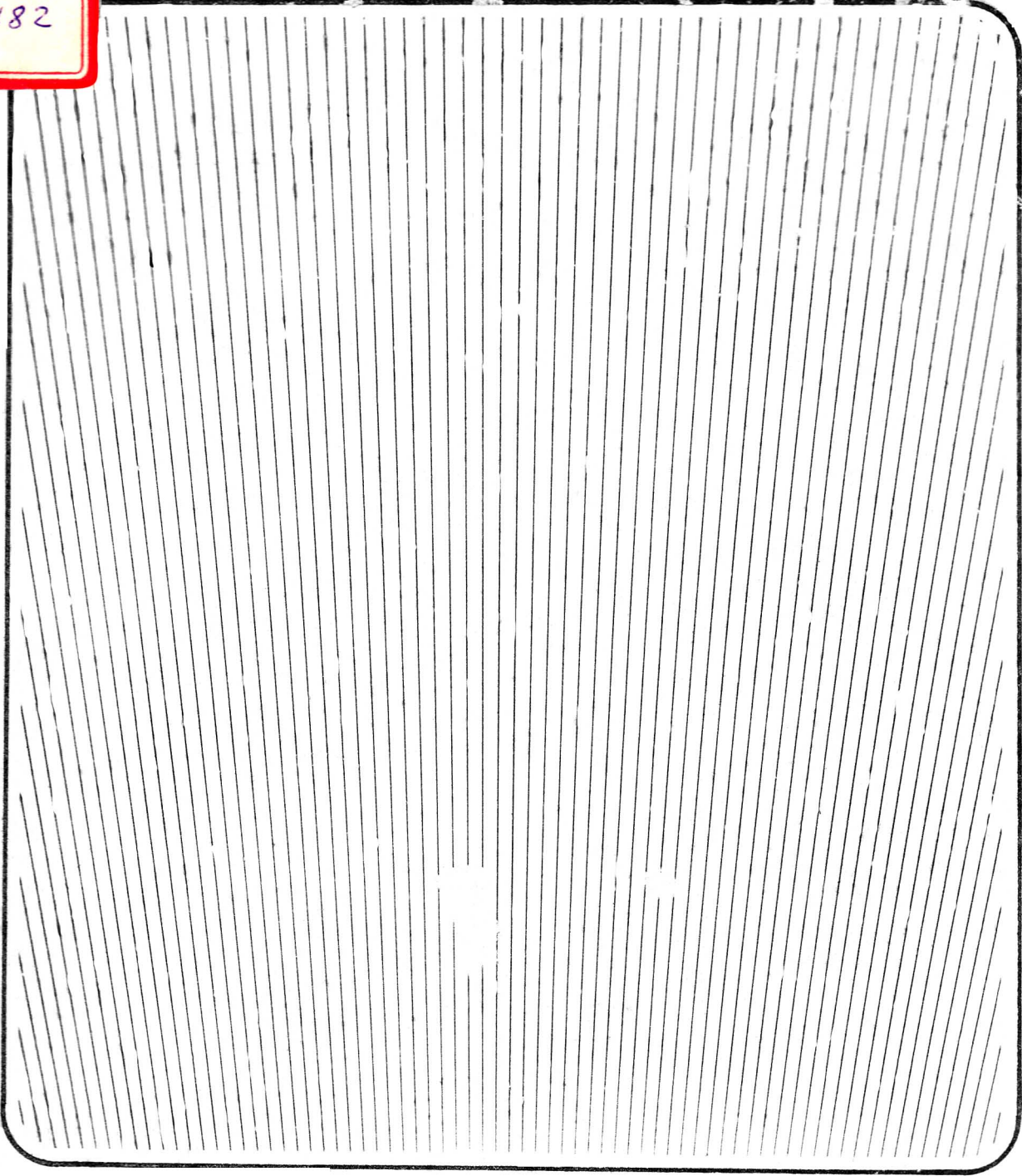


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IPDI

FUNDAMENTOS DE LA REPRESENTACION

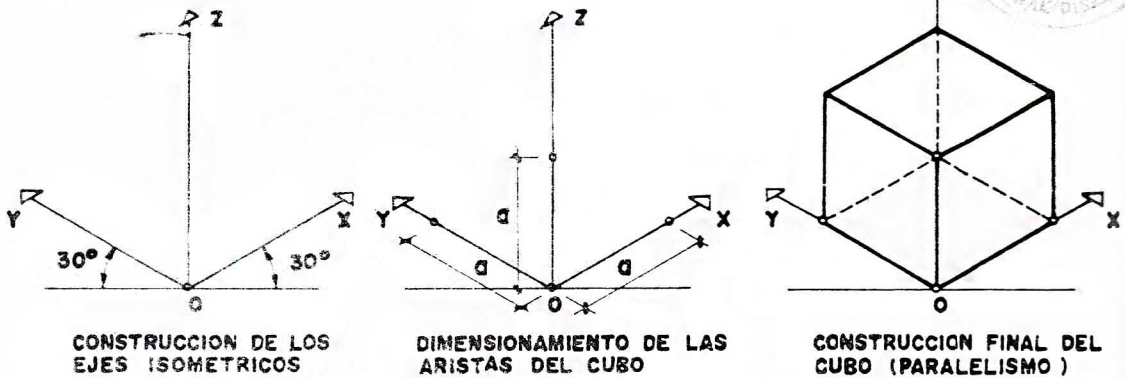
Geometría Descriptiva

(Ilustraciones)

ARQ. PEDRO P. GISPERT

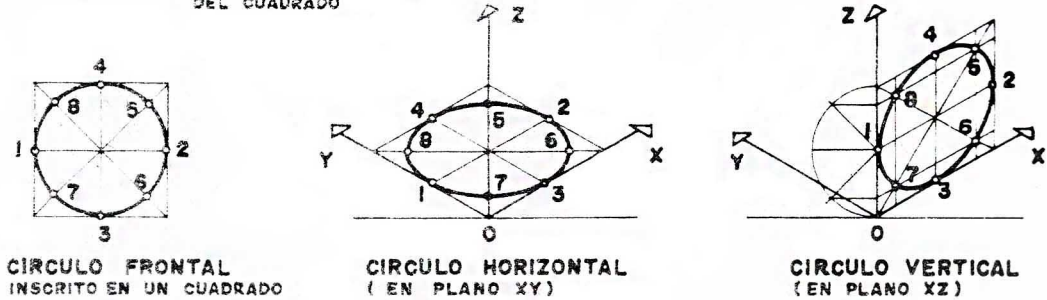
I. 4. 2 SISTEMA AXONOMETRICO

A CONSTRUCCION DE UN CUBO EN DIBUJO ISOMETRICO

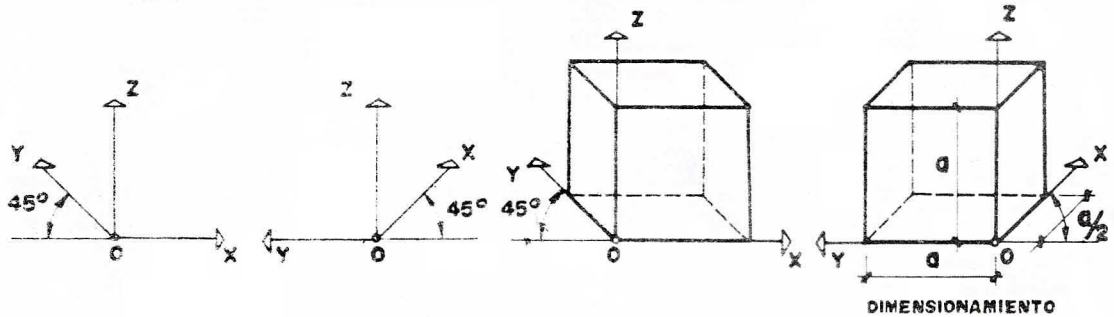


B CONSTRUCCION DE UN CIRCULO EN DIBUJO ISOMETRICO

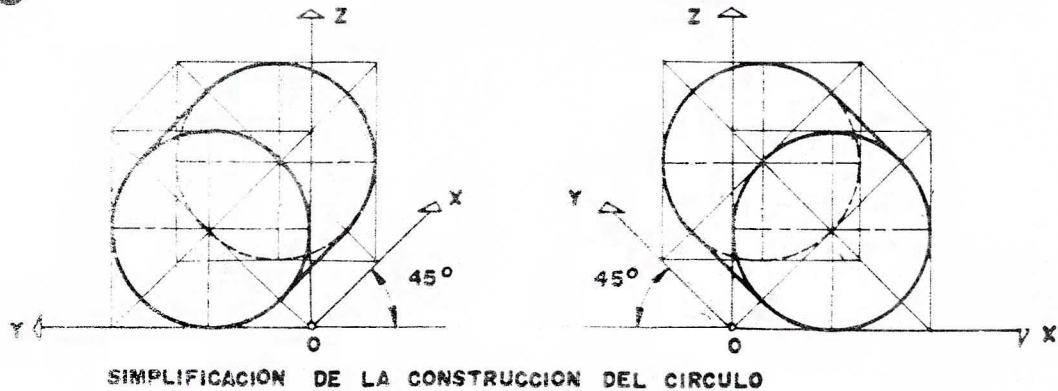
- 1,2,3,4 PUNTOS DE TANGENCIA
5,6,7,8 PUNTOS EN LAS DIAGONALES DEL CUADRADO



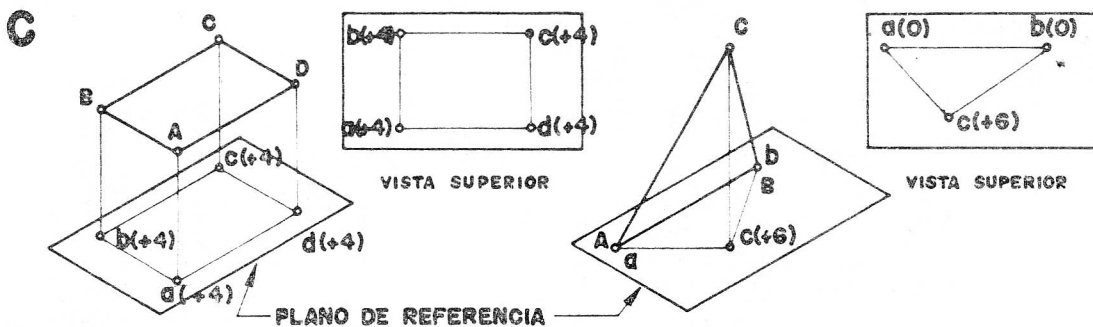
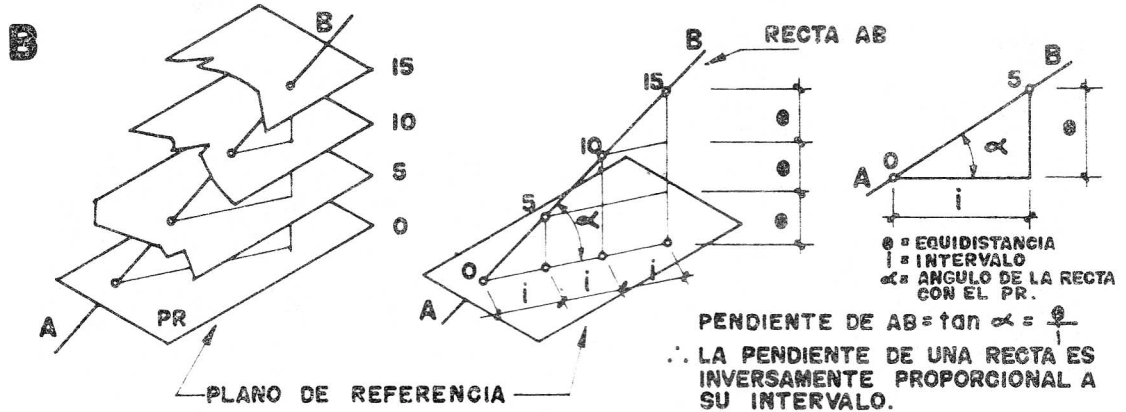
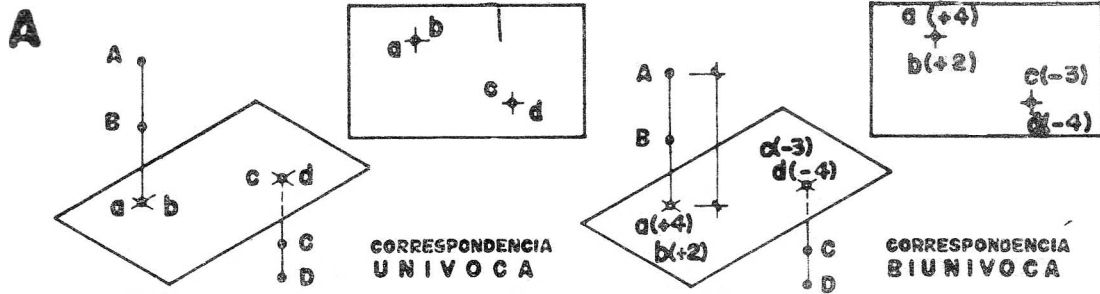
C CONSTRUCCION DE UN CUBO EN PERSPECTIVA CABALLERA (SE EVITAN LAS COINCIDENCIAS DEL DIBUJO ISOMETRICO)



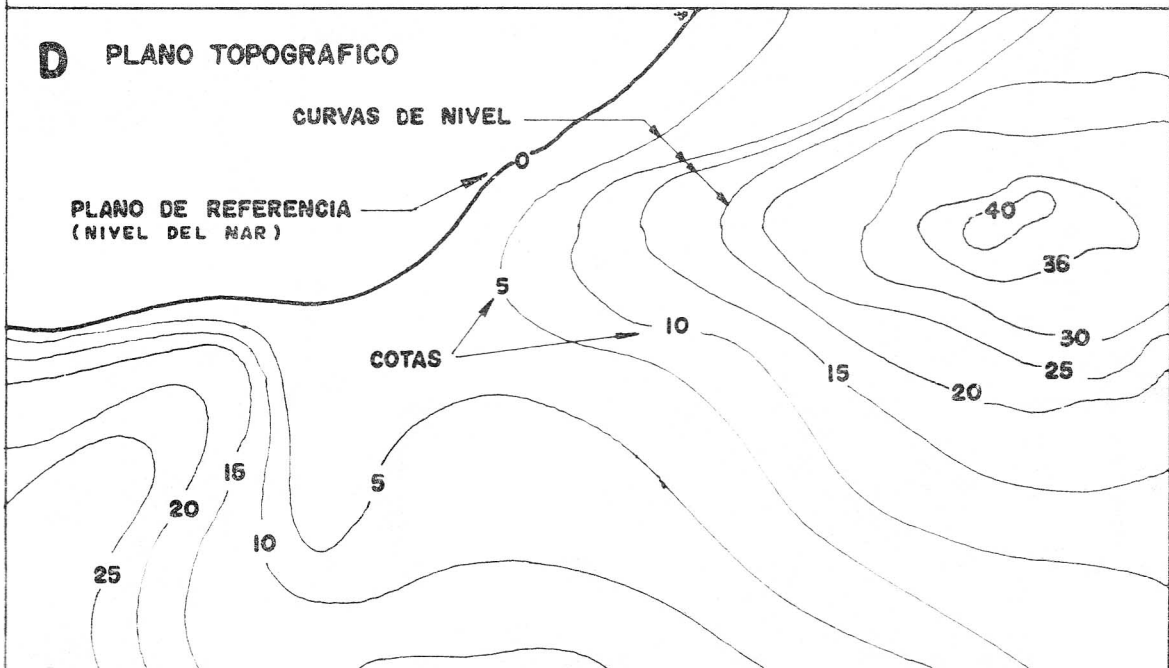
D APLICACION DE LA PERSPECTIVA CABALLERA



I.4.5 FUNDAMENTO DEL SISTEMA ACOTADO.- CONCEPTOS BASICOS

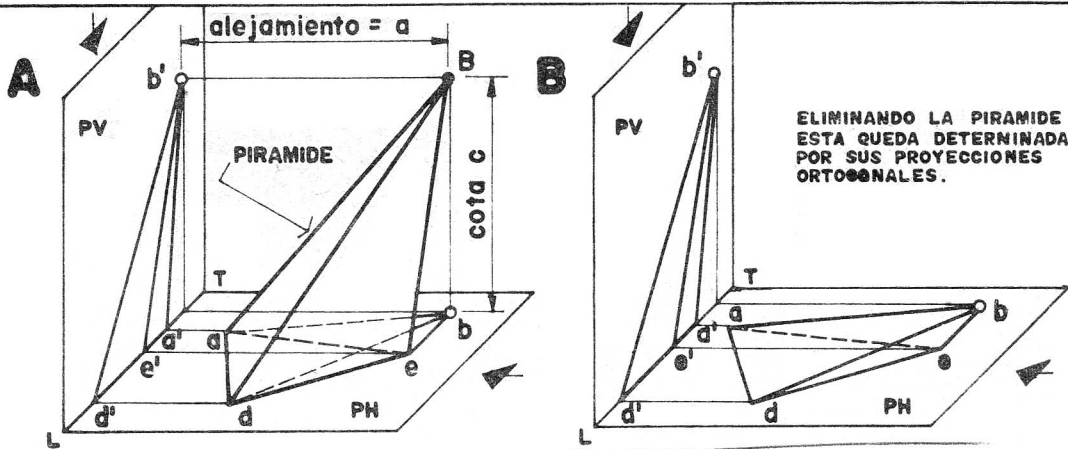


D PLANO TOPOGRAFICO



1.4.7 FUNDAMENTO DEL SISTEMA DIEDRICO (1er. CUADRANTE)

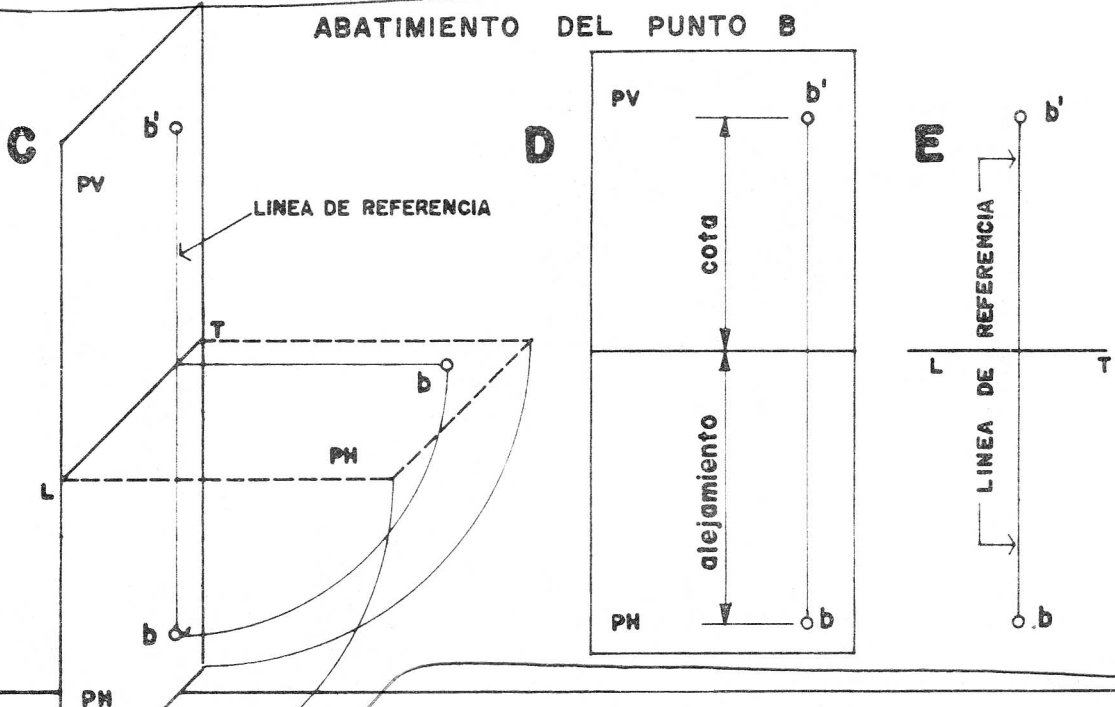
Noel



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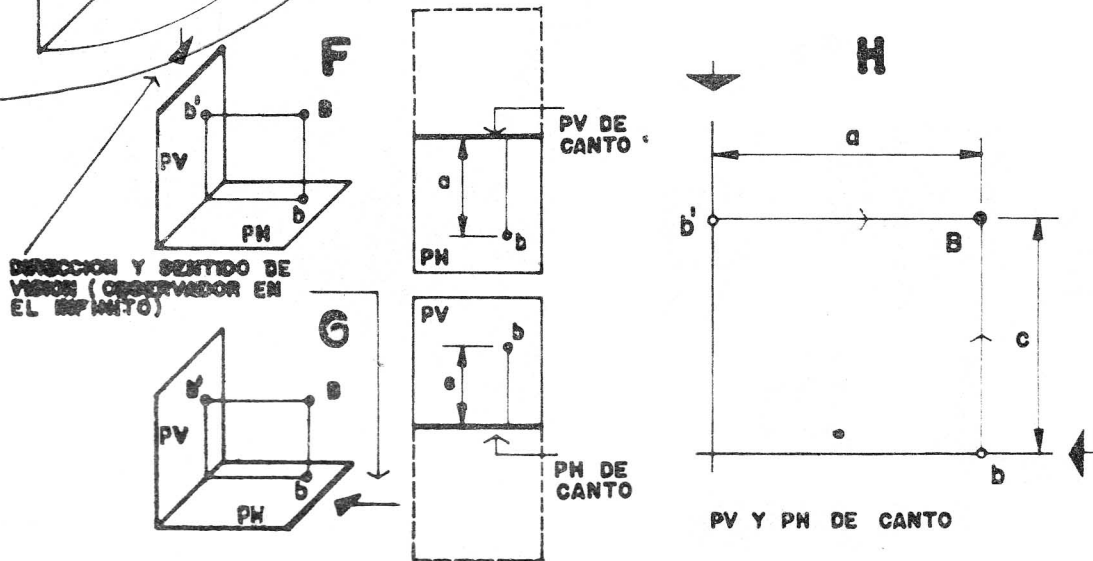
Ruddy

ABATIMIENTO DEL PUNTO B



Anido actab

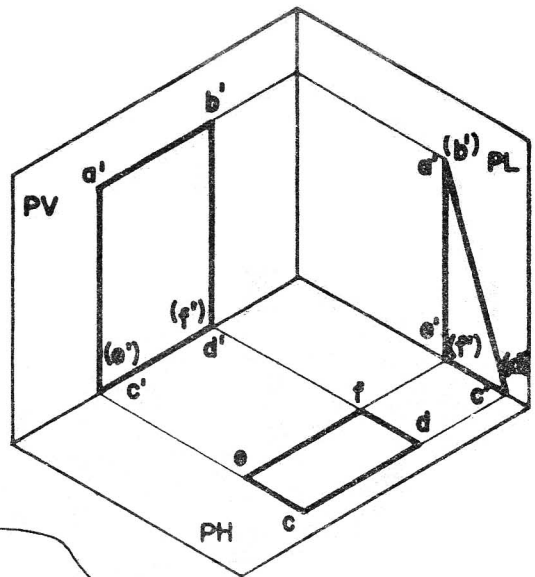
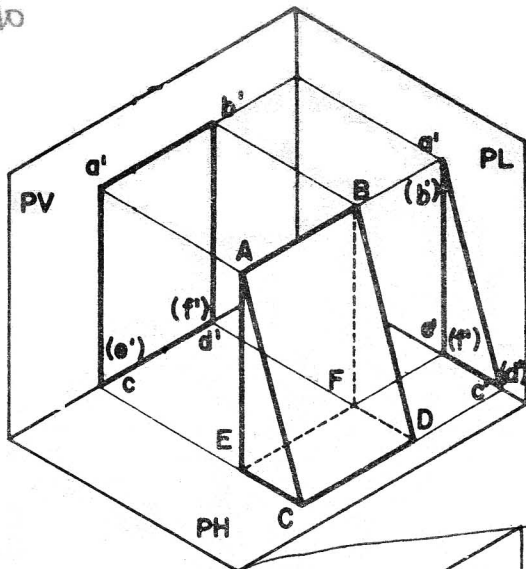
INTERPRETACION (DESCODIFICACION)



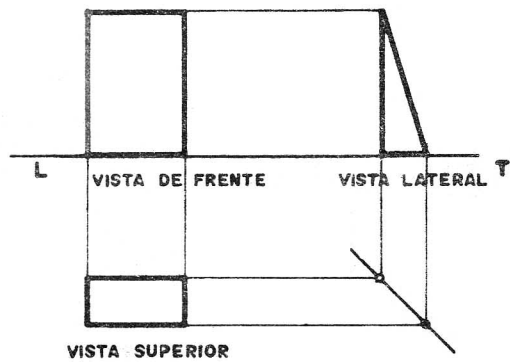
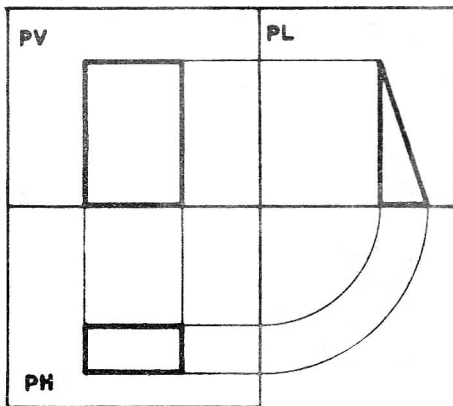
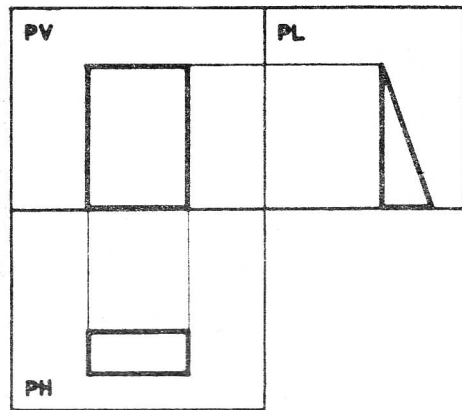
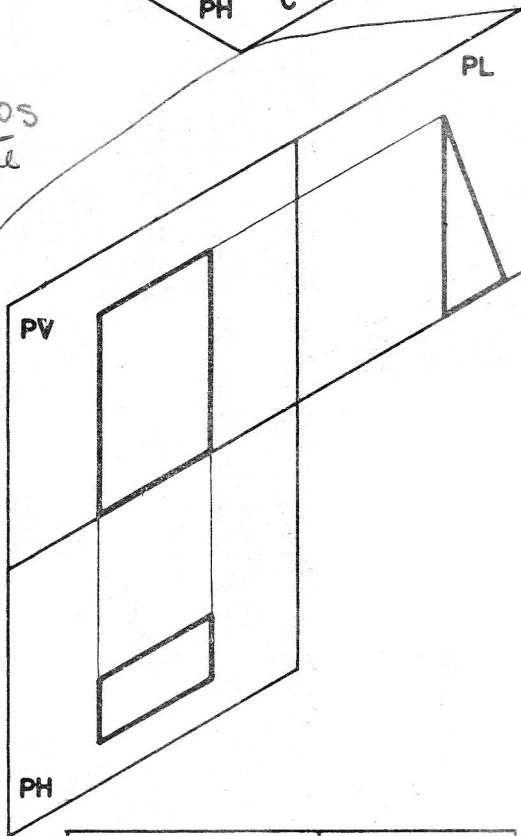
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1.4.8 FUNDAMENTO DEL SISTEMA TRIEDRICO (1er. OCTANTE)

Pinillo

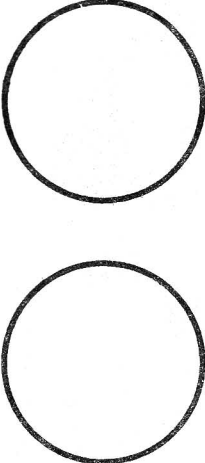
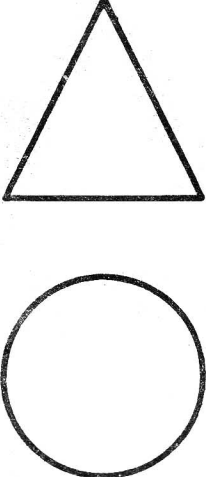
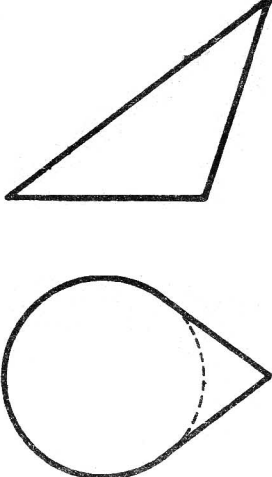
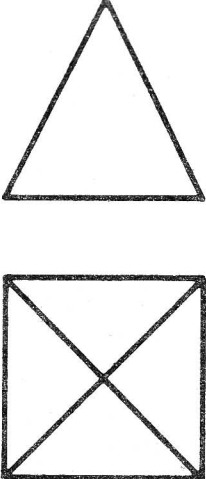
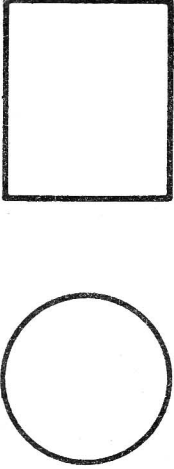
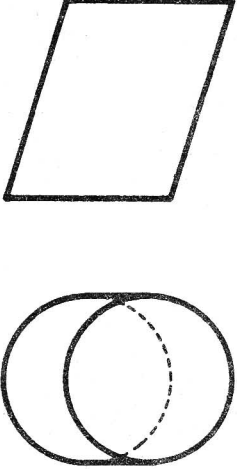
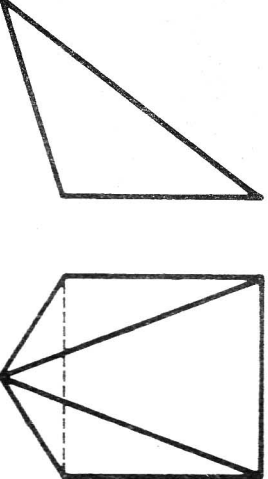
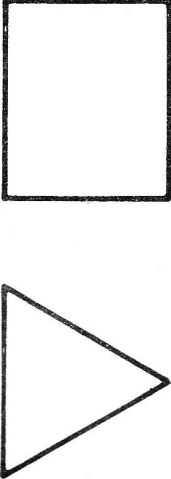
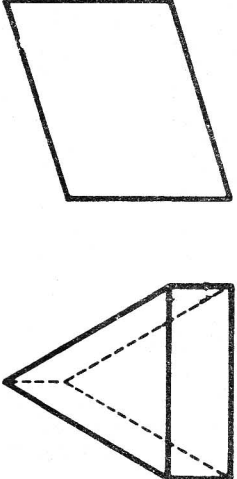


*Carlos
Varela*



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2.2.2 PROYECCIONES ORTOGONALES DE CUERPOS SIMPLES

<p>A</p>  <p>ESFERA</p>	<p>B</p>  <p>CONO RECTO DE BASE CIRCULAR</p>	<p>C</p>  <p>CONO OBLICUO DE BASE CIRCULAR</p>
<p>D</p>  <p>PIRAMIDE RECTA DE BASE CUADRADA</p>	<p>E</p>  <p>CILINDRO RECTO DE BASE CIRCULAR</p>	<p>F</p>  <p>CILINDRO OBLICUO DE BASE CIRCULAR</p>
<p>G</p>  <p>PIRAMIDE OBLICUA DE BASE CUADRADA</p>	<p>H</p>  <p>PRISMA RECTO DE BASE TRIANGULAR</p>	<p>I</p>  <p>PRISMA OBLICUO DE BASE TRIANGULAR</p>

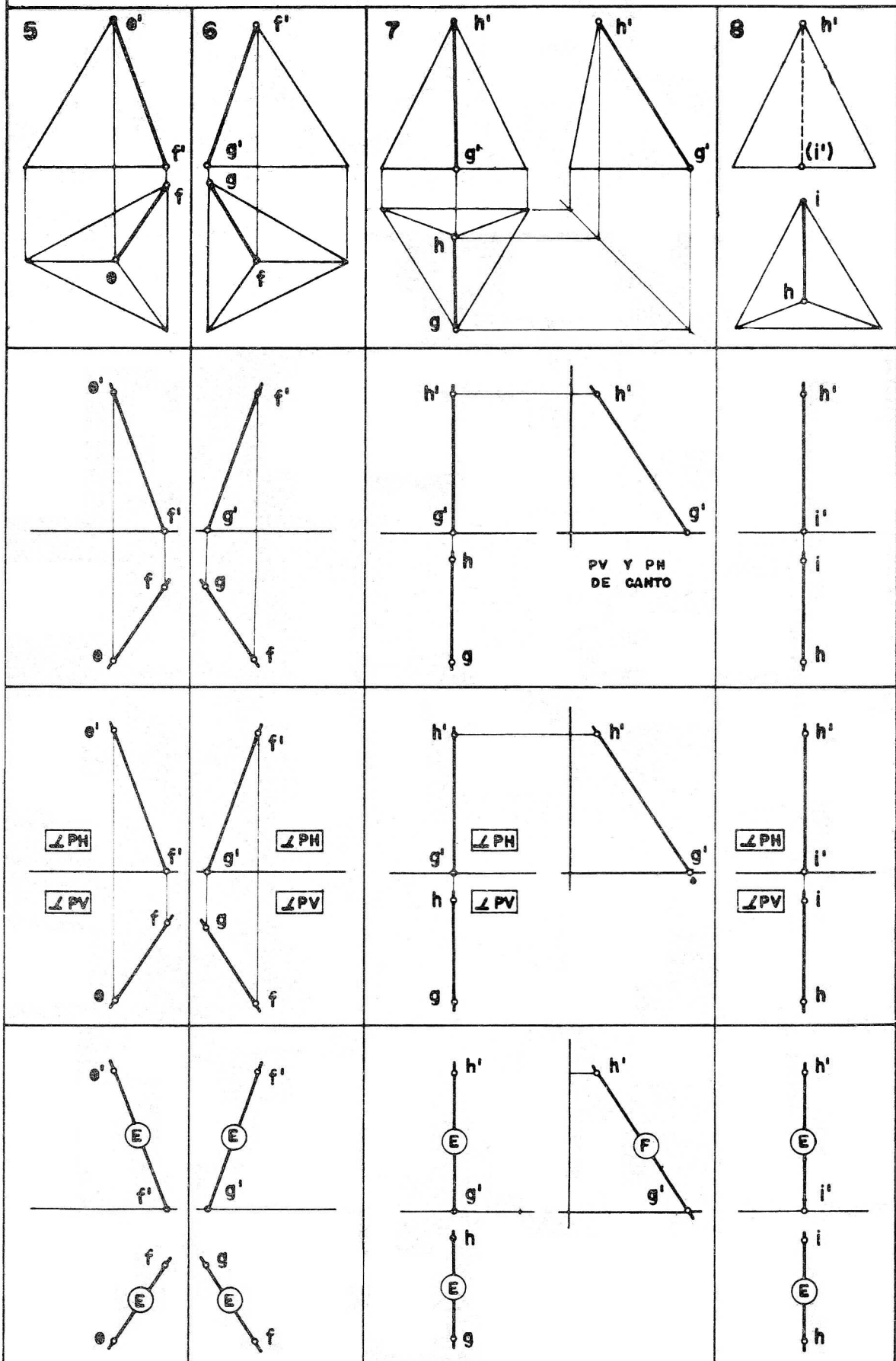
2.4.3 ARISTAS Y RECTAS HORIZONTALES

REPRESENTACION ARISTAS HORIZONTALES	1				2				3				4				
	2				3				4								
ABSTRACCION RECTAS HORIZONTALES																	
INTERPRETACION	POSICION RELATIVA CON RESPECTO A LOS PLANOS DE PROYECCION				POSICION RELATIVA CON RESPECTO A LOS PLANOS DE PROYECCION				POSICION RELATIVA CON RESPECTO A LOS PLANOS DE PROYECCION				POSICION RELATIVA CON RESPECTO A LOS PLANOS DE PROYECCION				
PERCEPCION MODO DE PERCIBIR LA RECTA EN CADA PROYECCION																	

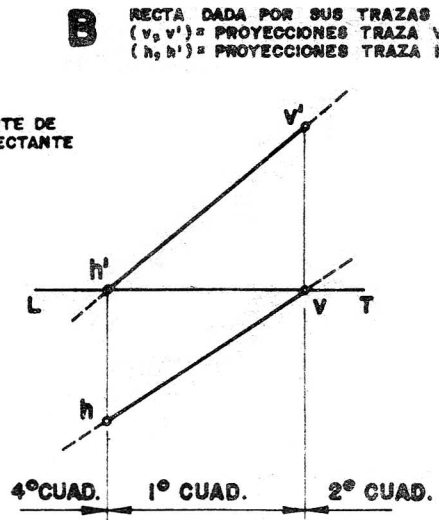
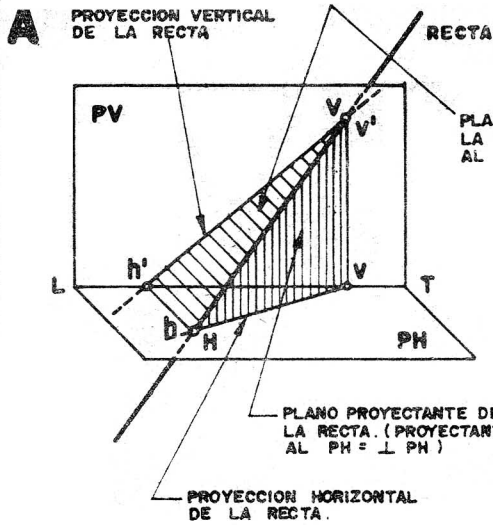
2. 4. 3 ARISTAS Y RECTAS INCLINADAS

D REPRESENTACION ARISTAS INCLINADAS	1	2	3	4
M ABSTRACCION RECTAS INCLINADAS				
T POSICION RELATIVA CON RESPECTO A LOS PLANOS DE PROYECCION				
I INTERPRETACION PERCEPCION MODO DE PERCIBIR LA RECTA EN CADA PROYECCION				

2.4.3 ARISTAS Y RECTAS INCLINADAS (Cont.)

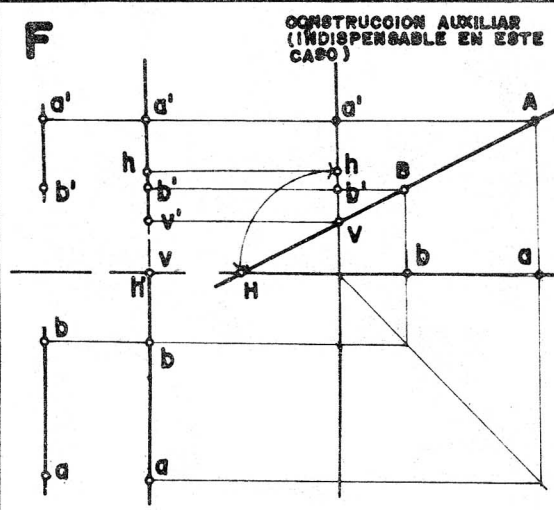
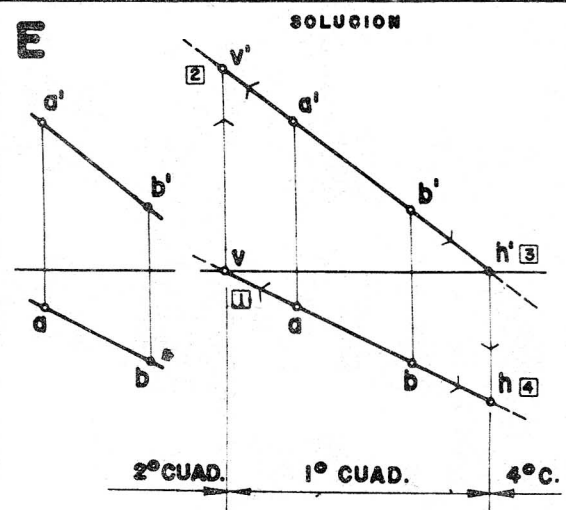
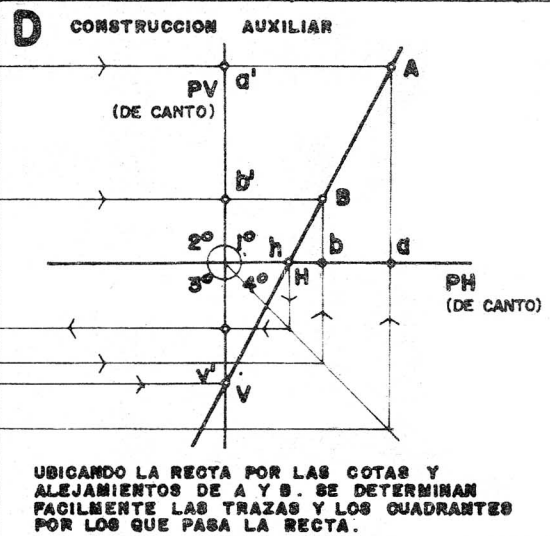
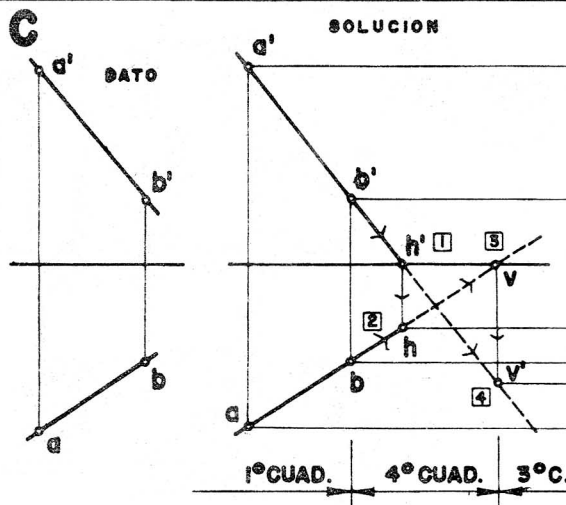


2.4.6 TRAZAS DE UNA RECTA INCLINADA

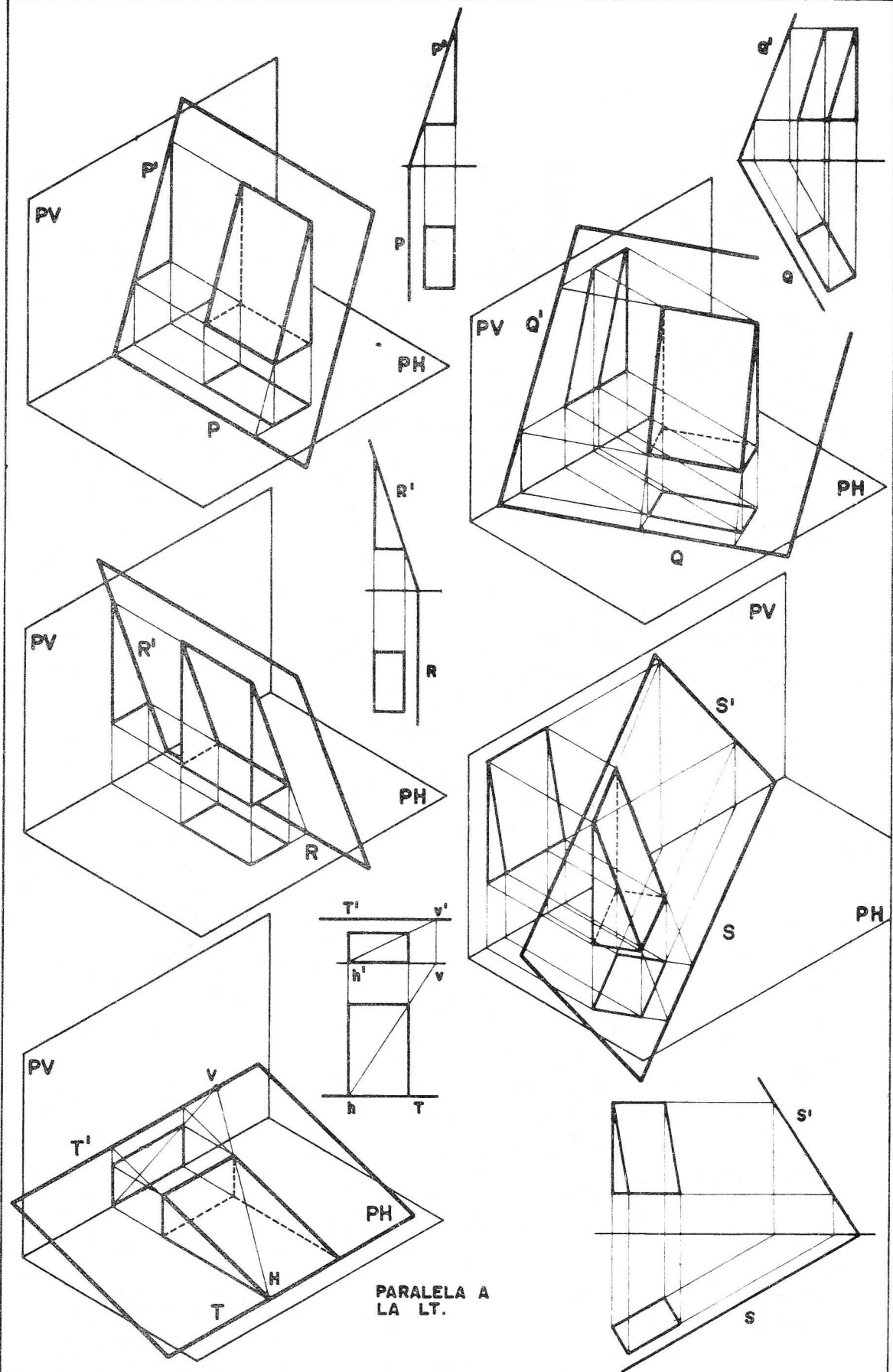


EJERCICIOS RESUELTOS: DETERMINAR LAS TRAZAS DE RECTAS DADAS POR SUS DOS PROYECCIONES. DETERMINAR LOS CUADRANTES POR LOS CUALES PASAN LAS RECTAS.

acetato

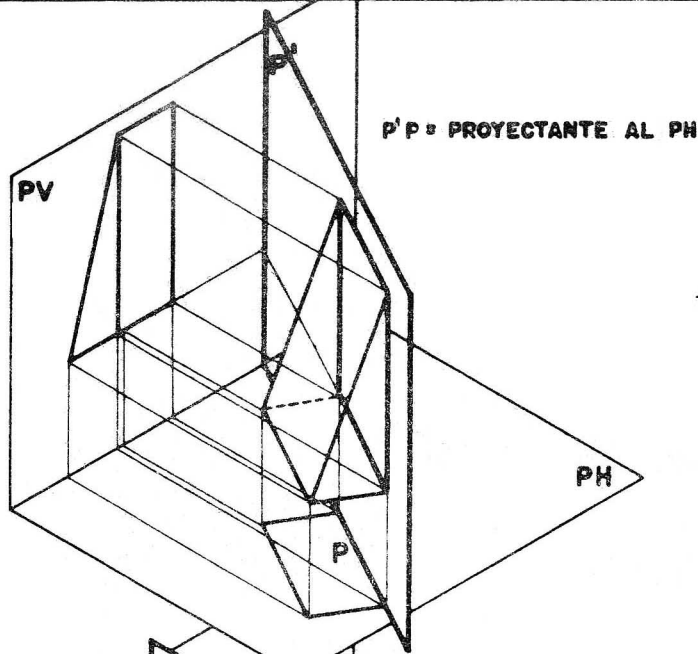


2.5.5 PLANOS INCLINADOS.- POSICIONES CON RESPECTO AL PV Y AL PH.

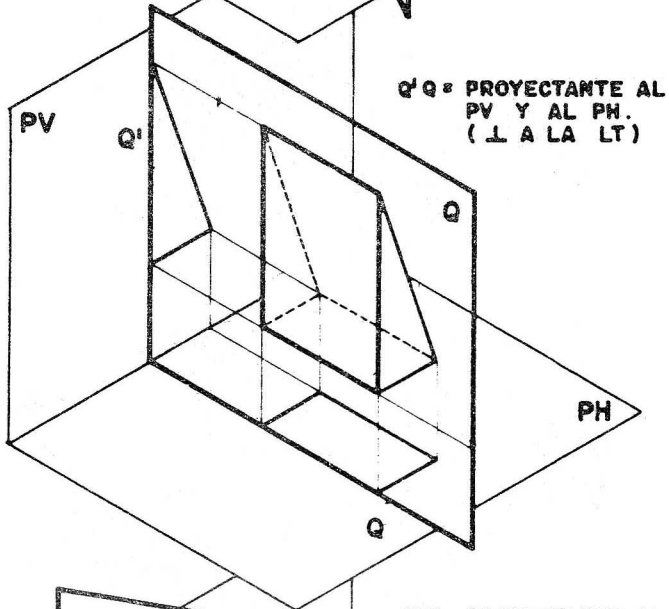
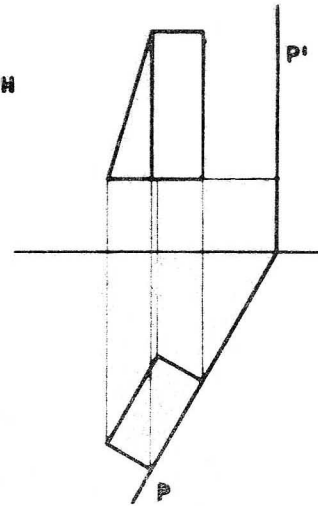


PARALELA A LA LT.

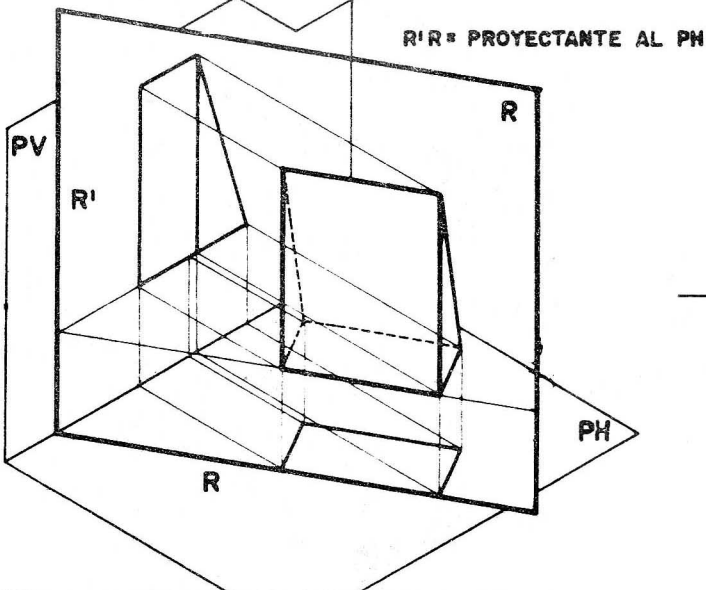
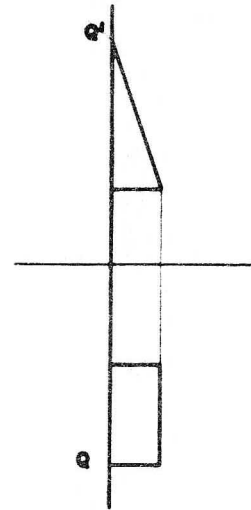
2.5.6 PLANOS VERTICALES .- PROYECTANTES



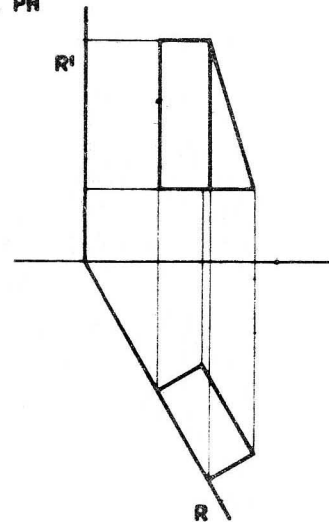
$P'P$ = PROYECTANTE AL PH



$Q'Q$ = PROYECTANTE AL PV Y AL PH.
(\perp A LA LT)

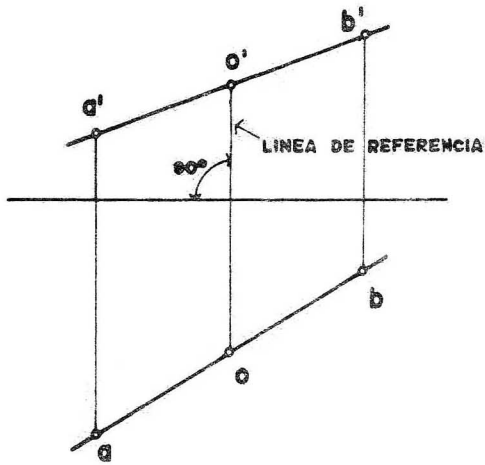


$R'R$ = PROYECTANTE AL PH

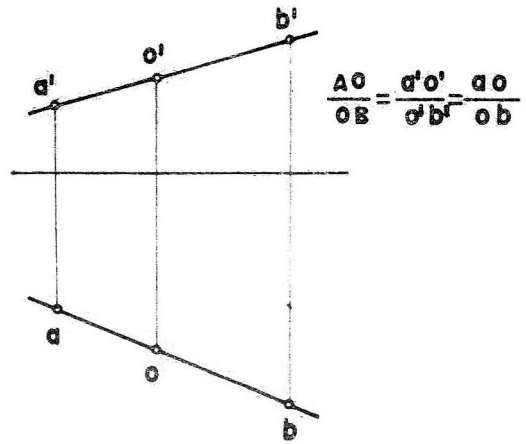


3 RELACIONES ENTRE PUNTO, RECTA Y PLANO

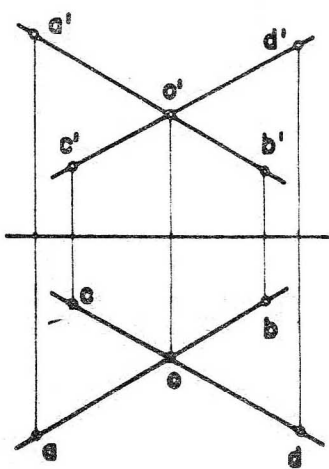
A PUNTO SITUADO EN UNA RECTA



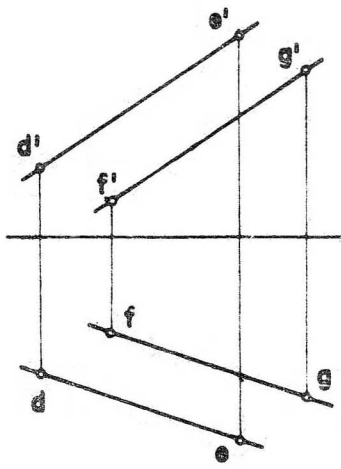
B RELACION ENTRE SEGMENTOS



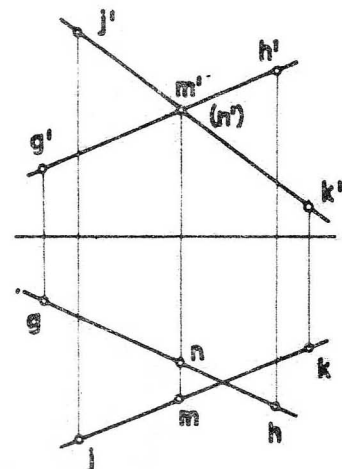
C RELACIONES ENTRE DOS RECTAS



1º - RECTAS QUE SE CORTAN

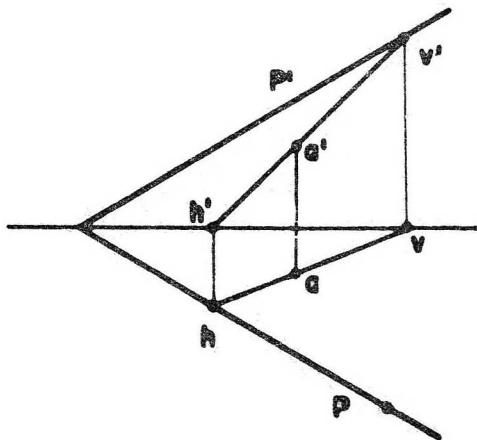


2º - RECTAS PARALELAS

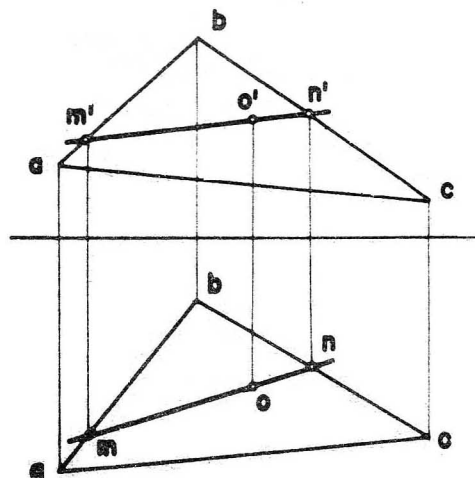


3º - RECTAS QUE SE CRUZAN

D RECTA CONTENIDA EN UN PLANO DADO POR SUS TRAZAS.

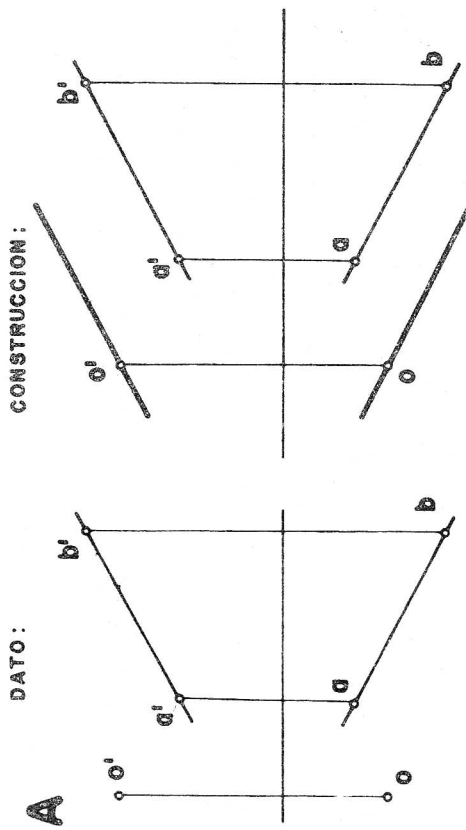


E RECTA CONTENIDA EN EL PLANO DE UNA FIGURA.

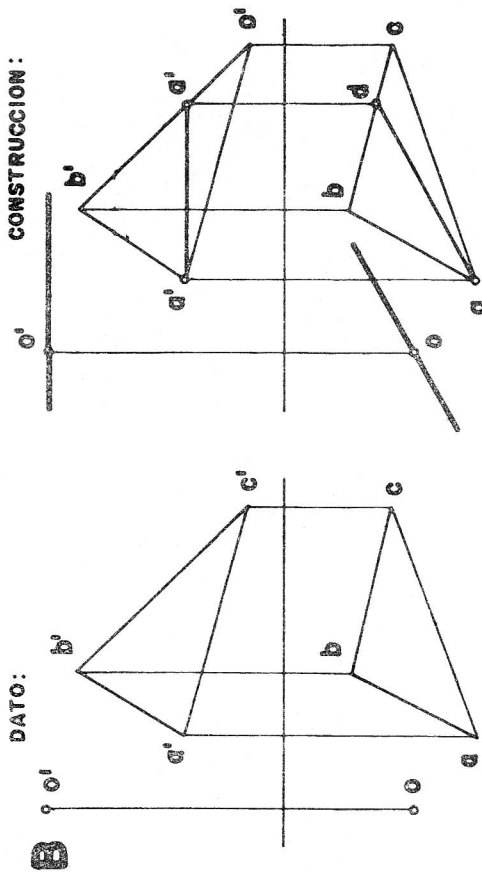


3.4.3 PARALELISMO.- PROBLEMAS FUNDAMENTALES.

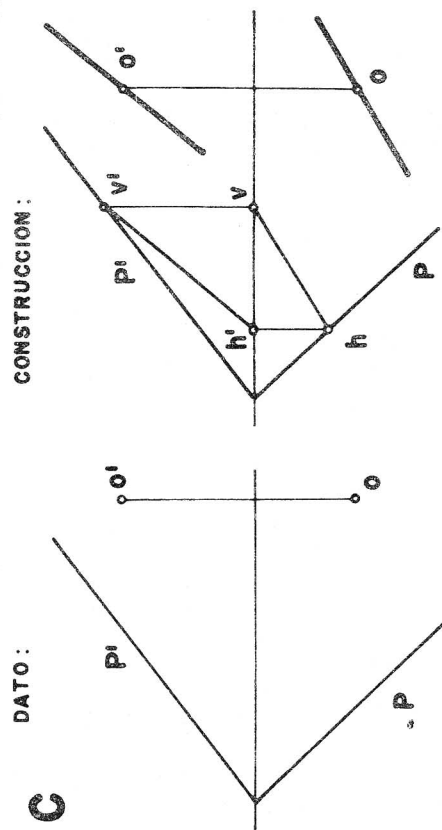
POR UN PUNTO, DADO, TRAZAR UNA RECTA PARALELA A OTRA DADA.



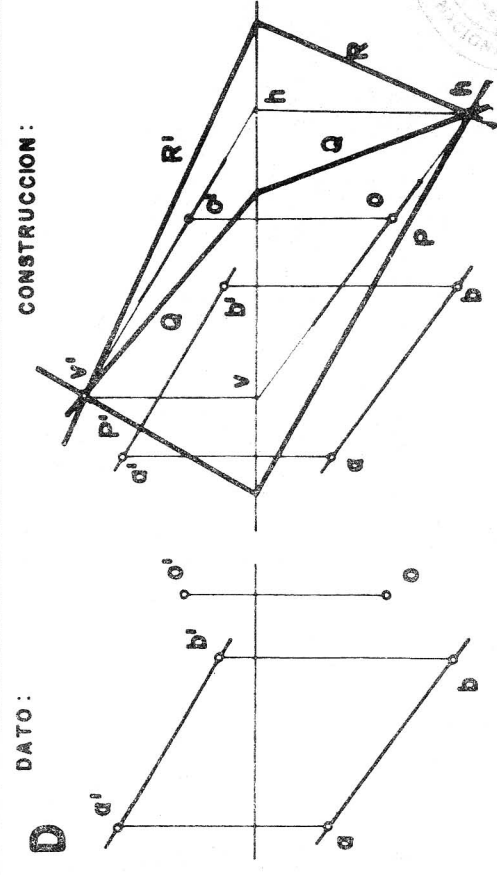
POR UN PUNTO DADO, TRAZAR UNA PARALELA A UNA GENERATRIZ HORIZONTAL DEL PLANO.



POR UN PUNTO DADO TRAZAR UNA RECTA PARALELA A UN PLANO DADO POR SUS TRAZAS.



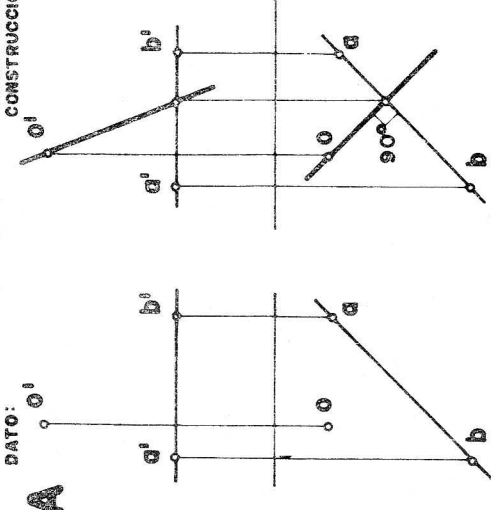
POR UN PUNTO DADO TRAZAR UN PLANO PARALELO A UNA RECTA DADA.



3.5.3 PERPENDICULARIDAD.- PROBLEMAS FUNDAMENTALES.

A

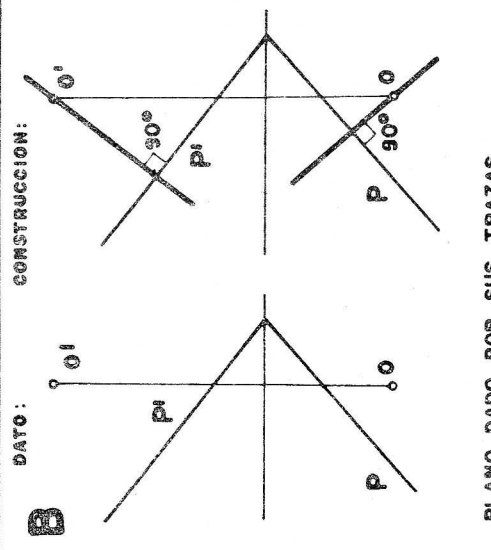
FOR UN PUNTO DADO TRAZAR UNA RECTA \perp A OTRA DADA.

DATO: 

CONSTRUCCION:

B

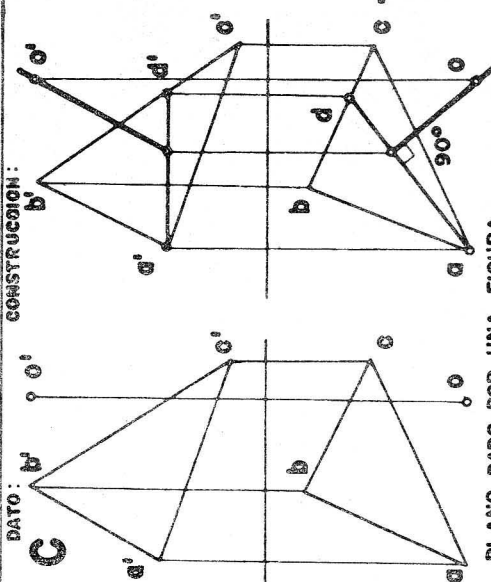
FOR UN PUNTO DADO TRAZAR UNA RECTA PERPENDICULAR (\perp) A UN PLANO DADO

DATO: 

CONSTRUCCION:

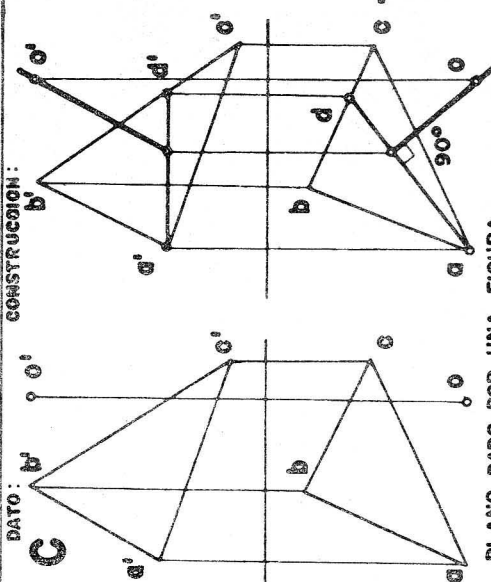
C

PLANO DADO POR SUS TRAZAS

DATO: 

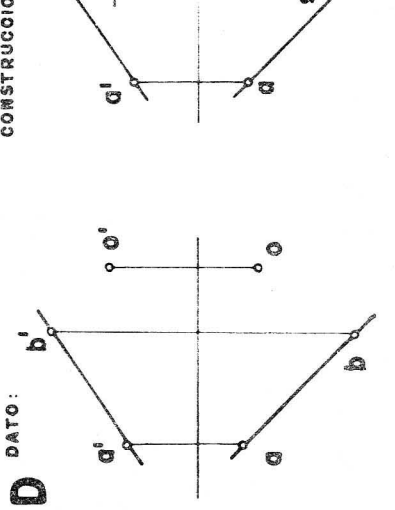
CONSTRUCCION:

PLANO DADO POR UNA FIGURA



D

FOR UN PUNTO DADO O. TRAZAR UN PLANO P-P' PERPENDICULAR A UNA RECTA AB.

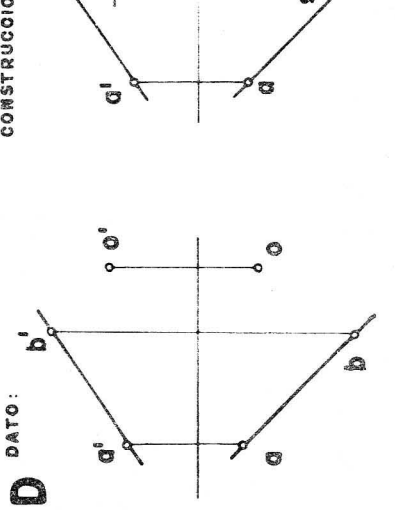
DATO: 

CONSTRUCCION:

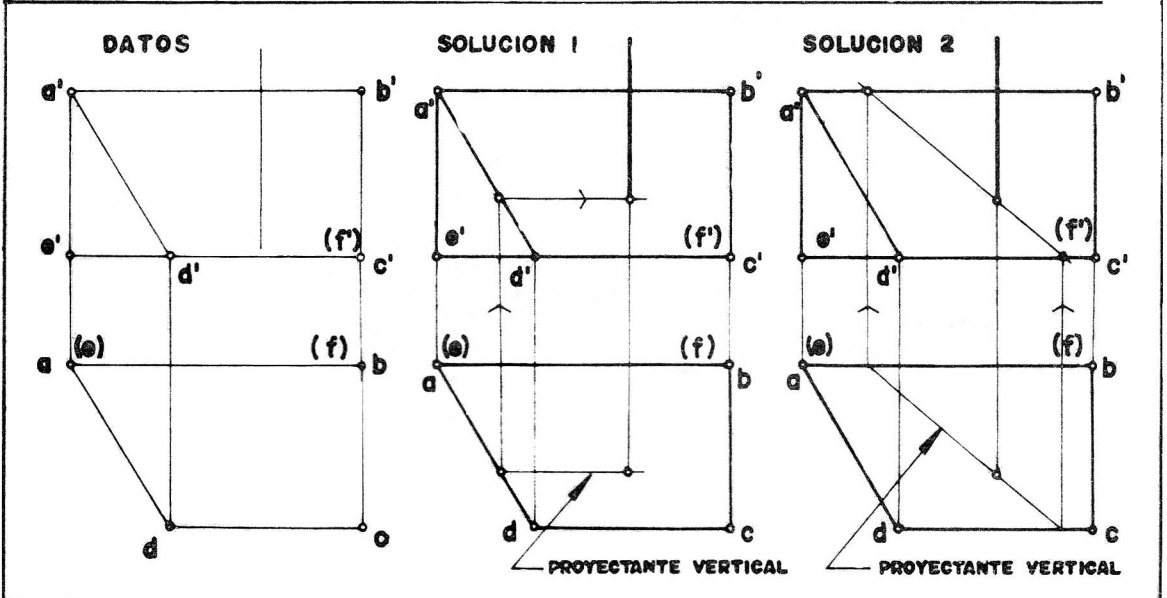
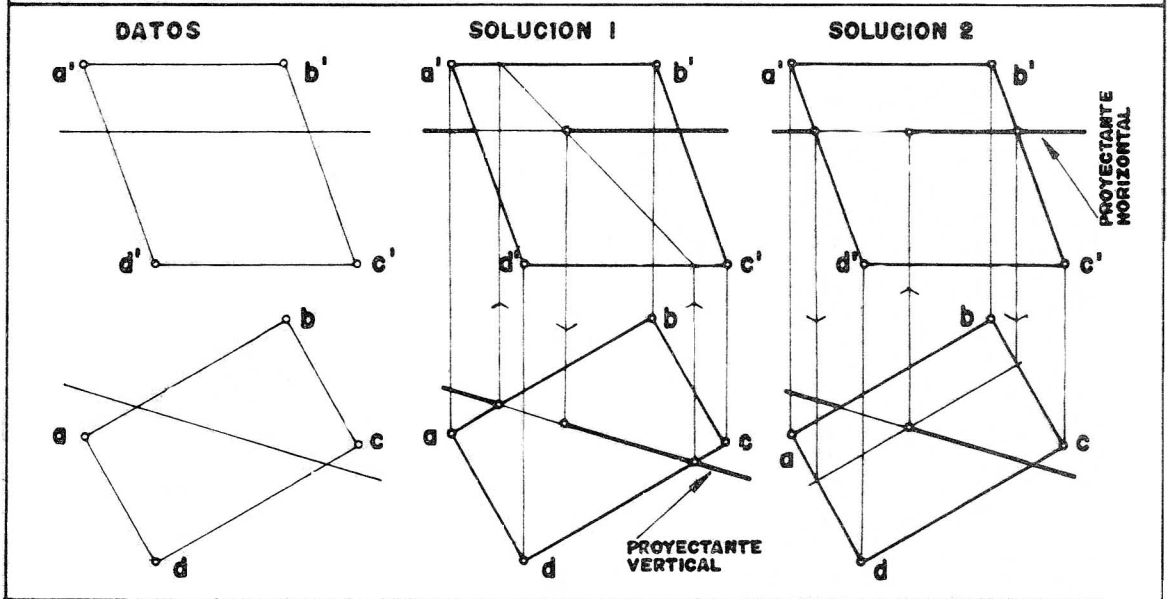
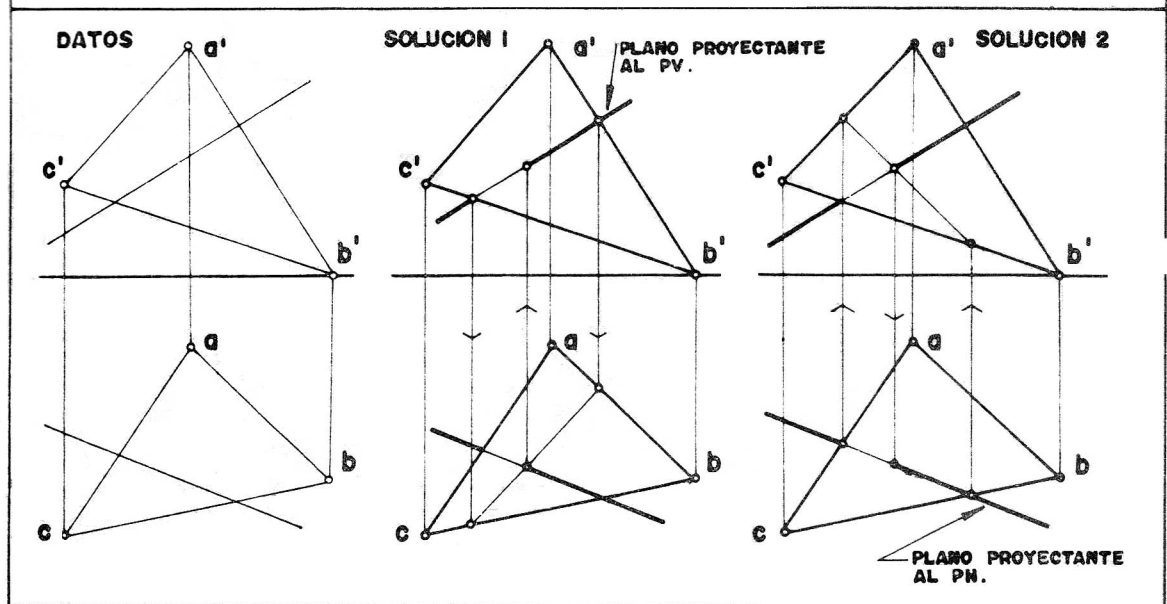
1º- POR EL PUNTO oo' SE TRAZA UNA GENERATRIZ HORIZONTAL DEL PLANO $P \perp$ A LA PROYECCION ab Y SE DETERMINA SU TRAZA vv'

2º- LA TRAZA P DEBE CONTENER av Y DEBE SER PERPENDICULAR A LA PROYECCION $a'b'$.

3º- LA TRAZA P' DEBE SER PERPENDICULAR A ab Y PARALELA A ov .



3.6.5 INTERSECCION DE UNA RECTA CON UN PLANO INCLINADO

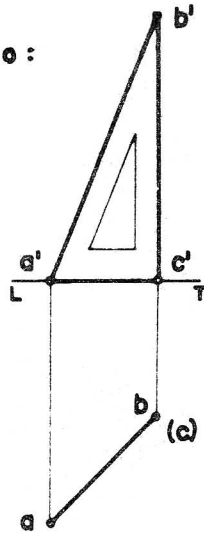


4.2 TRANSFORMACIONES. - CAMBIO DE PLANOS

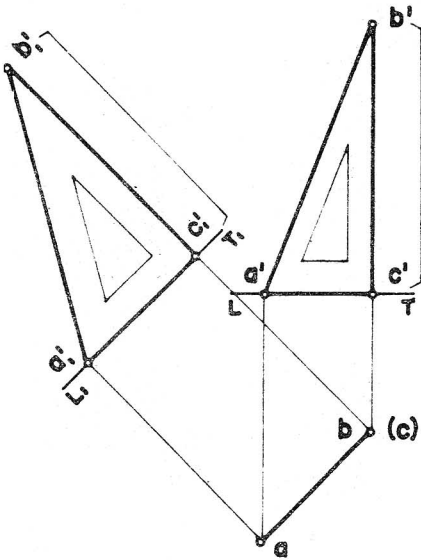
A PROBLEMA RESUELTO

DETERMINAR LA FORMA REAL DEL TRIANGULO ABC.

DATO:

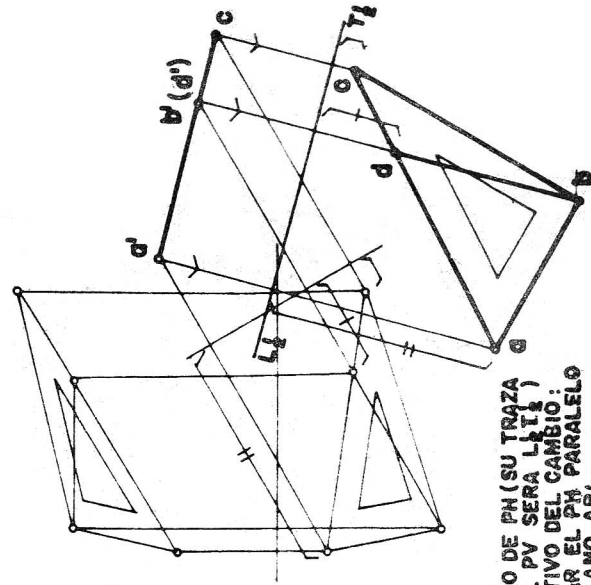
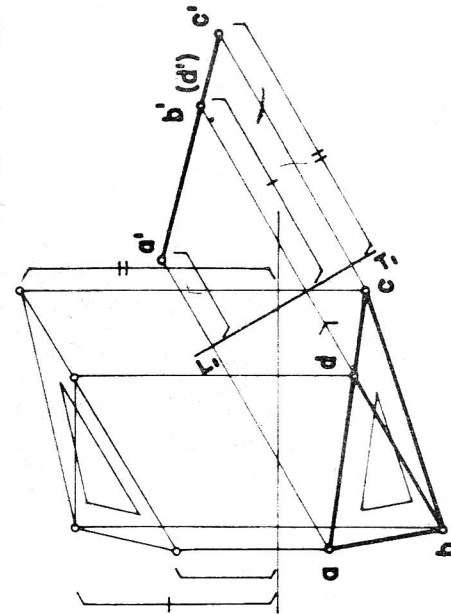
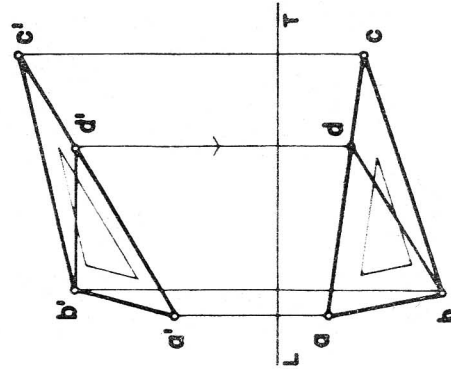


CONSTRUCCION:



EL PLANO DEL TRIANGULO ABC APARECE DE CANTO EN PROYECCION HORIZONTAL. LUEGO, PARA DETERMINAR SU FORMA REAL BASTARA UN CAMBIO DE PV, SITUANDOLO PARALELO AL PLANO DEL TRIANGULO. ADVERTASE QUE AL HACER UN CAMBIO DE PV LAS COTAS DE LOS PUNTOS SE MANTIENEN IGUALES DESPUES DEL CAMBIO.

B PROBLEMA RESUELTO. - DETERMINAR LA FORMA REAL DEL TRIANGULO ABC.



PROCEDIMIENTO:

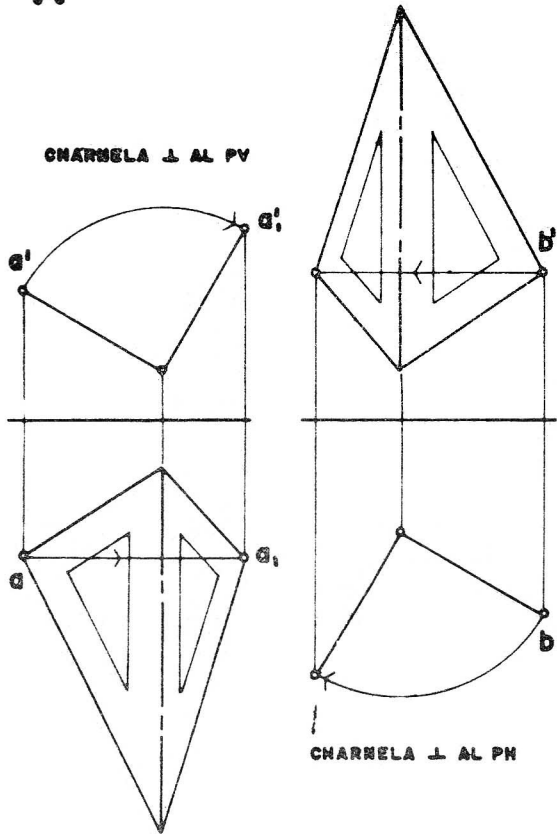
1° - TRAZAR UNA GENERATRIZ HORIZONTAL DEL PLANO.

2° - CAMBIO DE PV (SU TRAZA EN EL PH DA LUGAR A LA L.T.). OBJETIVO DEL CAMBIO: SITUAR LA GENERATRIZ BD DE PUNTA. ∴ EL PLANO ABC QUEDARA DE CANTO.

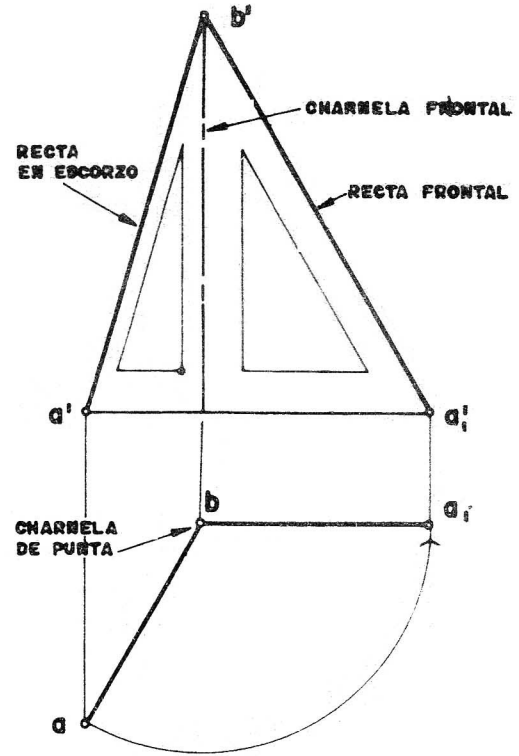
3° - CAMBIO DE PH (SU TRAZA EN EL PV SERA L.T.). OBJETIVO DEL CAMBIO: SITUAR EL PH PARALELO AL PLANO ABC.

4.3-4.4 TRANSFORMACIONES.- GIRO Y ABATIMIENTO

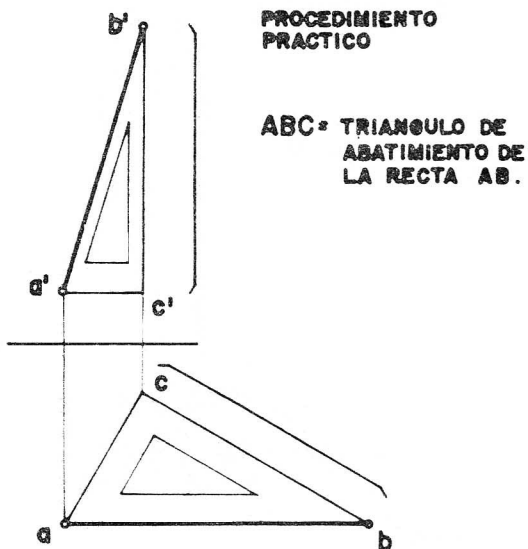
A GIRO DE UN PUNTO



B GIRO DE UNA RECTA

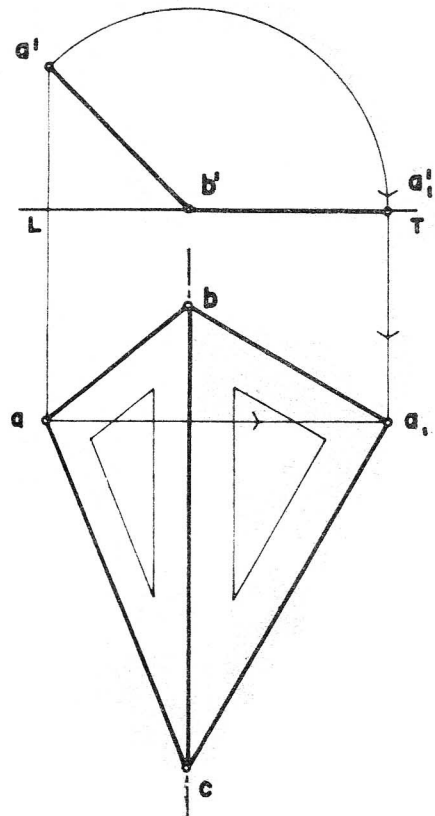


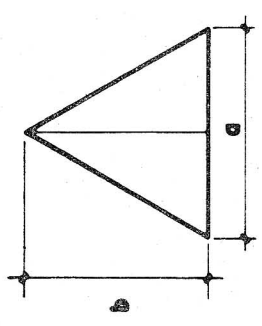
C ABATIMIENTO DE UNA RECTA



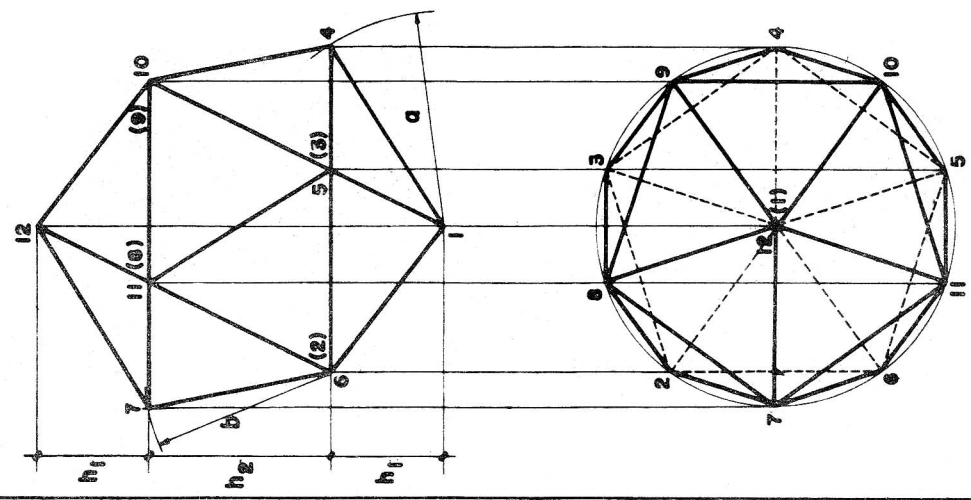
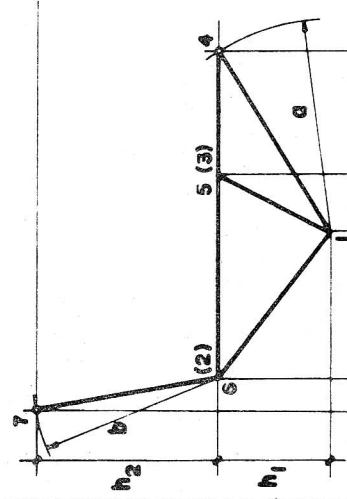
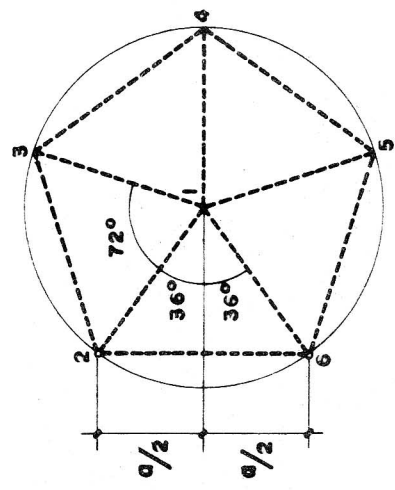
ELEMENTOS DEL TRIANGULO DE ABATIMIENTO
 AB = NIPOTENUSA = LA RECTA
 AC = CATETO = PROYECCION HORIZONTAL DE LA RECTA
 CB = CATETO = DIFERENCIA DE COTAS ENTRE PUNTOS EXTREMOS DE LA RECTA.

D ABATIMIENTO DE UNA FIGURA PLANA





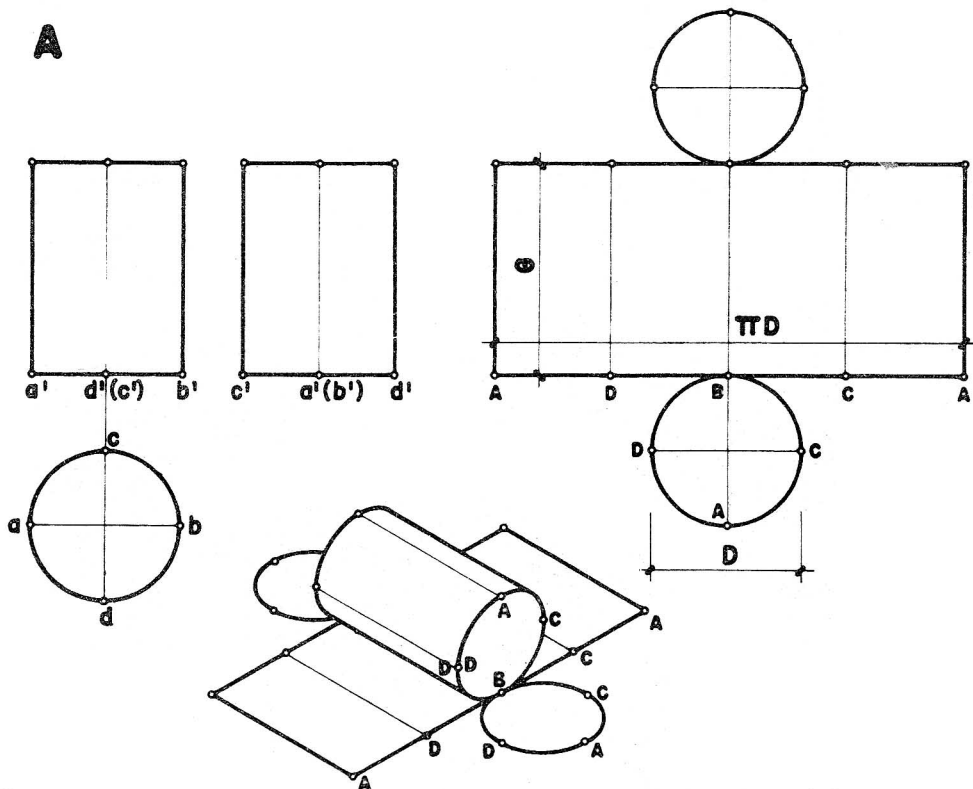
GARA DEL ICOSAEDRO
(FORMA REAL)



5.3 PROYECCIONES ORTOGONALES DEL ICOSAEDRO (CONSTRUCCION)

6.2 CILINDRO.- GENERATRICES DE CONTORNO Y DESARROLLO

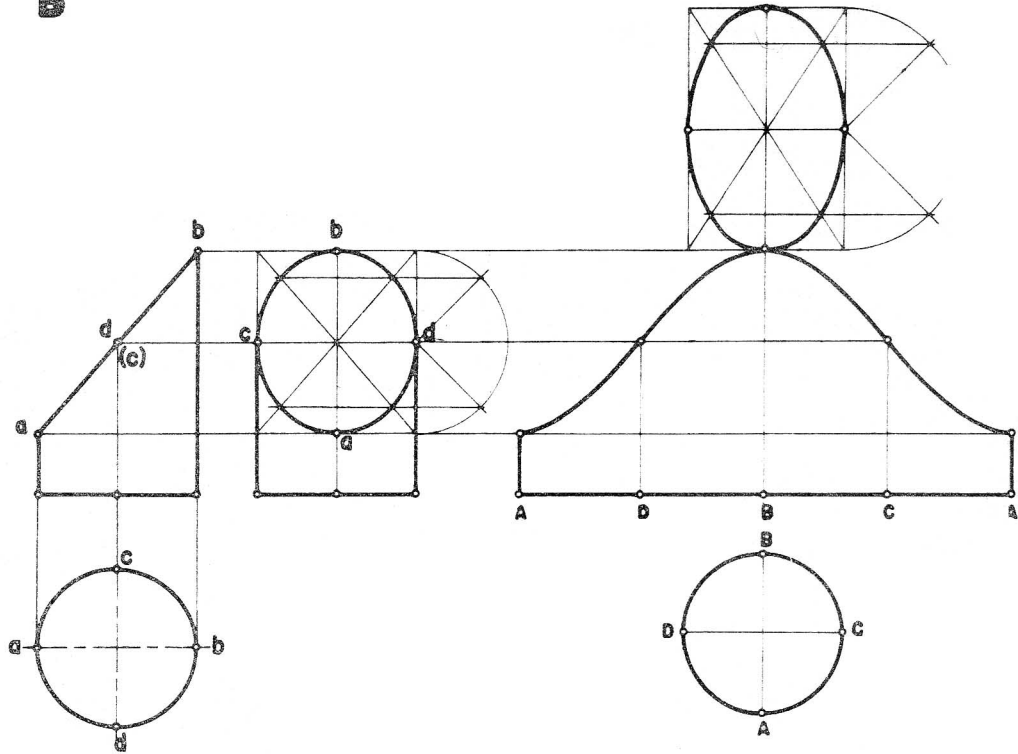
A



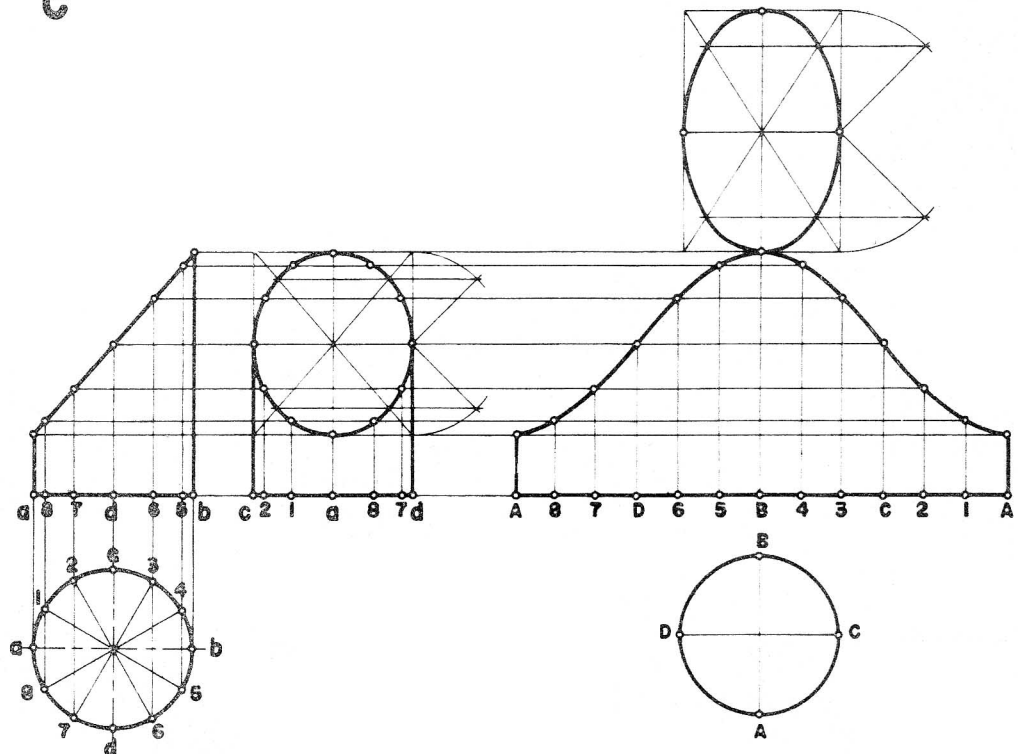
6

6.2 · SECCION ELIPTICA DEL CILINDRO CIRCULAR RECTO. DESARROLLO

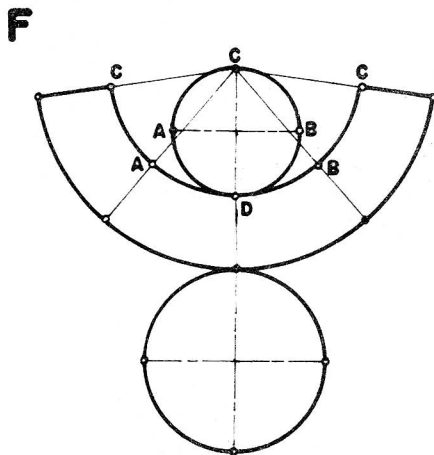
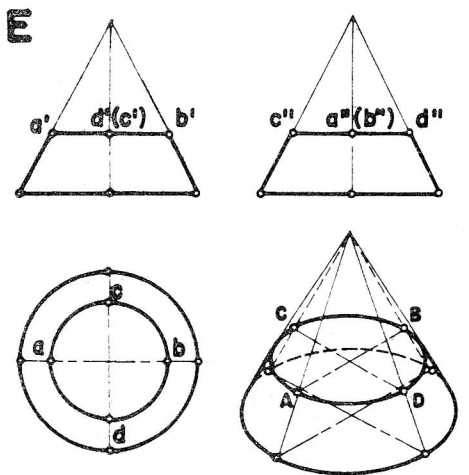
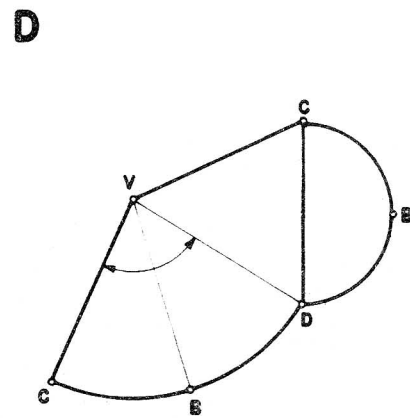
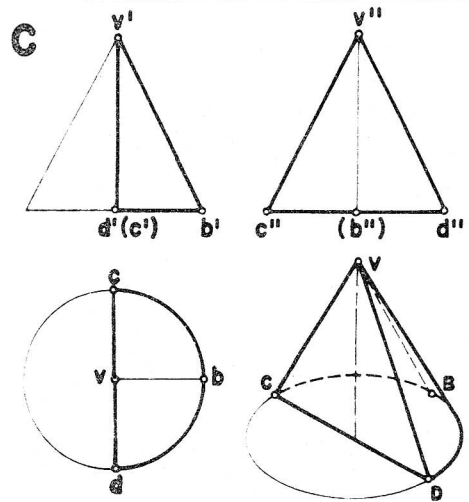
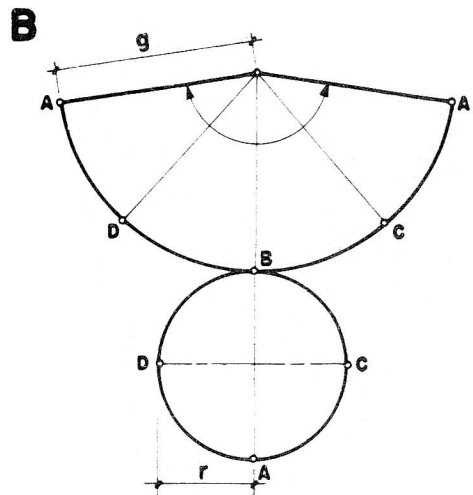
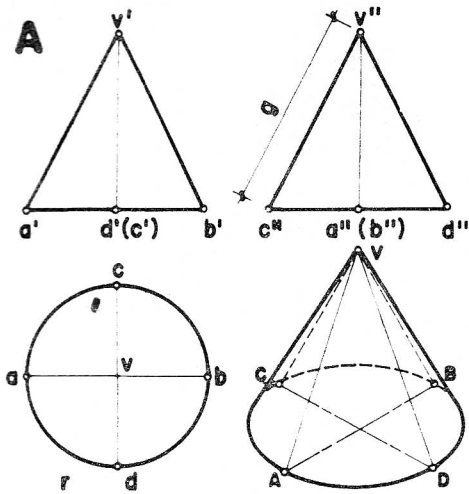
B



C

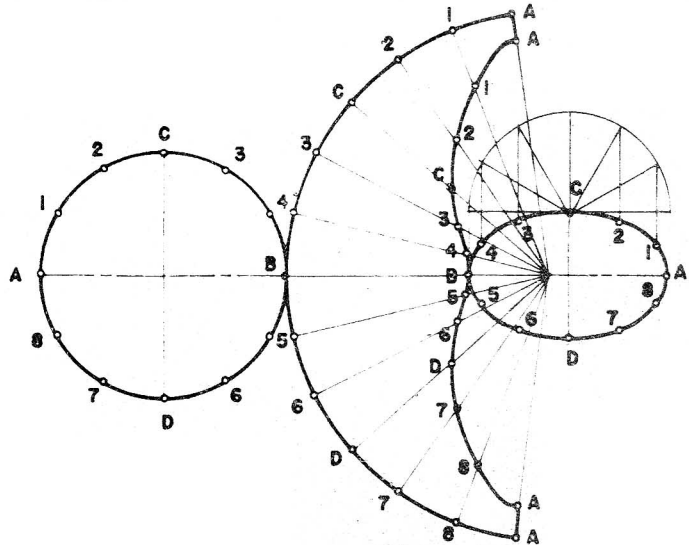
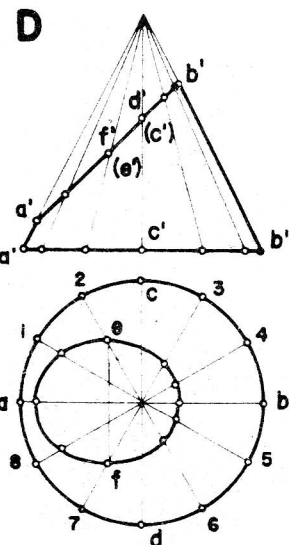
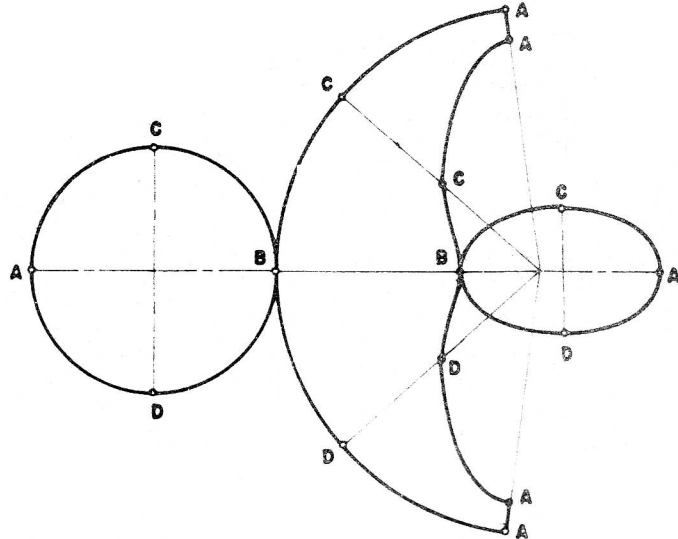
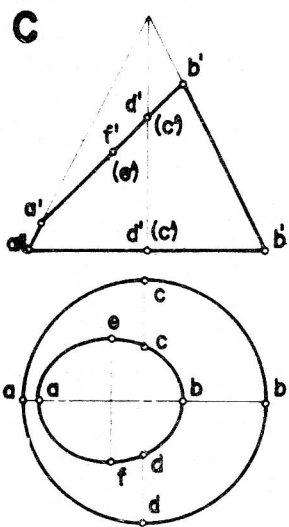
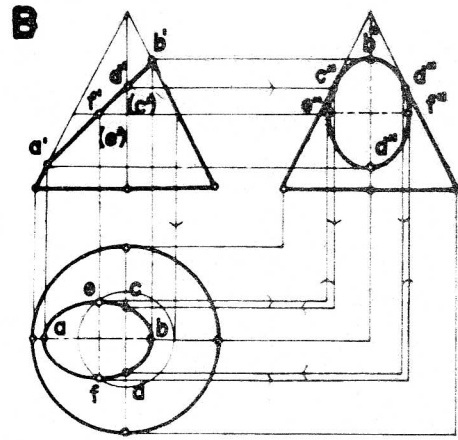
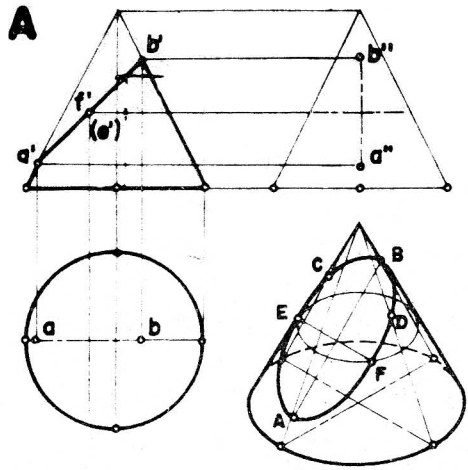


6.3 CONO - GENERATRICES DE CONTORNO Y DESARROLLO

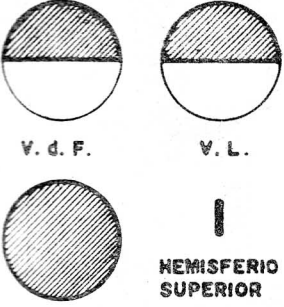
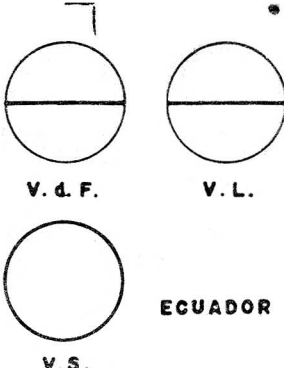
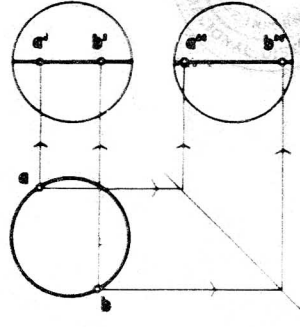
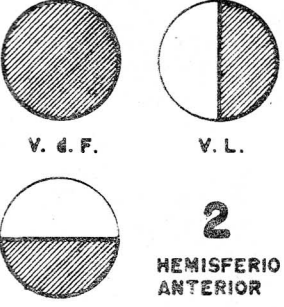
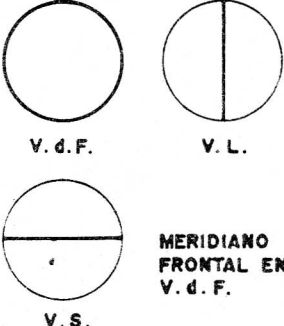
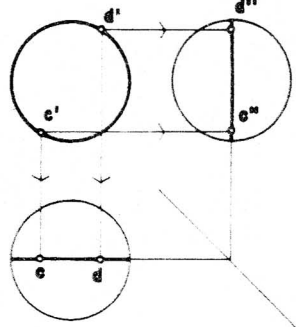
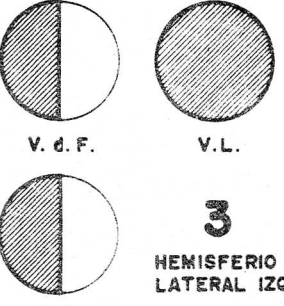
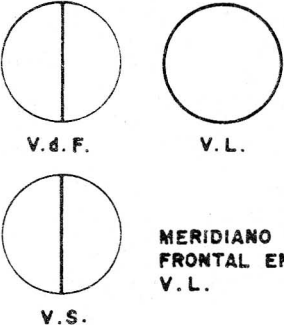
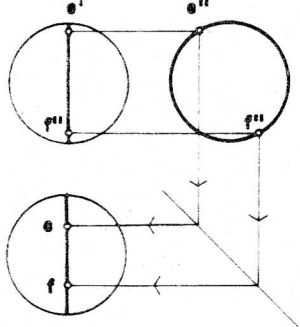


0

6.3 SECCION ELIPTICA DEL CONO CIRCULAR RECTO - DESARROLLO



6.5 ESFERA.- HEMISFERIOS - CIRCUNFERENCIAS BASICAS - PUNTOS .

 <p>V. d. F. V. L.</p> <p>1 HEMISFERIO SUPERIOR</p> <p>V. S.</p>	 <p>V. d. F. V. L.</p> <p>V. S. ECUADOR</p>	
 <p>V. d. F. V. L.</p> <p>2 HEMISFERIO ANTERIOR</p> <p>V. S.</p>	 <p>V. d. F. V. L.</p> <p>V. S. MERIDIANO FRONTAL EN V. d. F.</p>	
 <p>V. d. F. V. L.</p> <p>3 HEMISFERIO LATERAL IZQ.</p> <p>V. S.</p>	 <p>V. d. F. V. L.</p> <p>V. S. MERIDIANO LATERAL EN V. L.</p>	
<p style="text-align: center;">↑</p> <p style="text-align: center;">HEMISFERIOS</p>	<p style="text-align: center;">↑</p> <p style="text-align: center;">GENERATRICES DE CONTOURNO.</p>	<p style="text-align: center;">↑</p> <p style="text-align: center;">PUNTOS SITUADOS EN LAS GENERATRICES DE CONTOURNO DE LA ESFERA.</p>

