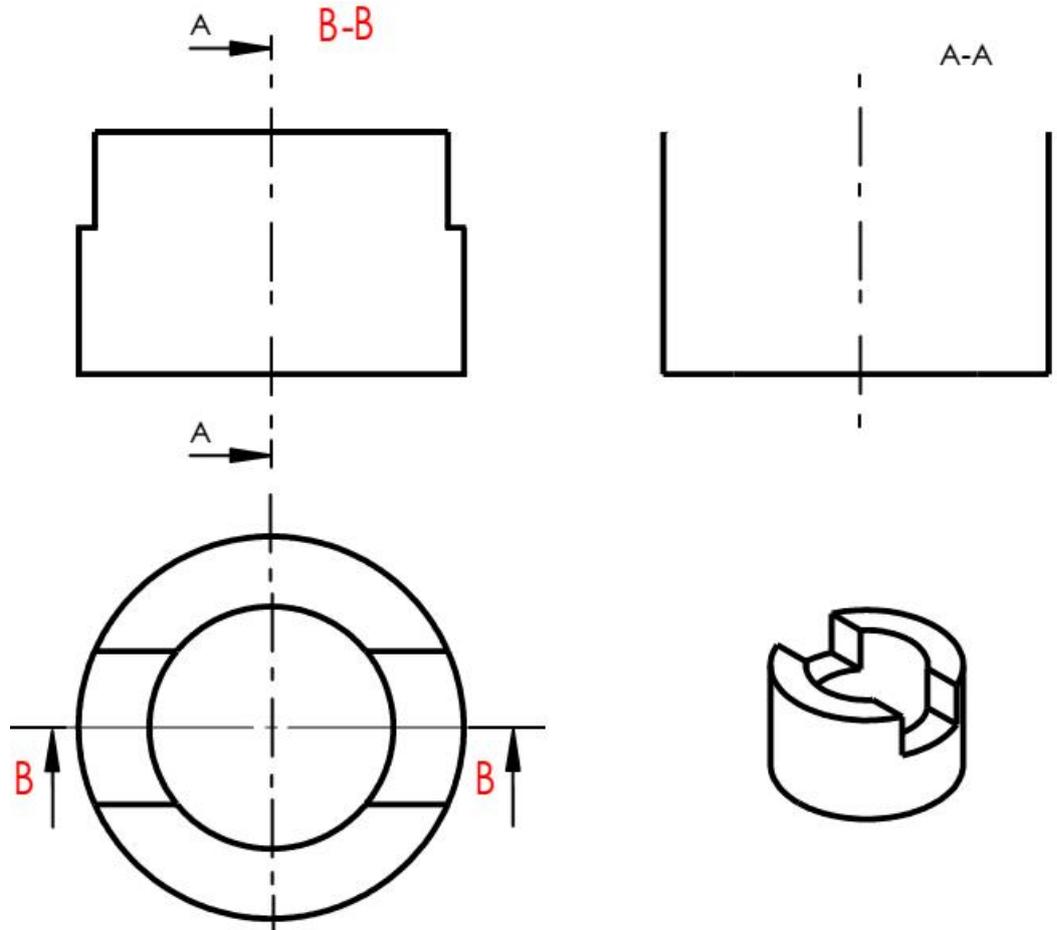
.8) TD N:8



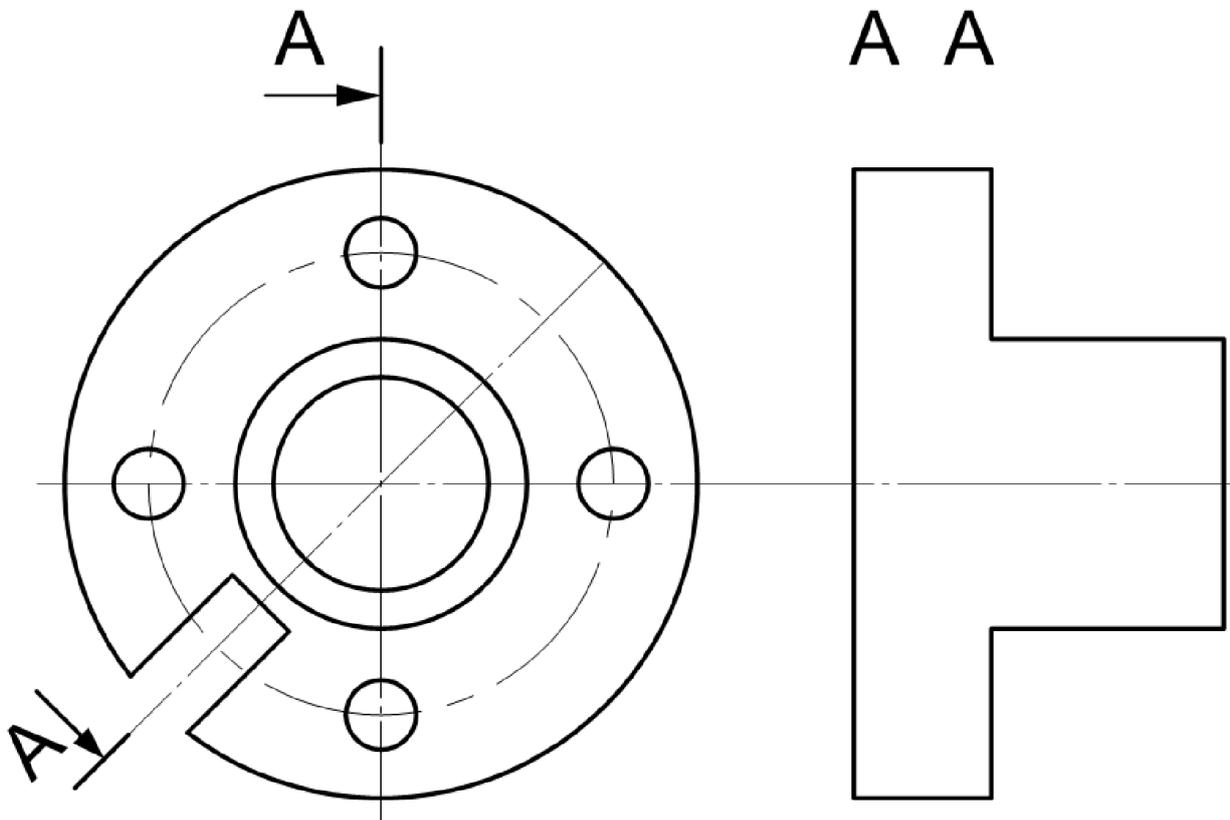
COUPE A-A



.9) TD N:9

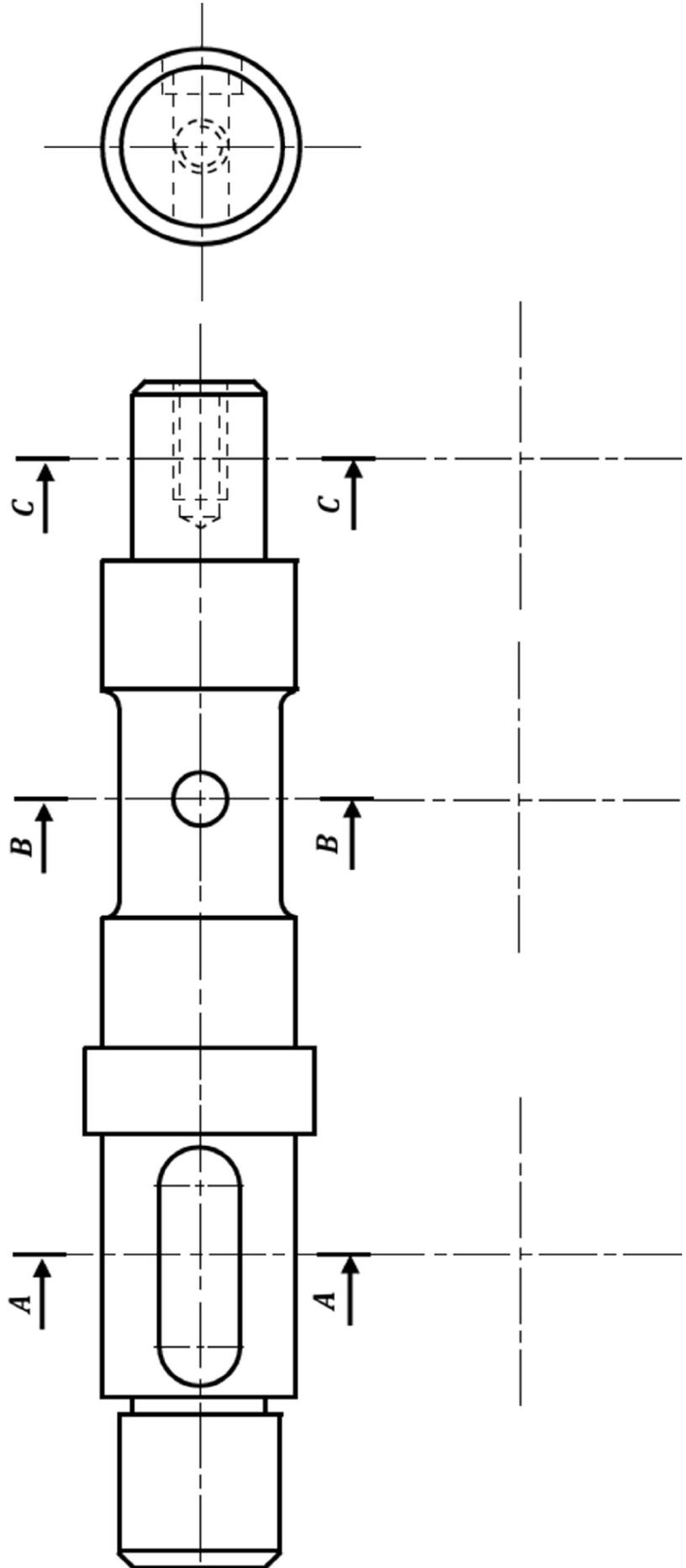


.10) TD N:10



I TD N° 10

Dessiner les sections A-A, B-B, et C-C



Perspective cavalière

.I Définition :

Un dessin en perspective est un dessin qui représente un objet en volume.

.II Règles de représentation

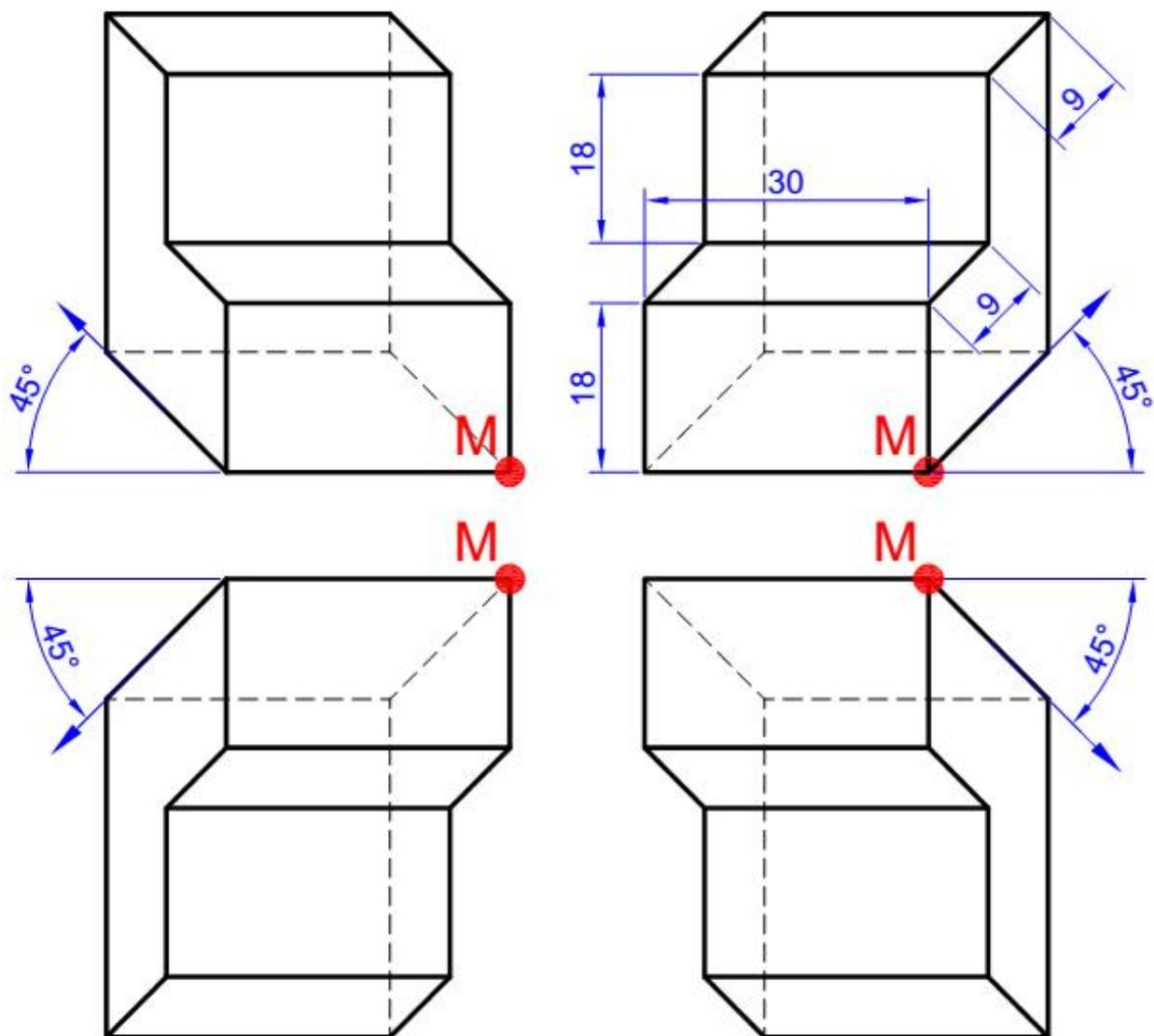
La face frontale est toujours en vraie grandeur VG.

Les fuyantes sont inclinées d'un même angle (45°),

Les fuyantes sont réduites d'un Coefficient $k = 0,5$.

Les fuyantes peuvent être orientées vers quatre sens :

.III Exemple :



.IV Application :

Compléter la vue en perspective cavalière, prendre le point M point de départ

