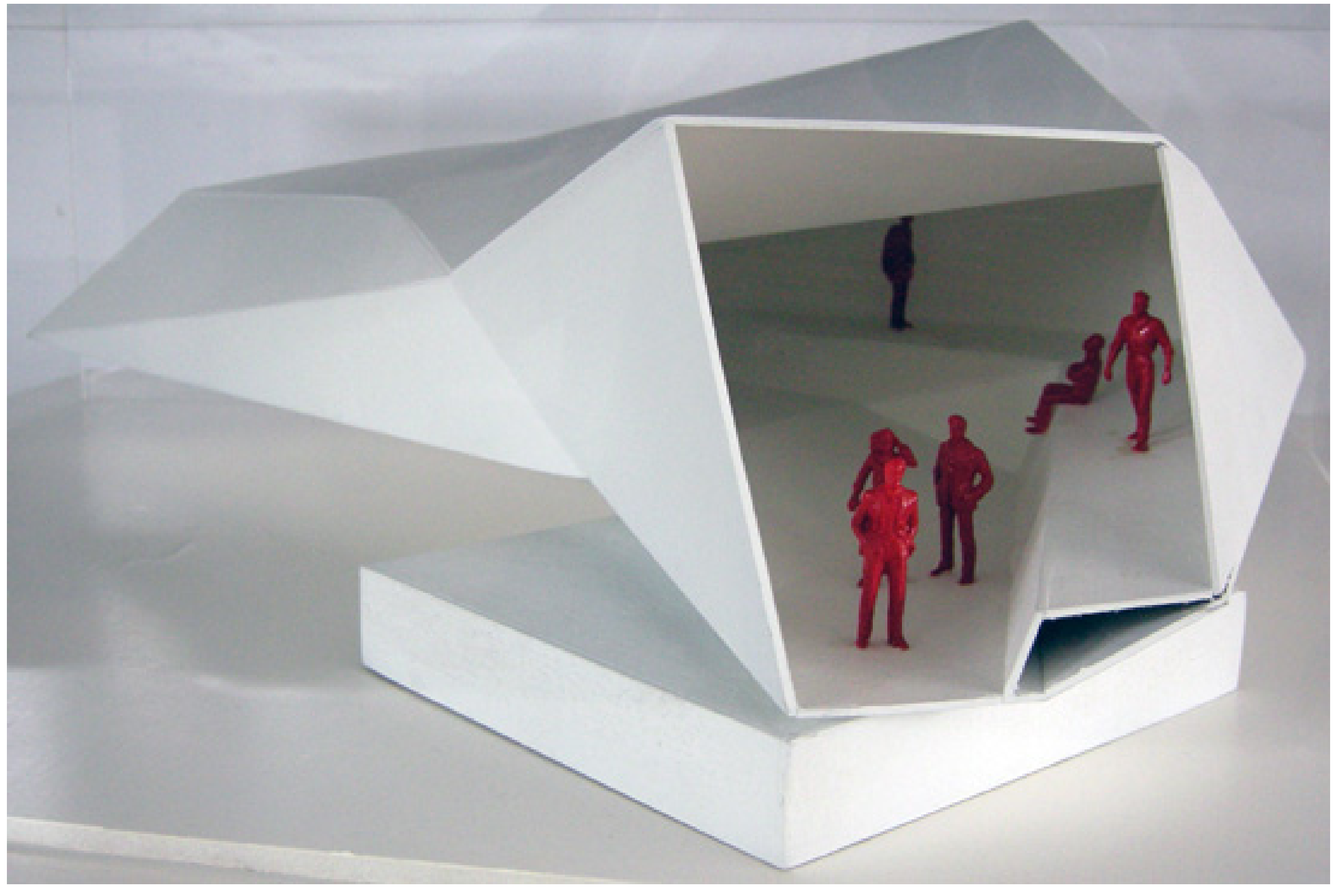
# Planes Planes and Planes

We don’t bend or flex.  We are rigid bodies.

***Casa da Música***
OMA
Porto, Portugal

***Nestlé Chocolate Museum***
Rojkind Arq.
Mexico City

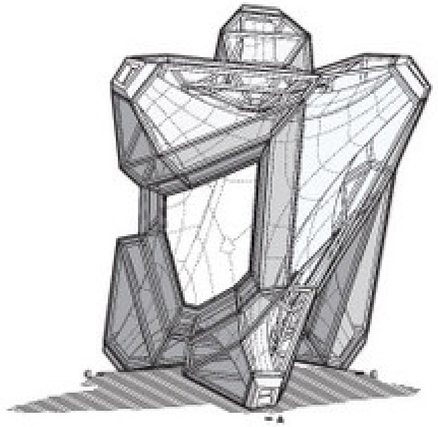


Courtesy of Paúl Rivera. Used with permission.

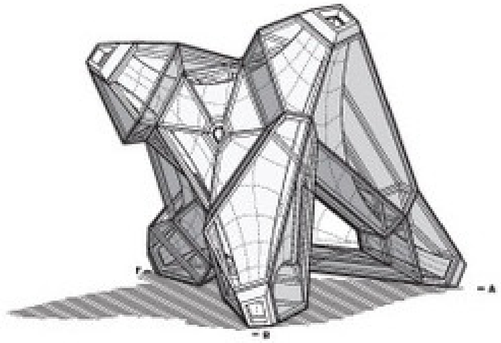
***White Elephant***
Beuro Spectacular / Jimenez Lai

Courtesy of Kamil Krol. Used with permission.

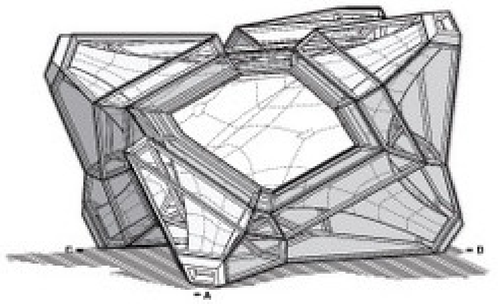
***White Elephant***
Beuro Spectacular / Jimenez Lai



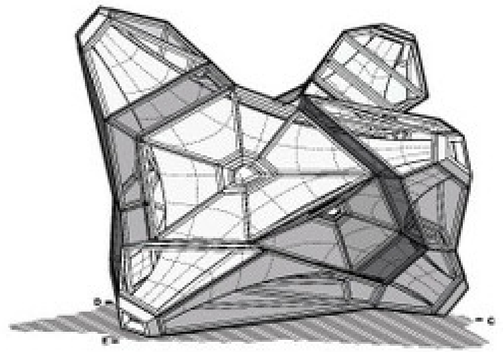
**ABC**



**ABF**



**ACD**



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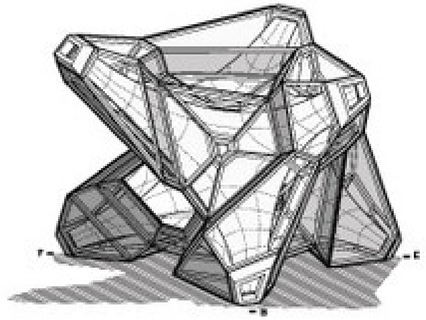
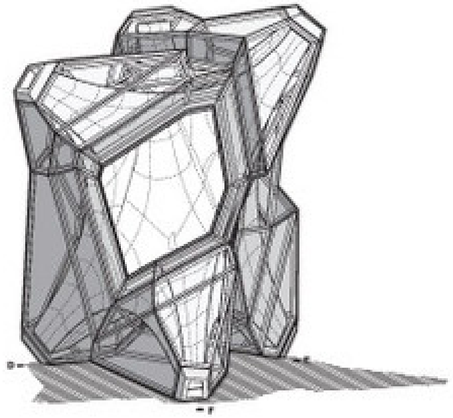


**BEF**



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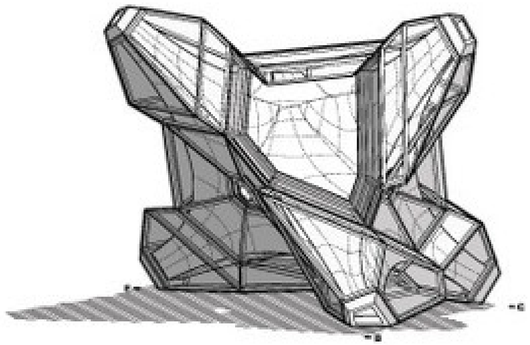
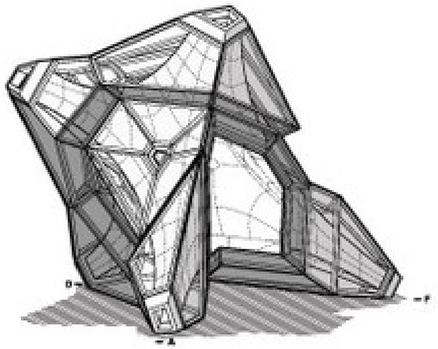


**CBE**



**ADF**

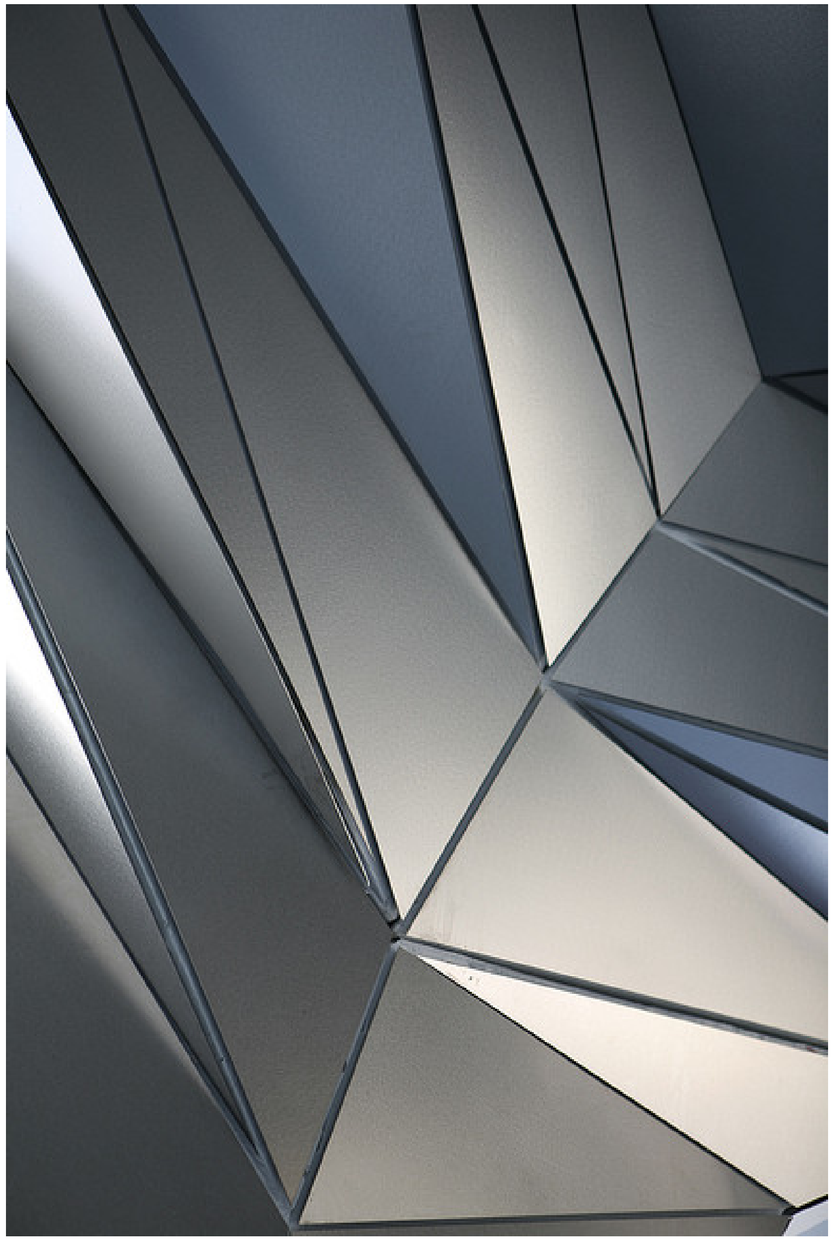
***Seattle Public Library***
OMA
Seattle, Washington


Photograph courtesy of Eric Kornblum on Flickr.

***Helios House***
Office dA
Los Angeles, California


Photograph courtesy of Brandon Shigeta on Flickr.

***Helios House***
Office dA
Los Angeles, California



Photographs (left and right) courtesy of Brandon Shigeta on Flickr.

***Salvador Dali Museum***
HOK
St. Petersburg, Florida

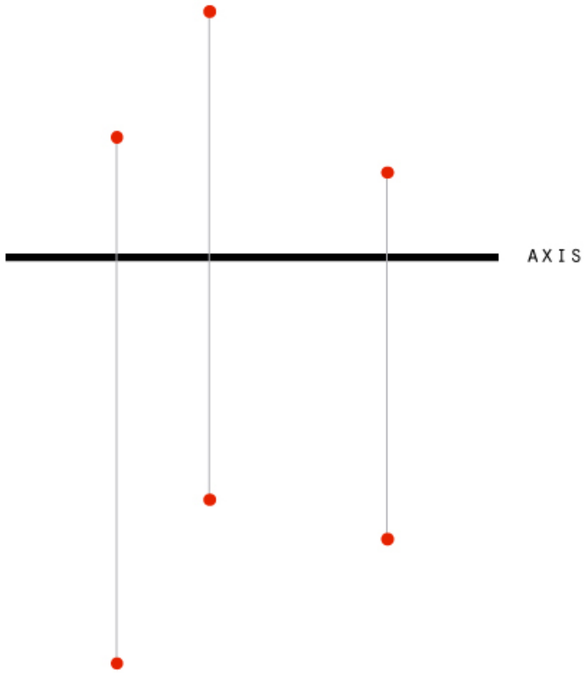
Photograph courtesy of Pinellas County Economic Development on Flickr.

***No 419***
Mashallah Design & Linda Kostowski

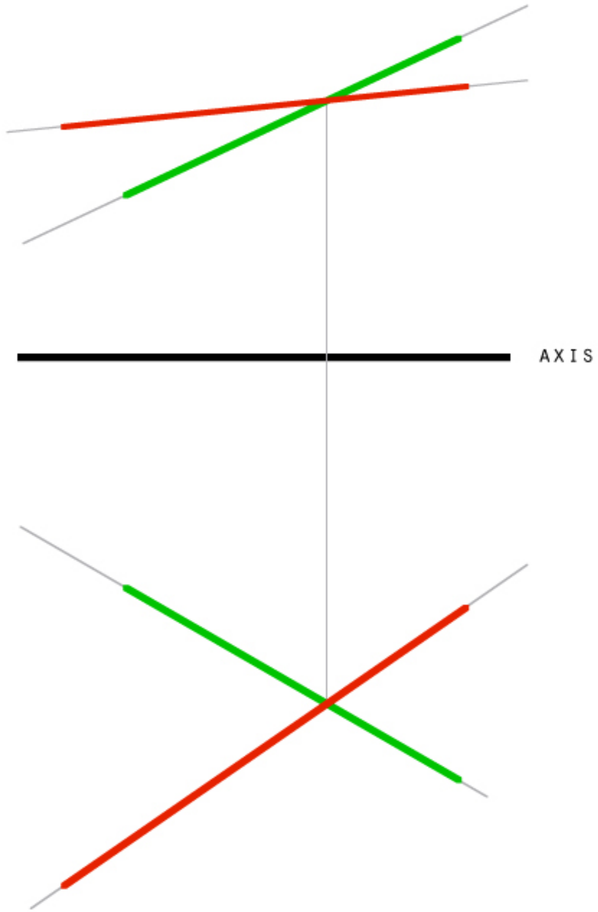
Courtesy of mashallah. Used with permission.

# Points | Lines | Planes

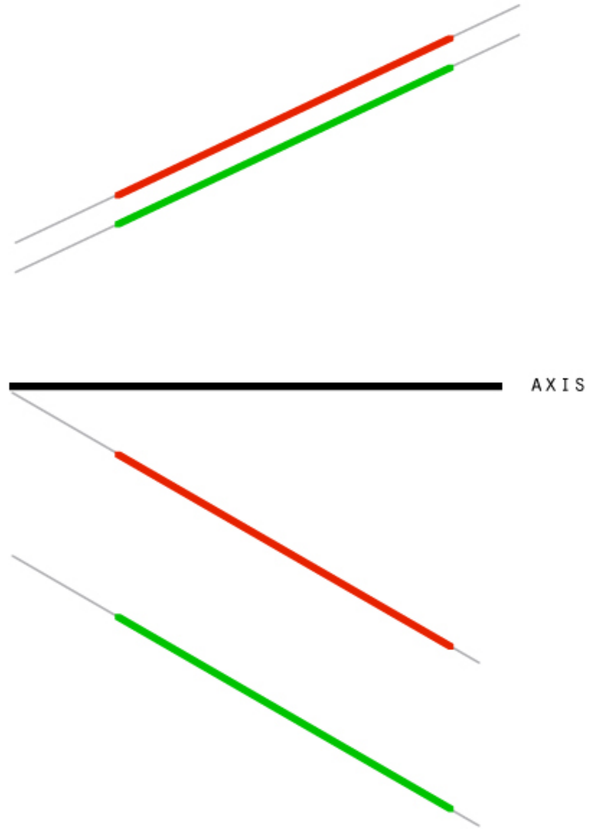
# PLANES
definitions of unique planes




3 NON-COLINEAR POINTS

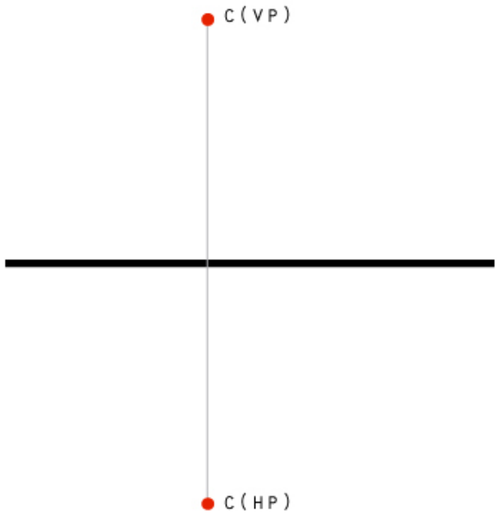



2 CROSSING POINTS

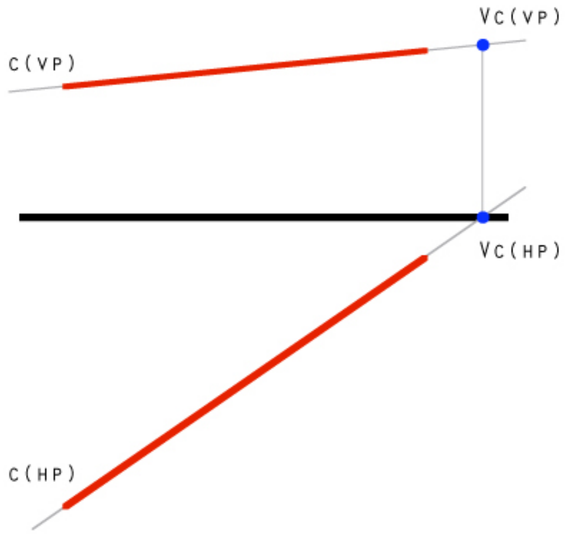



2 PARALLEL LINES

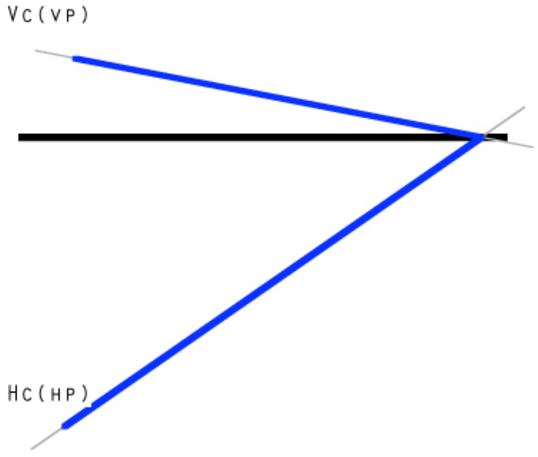
**POINTS / LINES / PLANES**
defined by their projections and traces




POINT

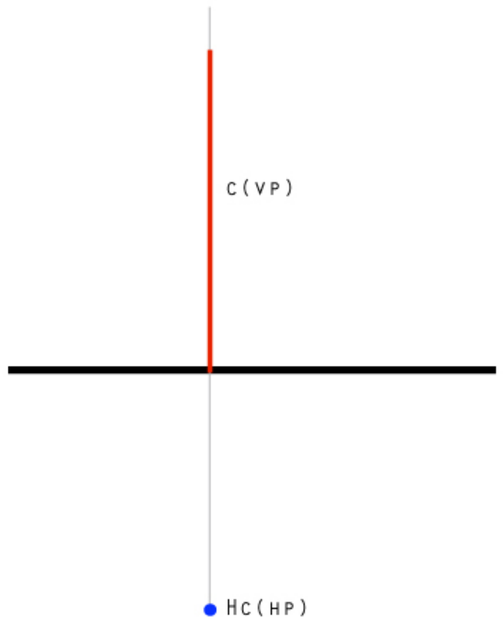



LINE

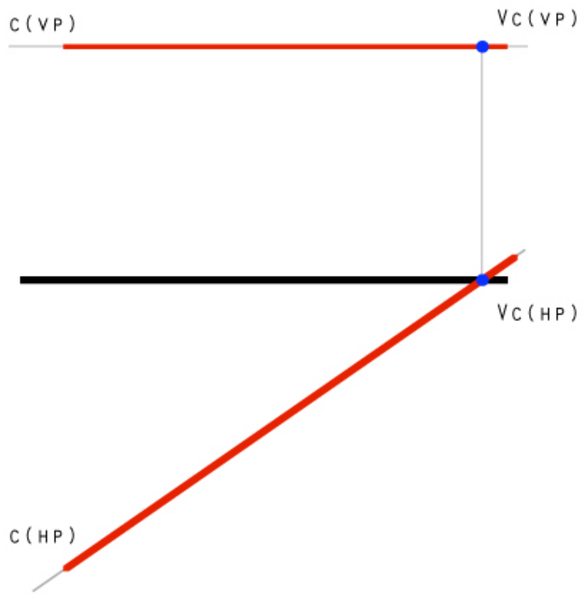



PLANE

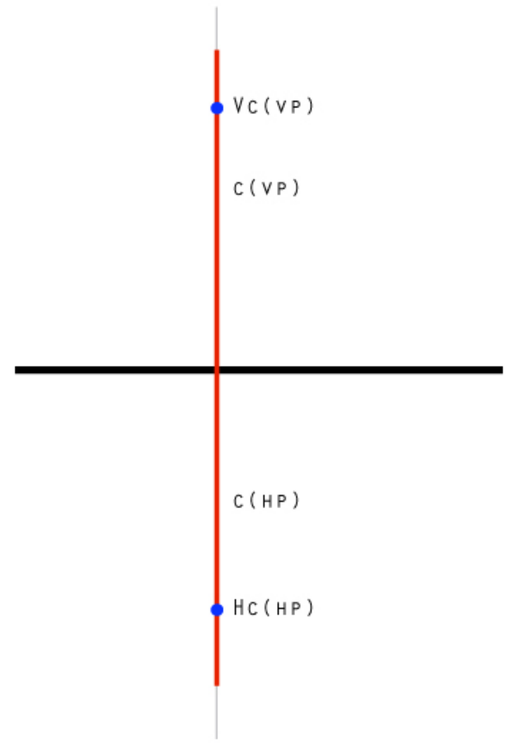
# LINES
special cases of lines and their traces




PLUMB OR NORMAL LINE

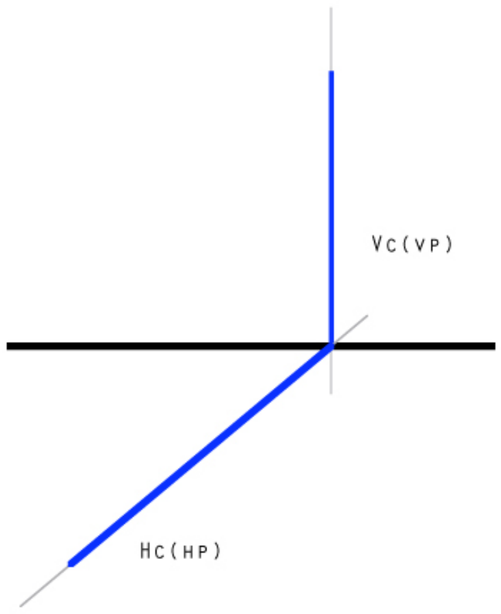



LEVEL OR FRONTAL LINE

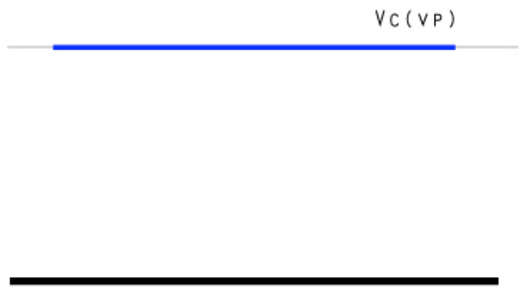



PROFILE LINE

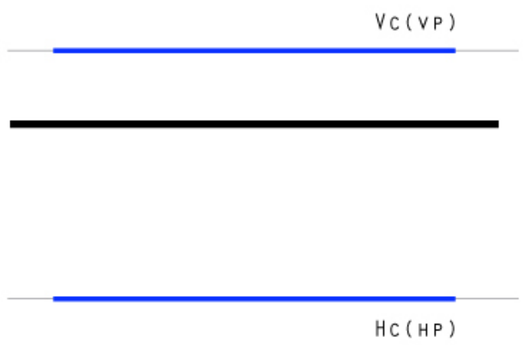
# PLANES
special cases of planes and their traces




PLUMB OR NORMAL LINE

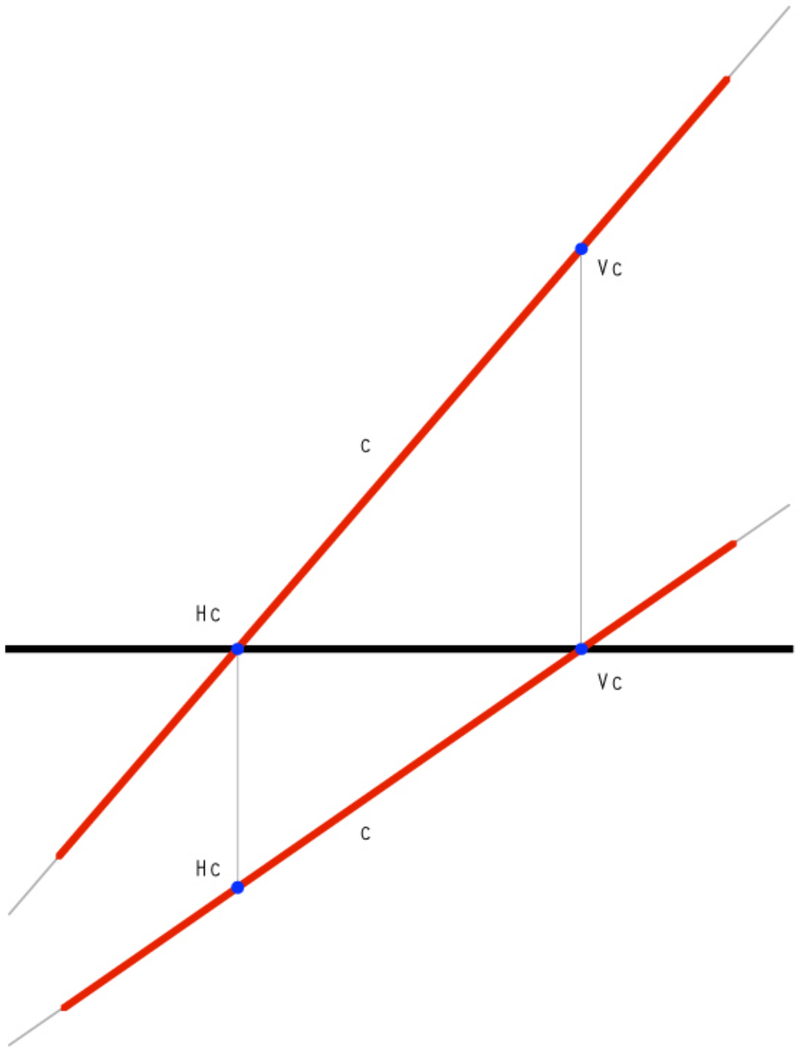



LEVEL OR FRONTAL PLANE

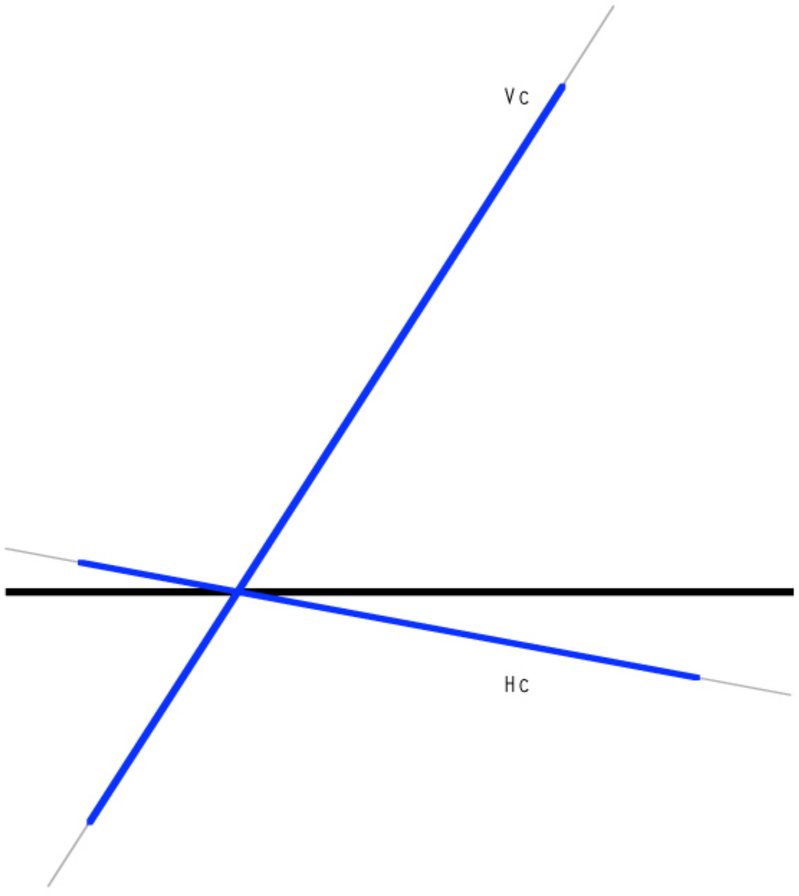



RAMP PLANE

# GENERAL CASES OF LINES AND PLANES

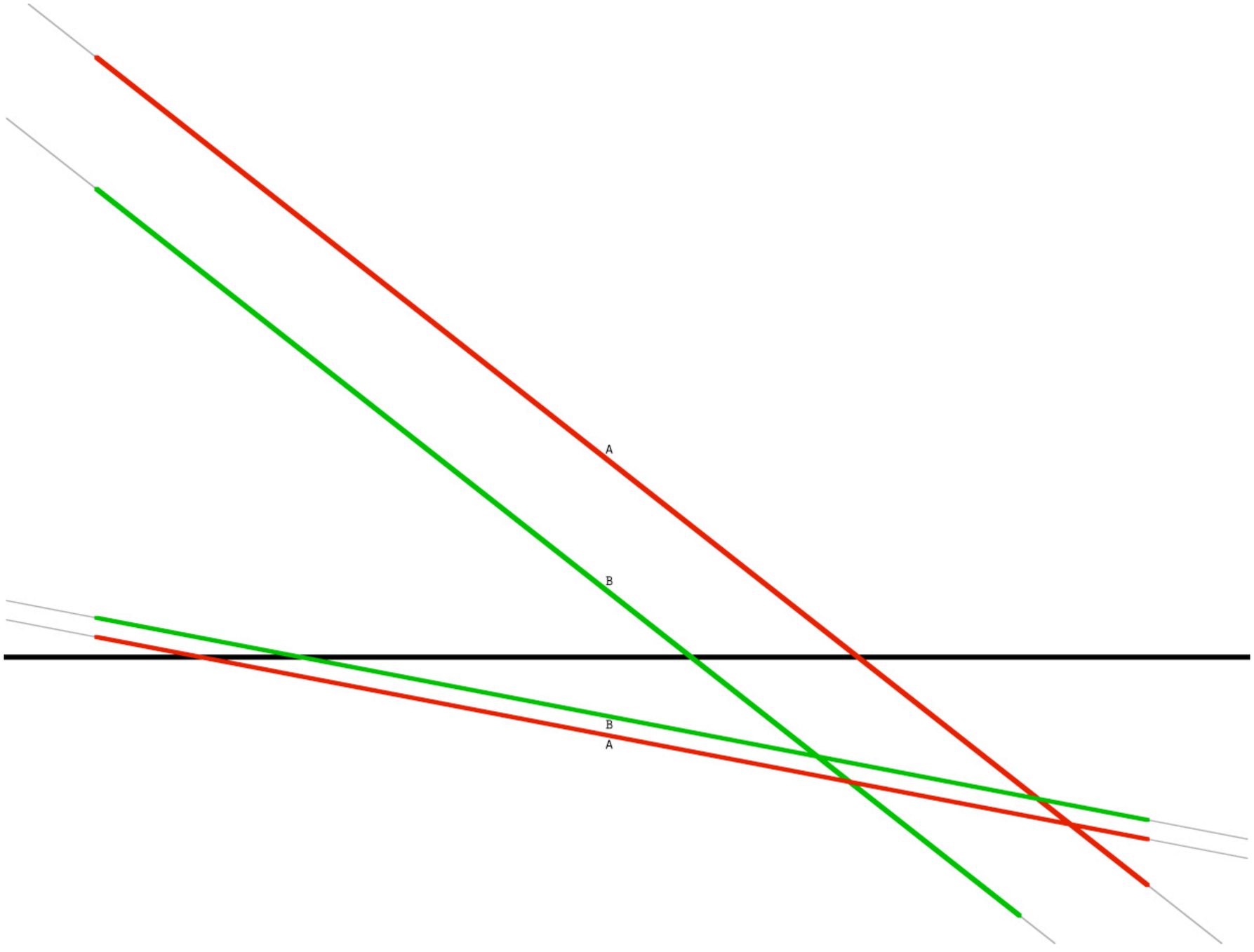



OBLIQUE LINE




OBLIQUE PLANE

**INTERMEDIATE CONSTRUCTIONS**
definition of an oblique plane using two parallel oblique lines



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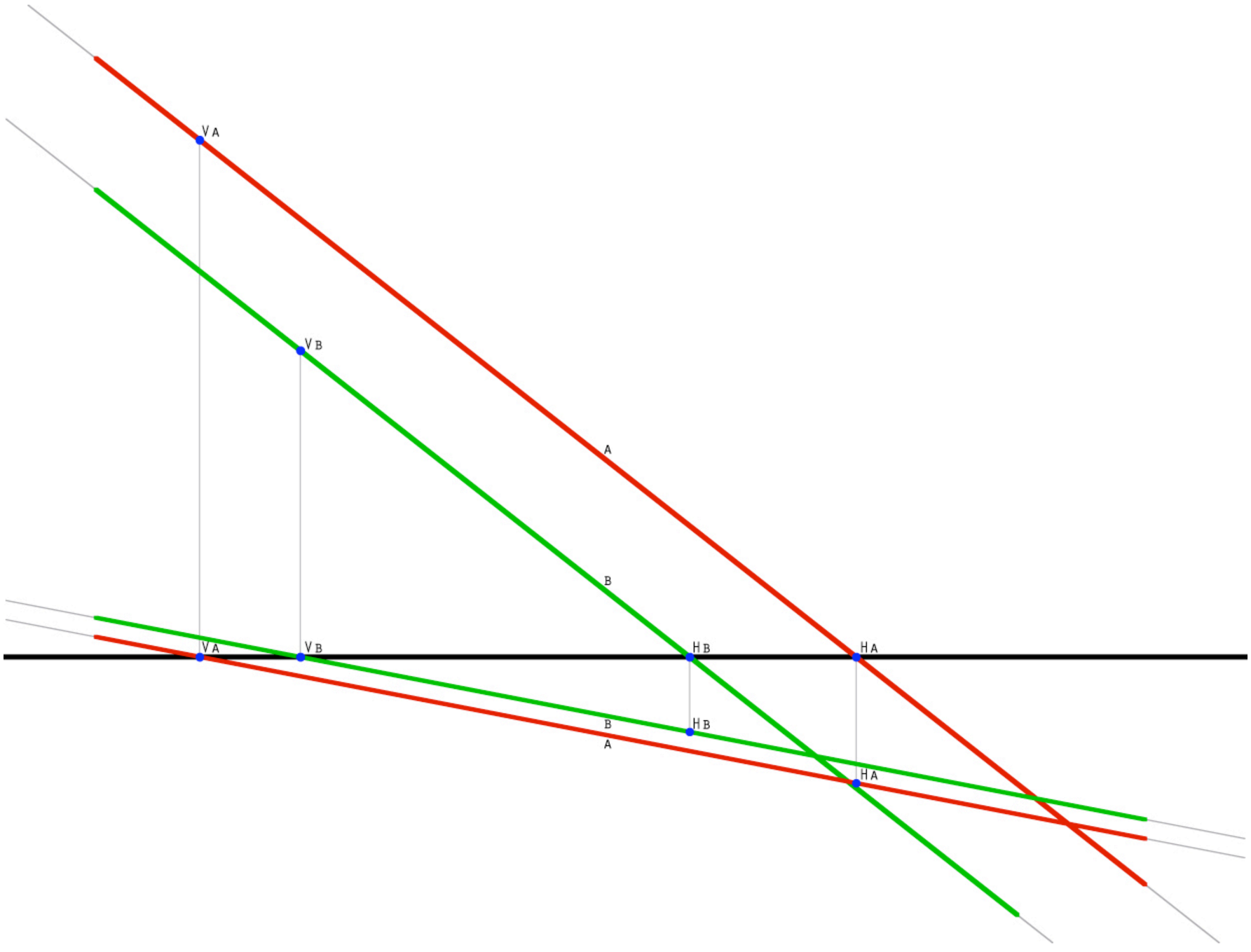
definition of an oblique plane using two parallel oblique lines



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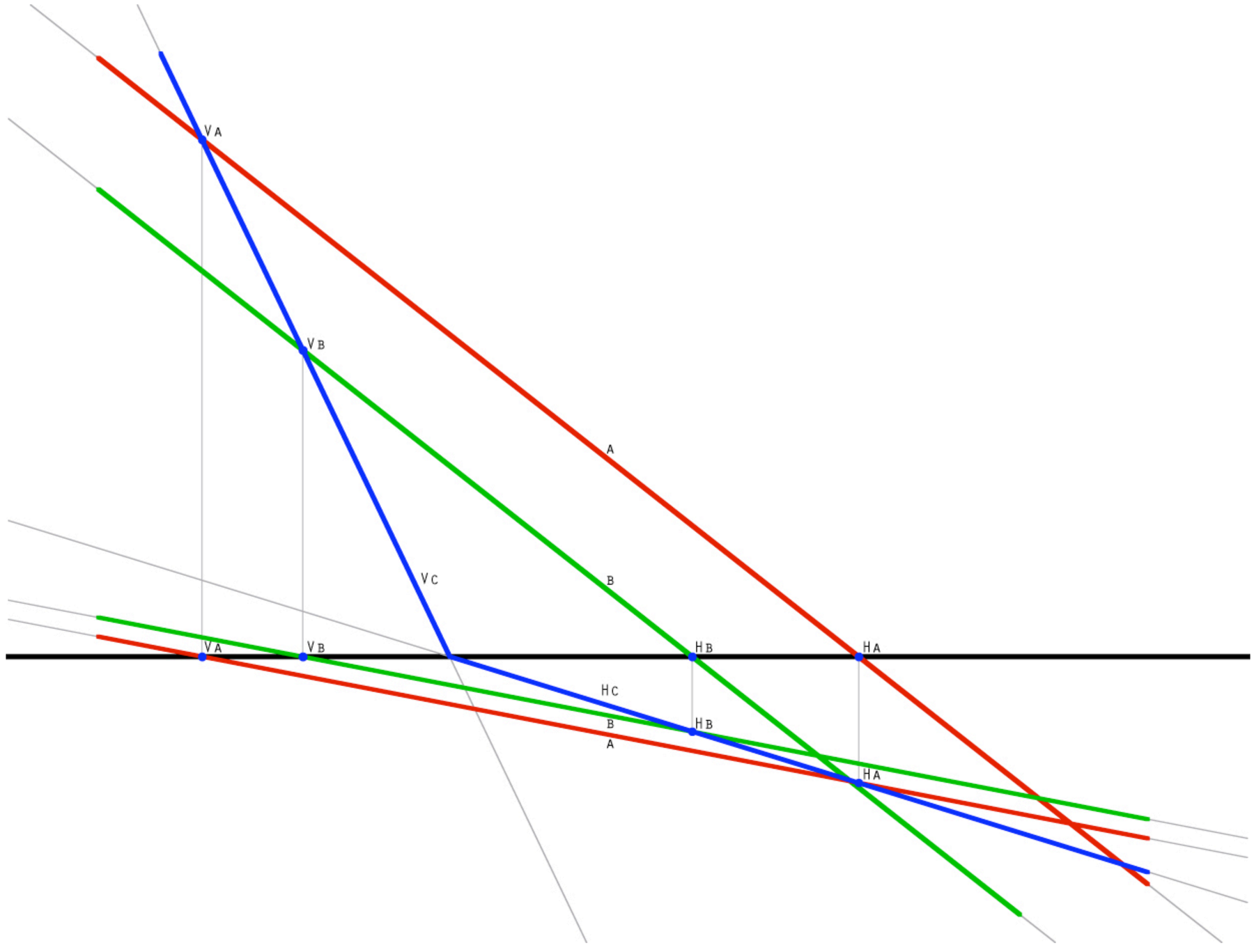
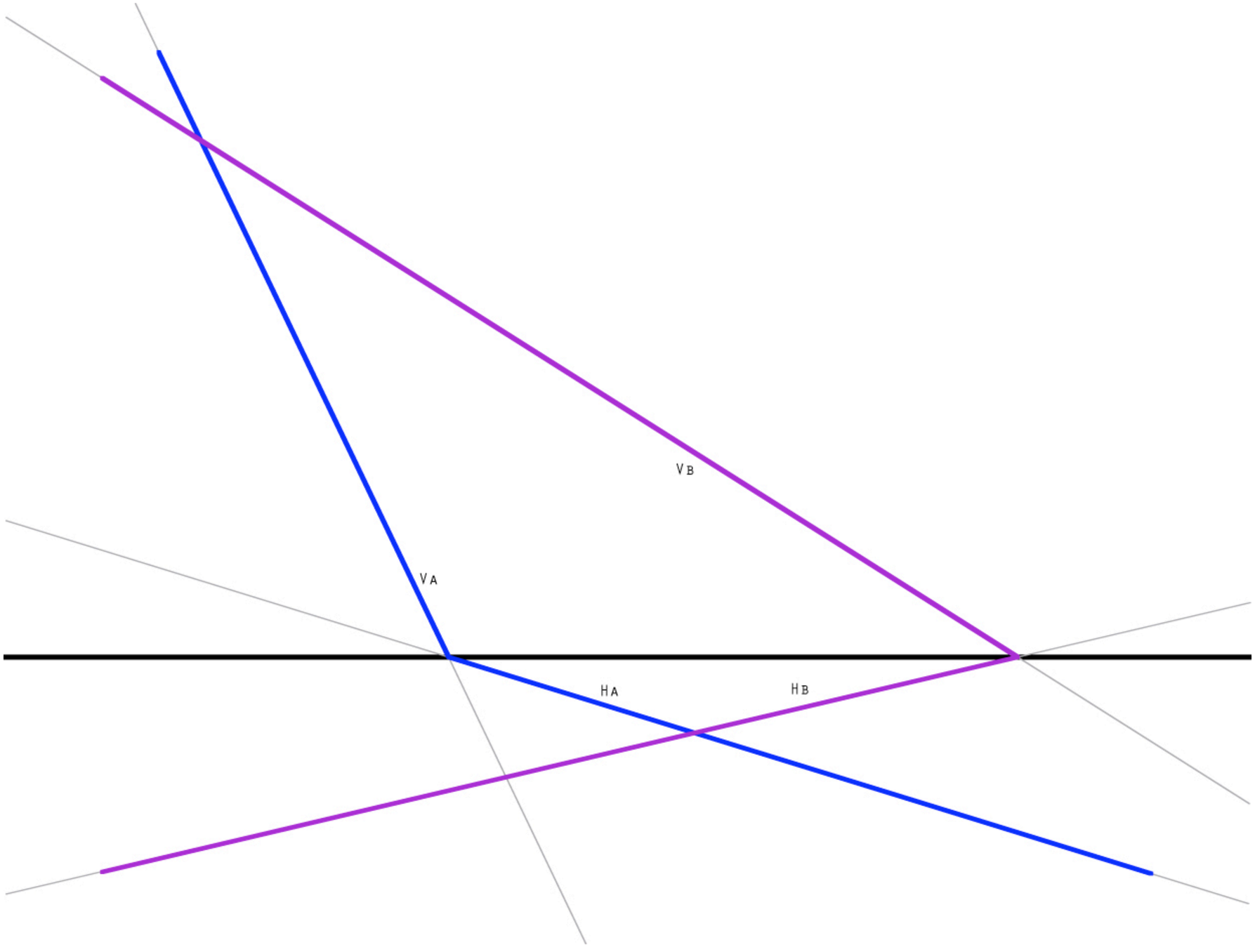
definition of an oblique plane using two parallel oblique lines



**INTERMEDIATE CONSTRUCTIONS**
intersection of two oblique planes



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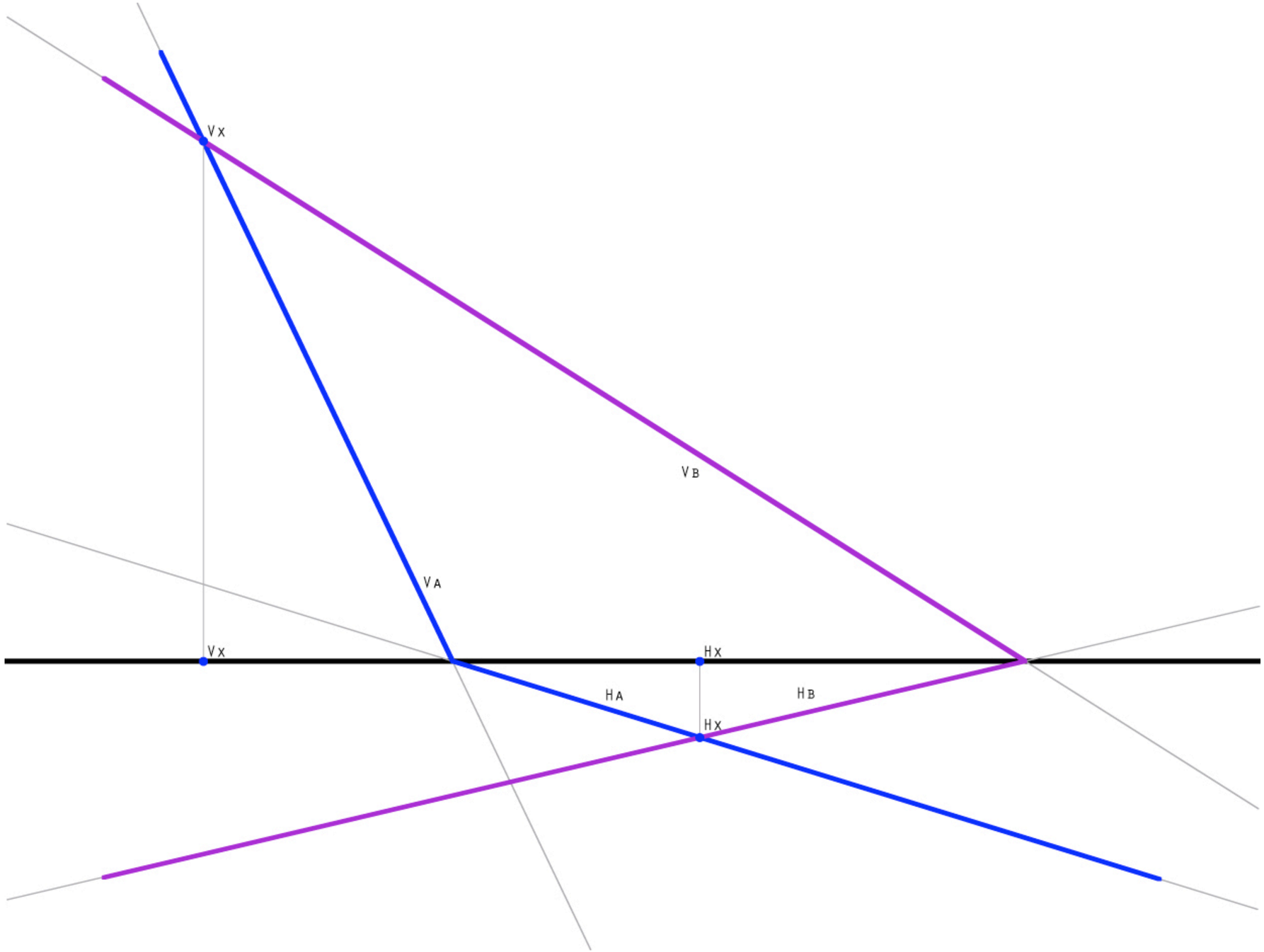

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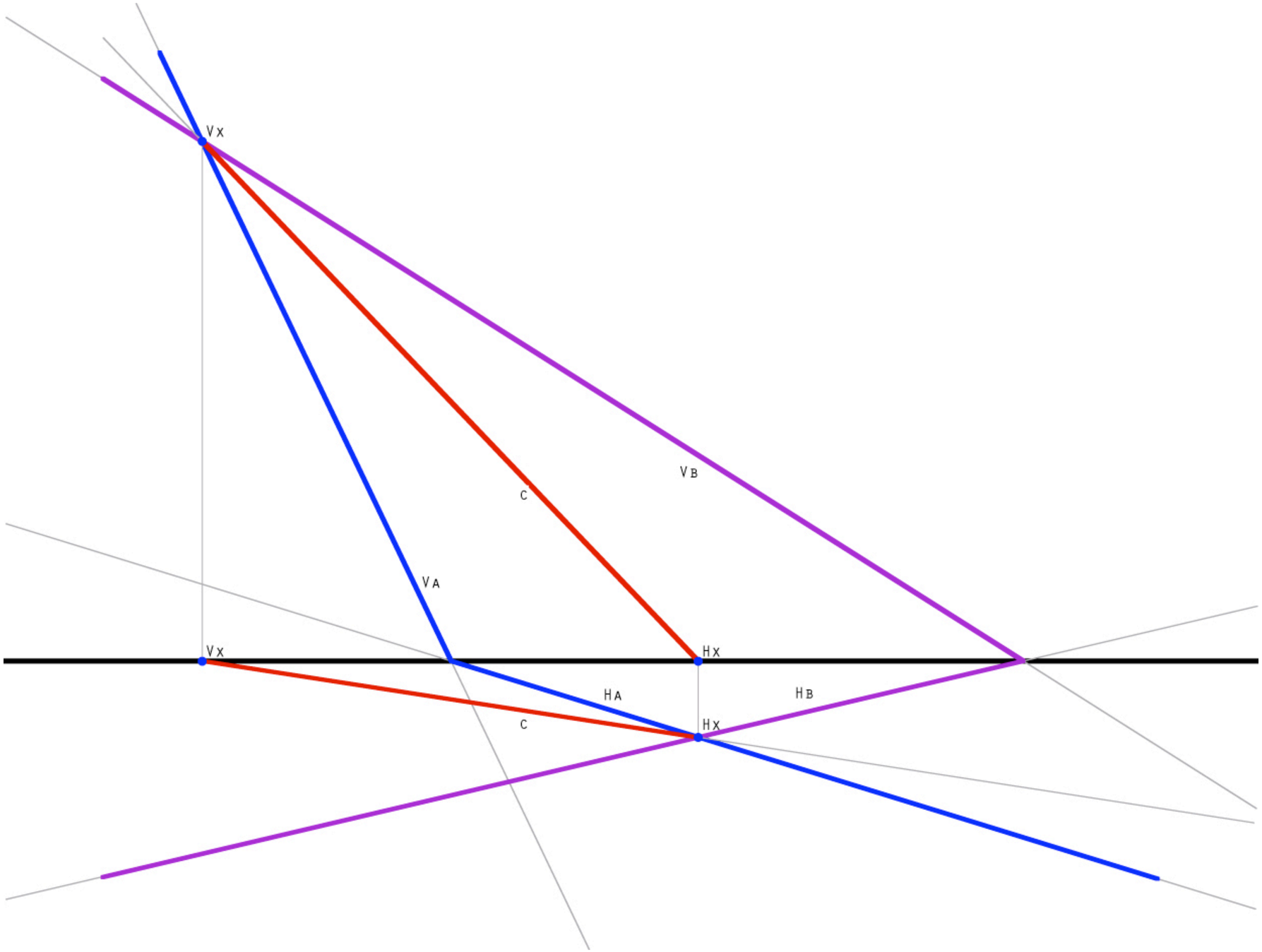
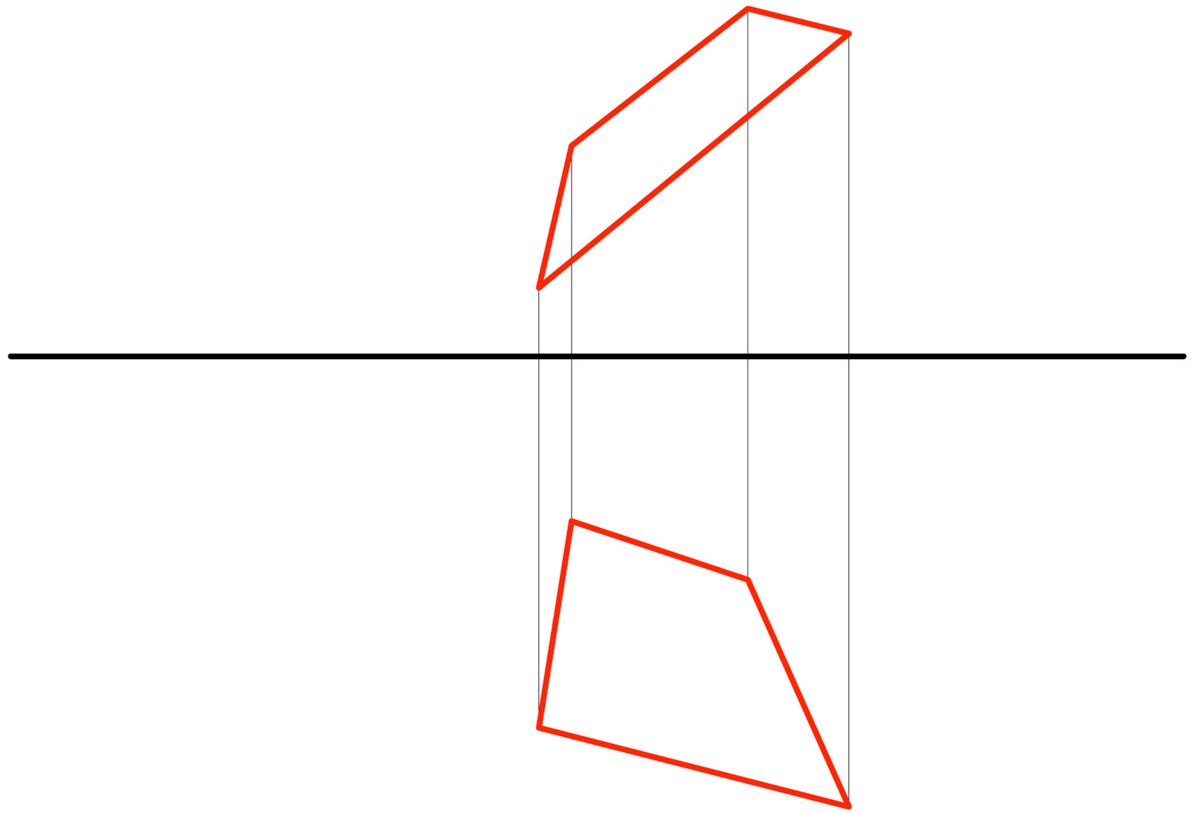


**INTERMEDIATE CONSTRUCTIONS**
definition of an oblique plane from an oblique plane figure



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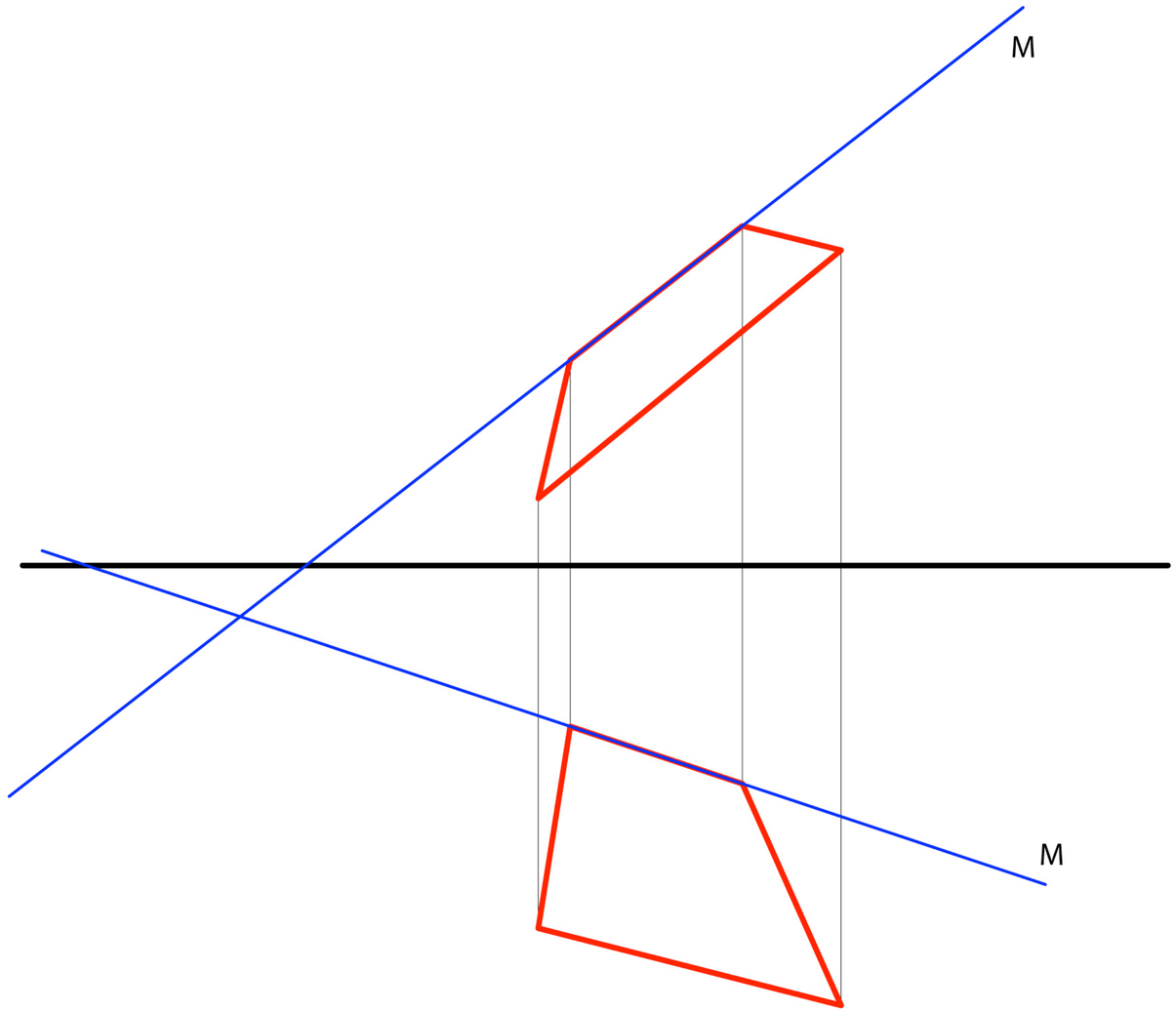

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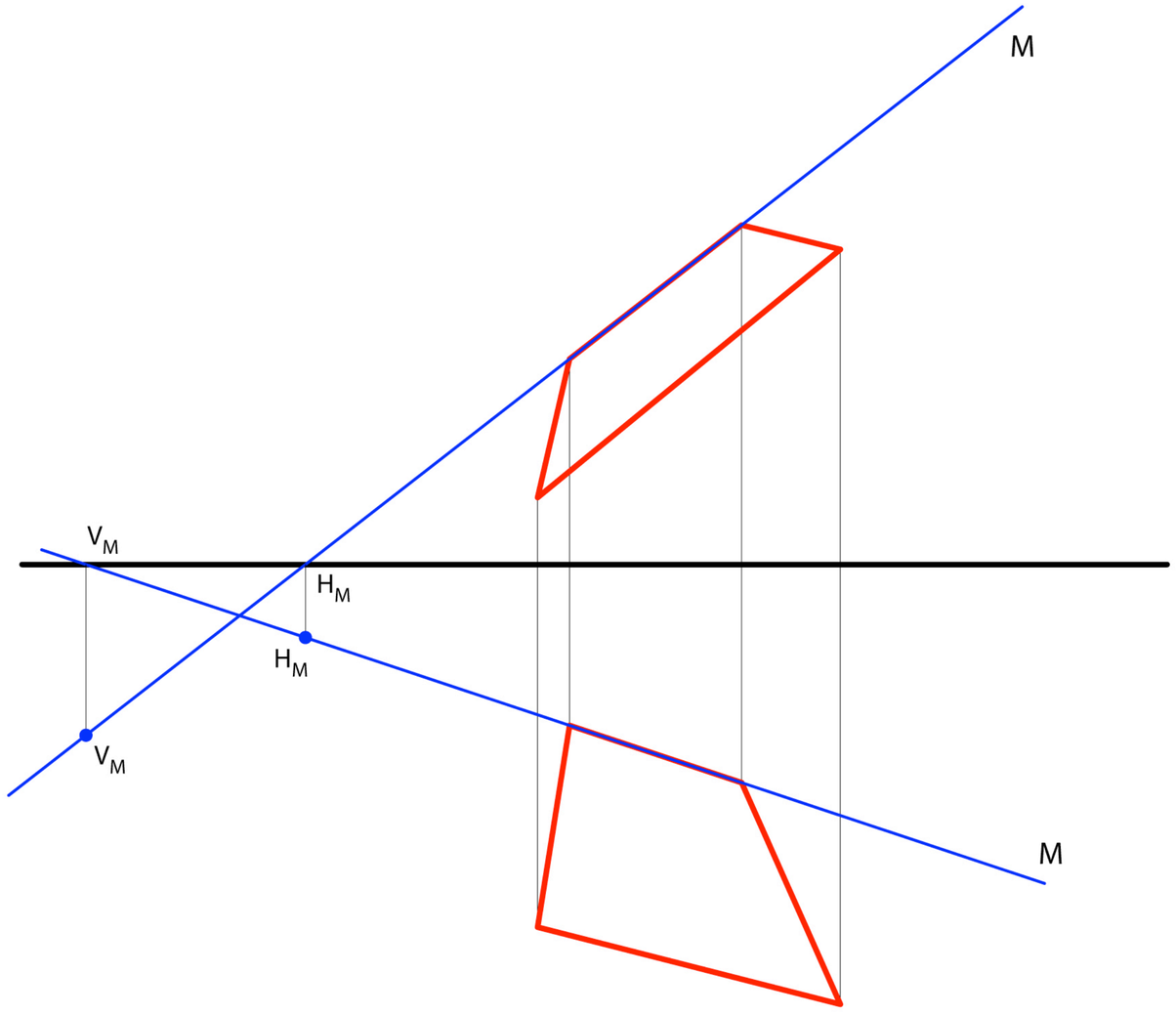
definition of an oblique plane from an oblique plane figure



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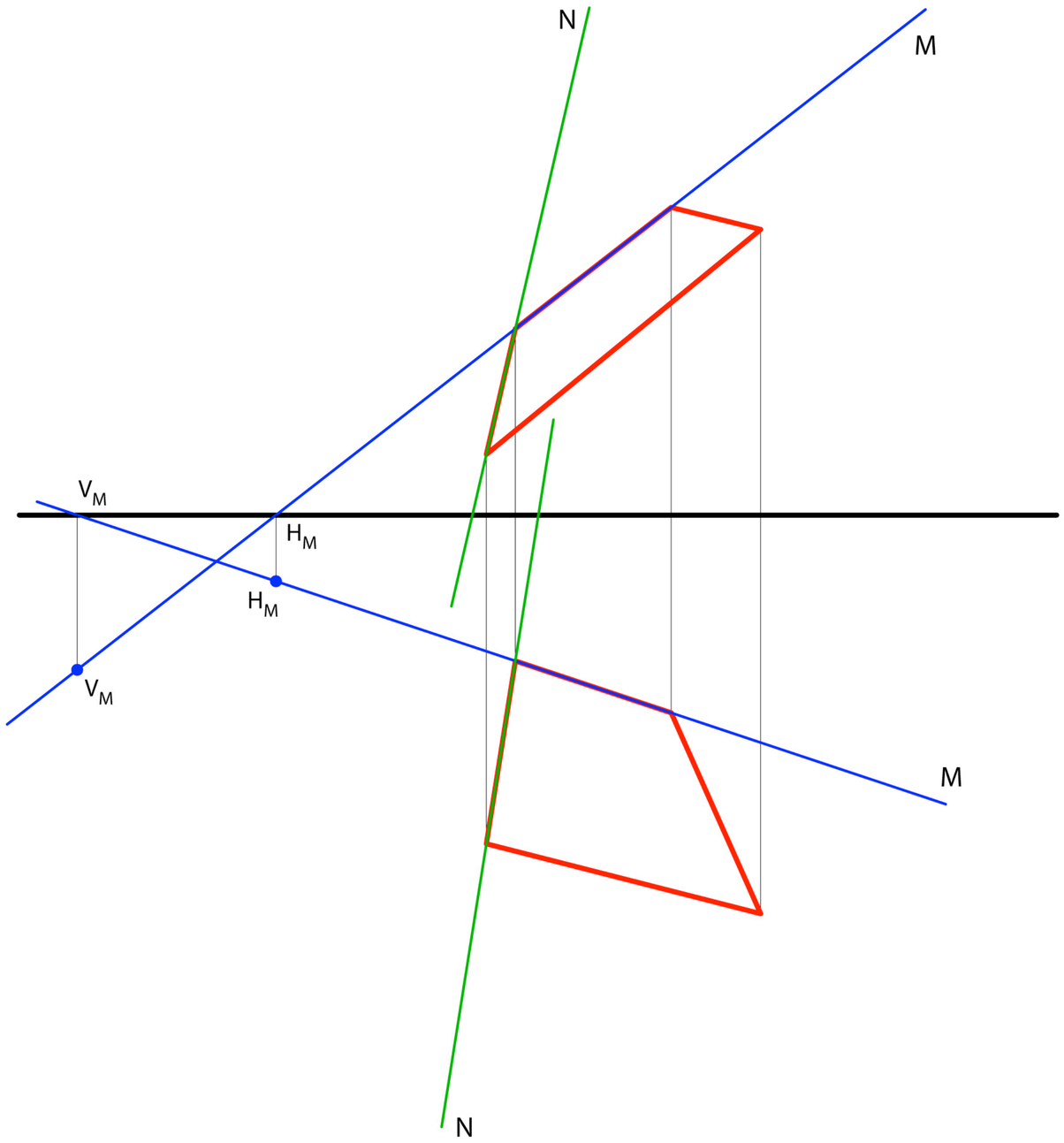

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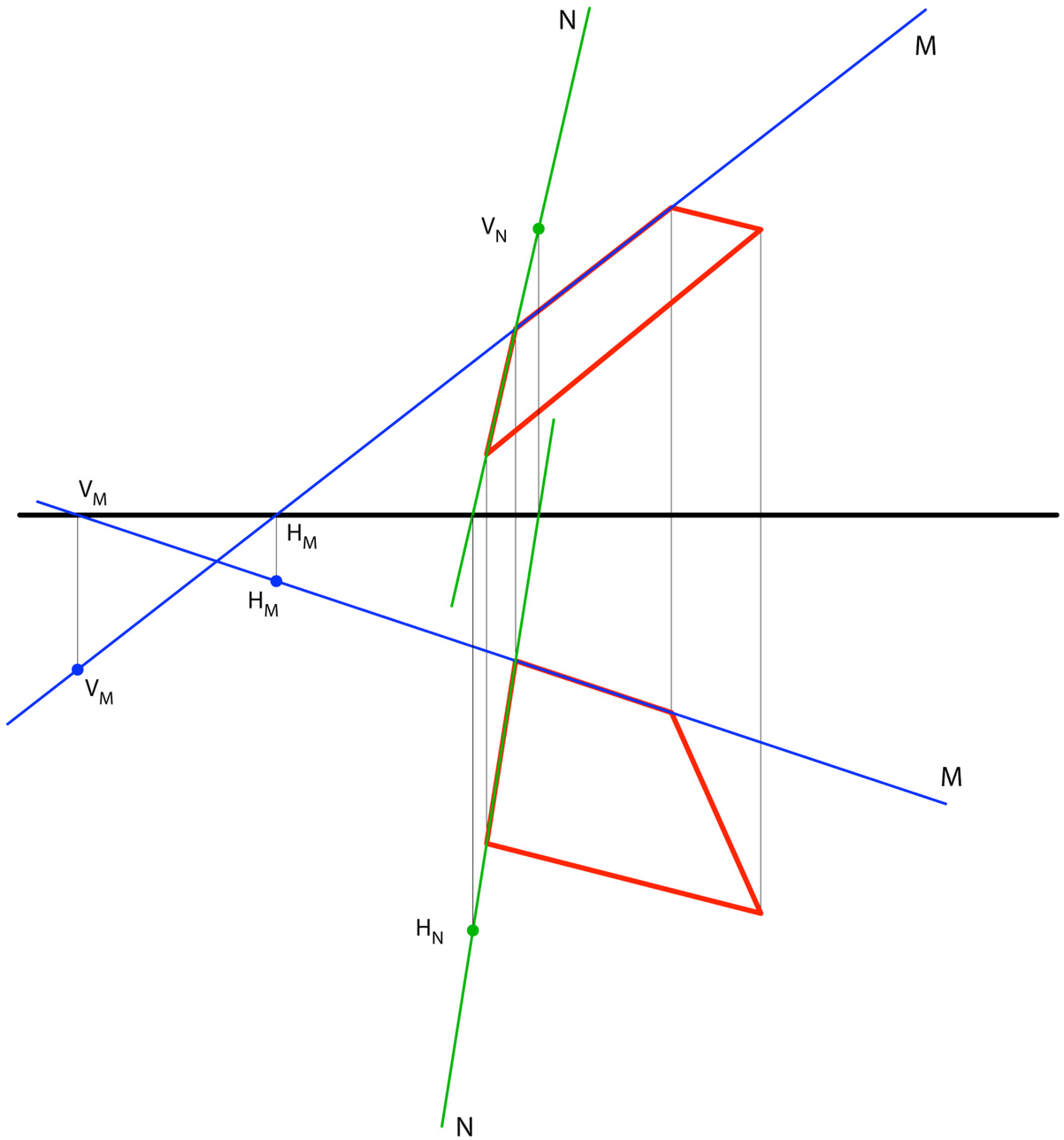

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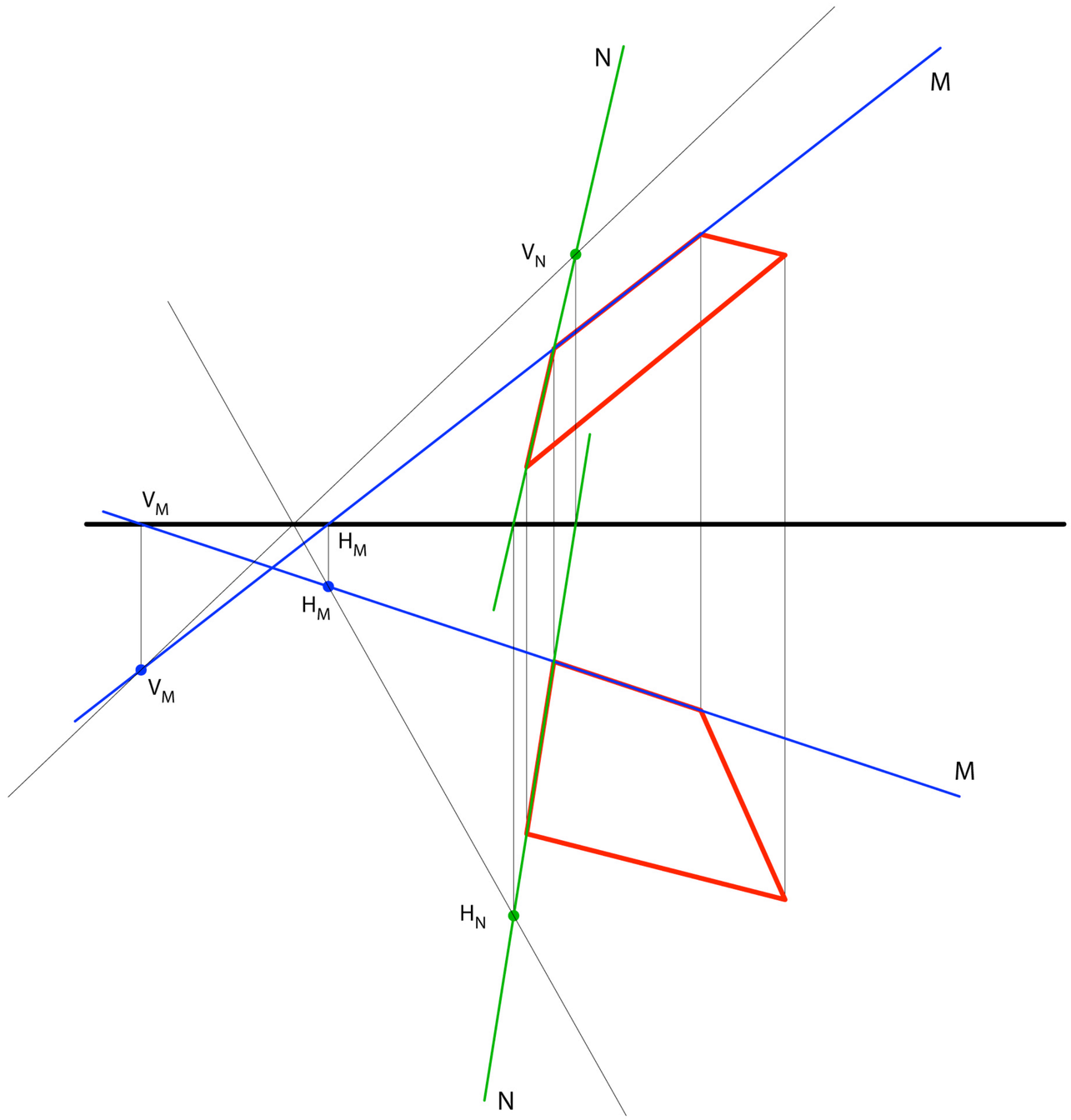

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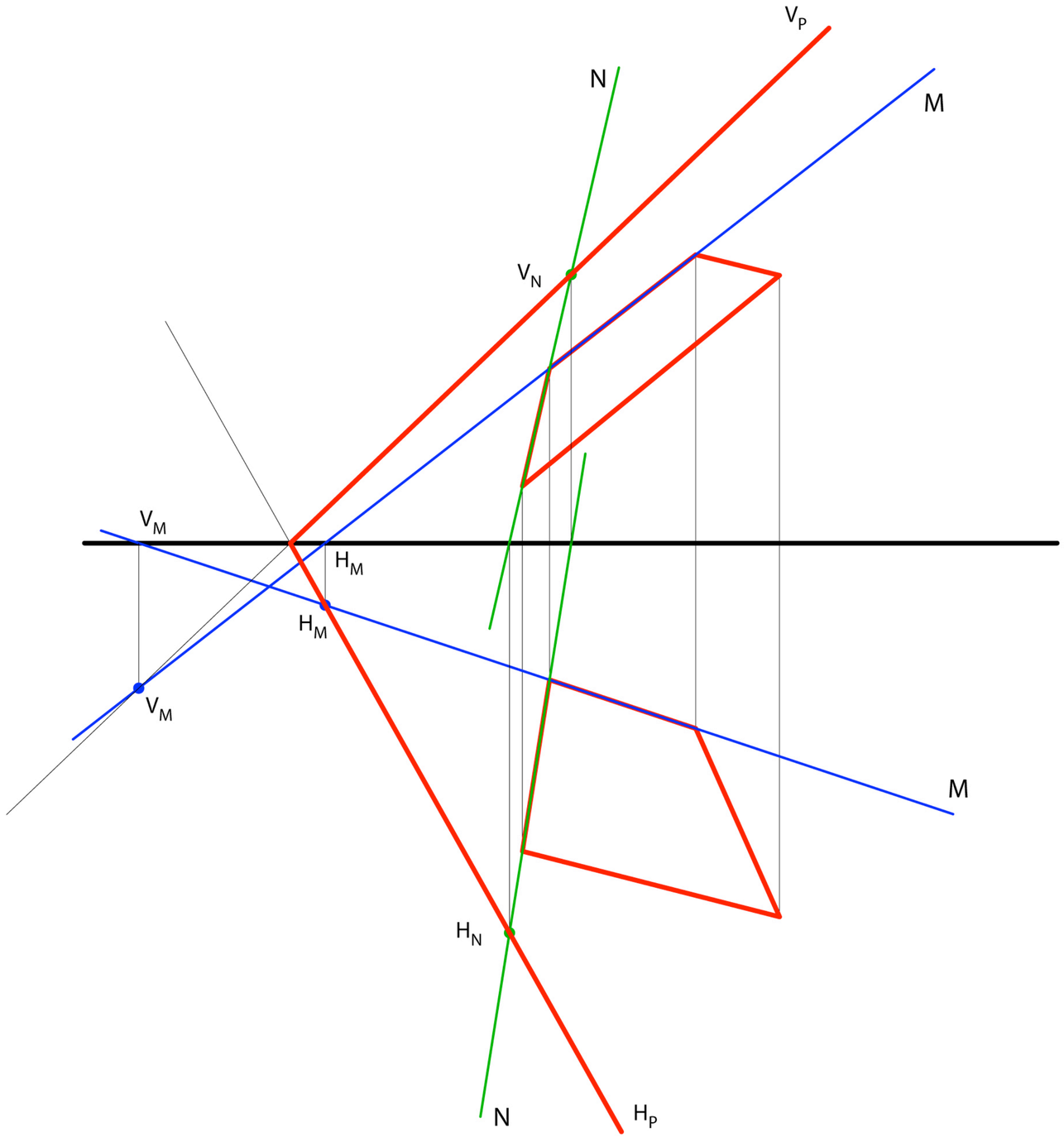

4.105 Geometric Disciplines and Architecture Skills: Reciprocal Methodologies
Fall 2012