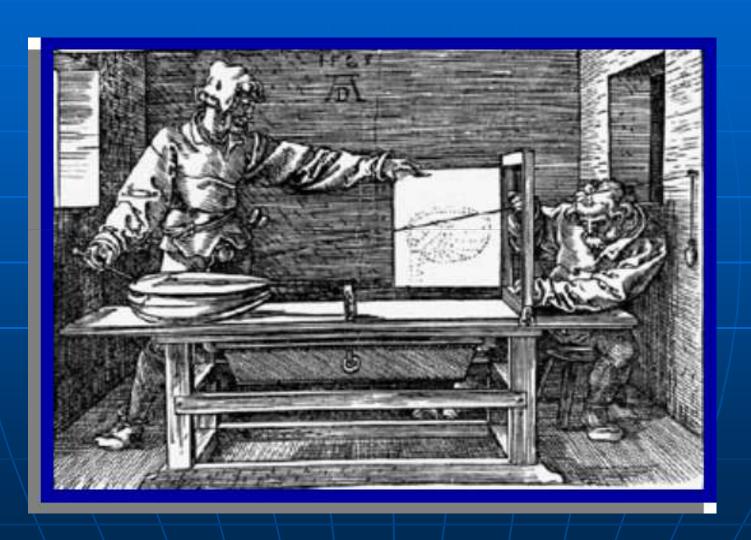


Brief history of perspective

- Geometric perspective was developed during the renaissance (15th century) by Filippo Brunelleschi.
- Renaissance artists were obsessed with the idea of creating an illusion of 3dimensions on a flat surface.
- Trompe l'oeil artists, who mastered perspective, created illusions that were so realistic that they fooled the eye.

Experiments with foreshortening



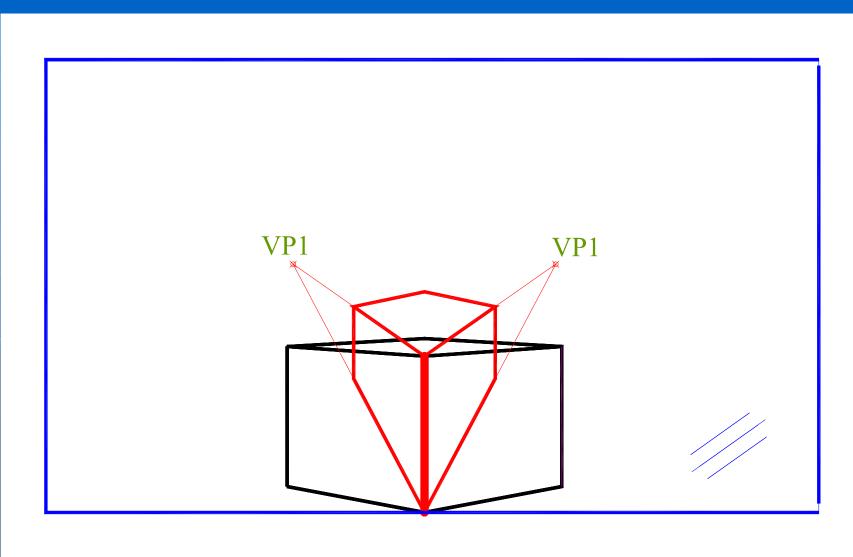
Study of chalice - Paolo Occello



Enlarged results of two extreme positions.

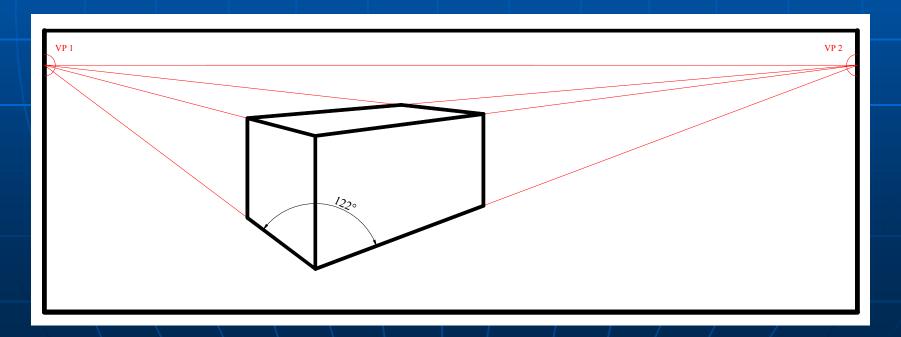
Note: a) The excessive distortion of the red cube and the very short distance between the VPs.

b) The black cube is not distorted and has its VPs extending well beyond the paper space.



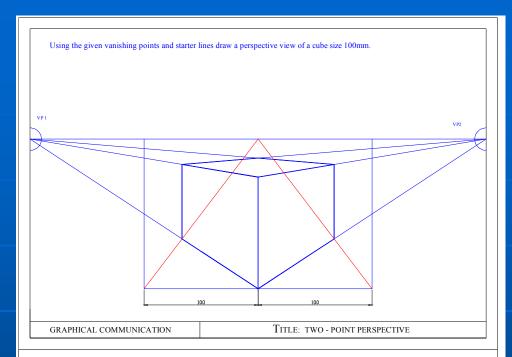
Conclusions drawn from the cube observations

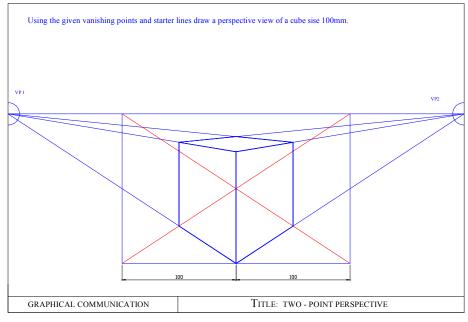
- The vanishing points are to be placed at the extreme edges of the drawing paper.
- The included angle at the bottom of the object being drawn should always be considerably more than 90° (at least, approximately 120°). With this arrangement, the height, (although slightly foreshortened), can be assumed to remain unchanged.



Variations of the rectangle method

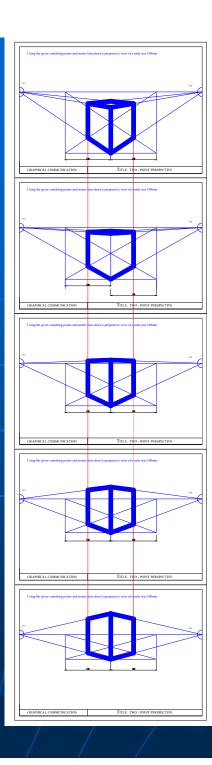
Practically, the foreshortening of the sides depends on the sighting point, therefore, the mid-point of the upper side, or the corners of the rectangle, may be used to find the approximate foreshortening.



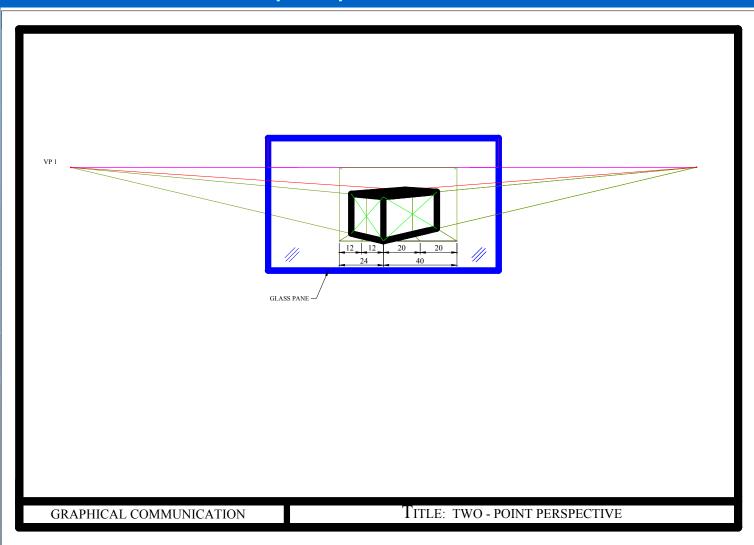


Advantage of the rectangle method:

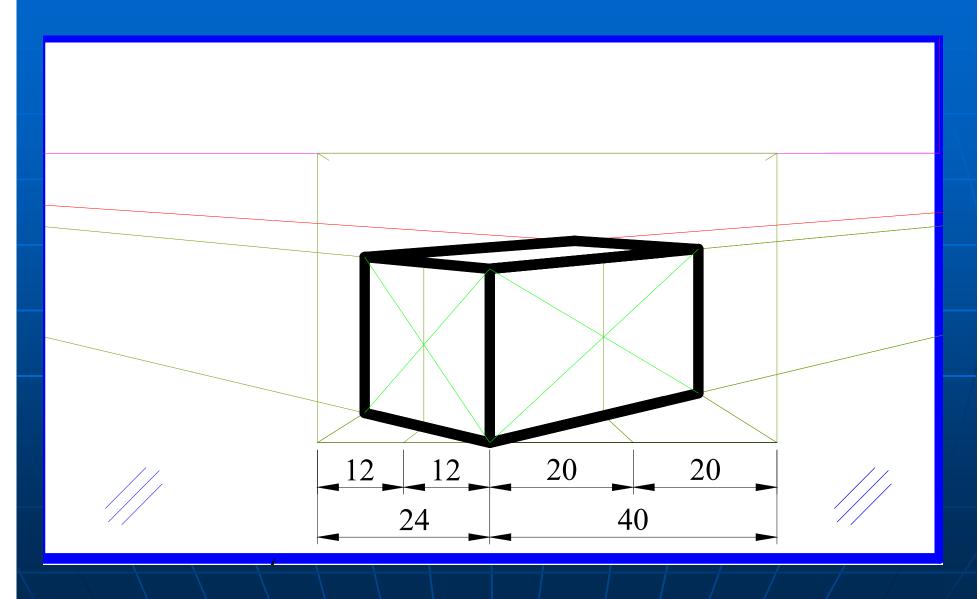
The foreshortened sides, (unlike the 90 degrees method), remain the same regardless of the relation of the object to the eye level.



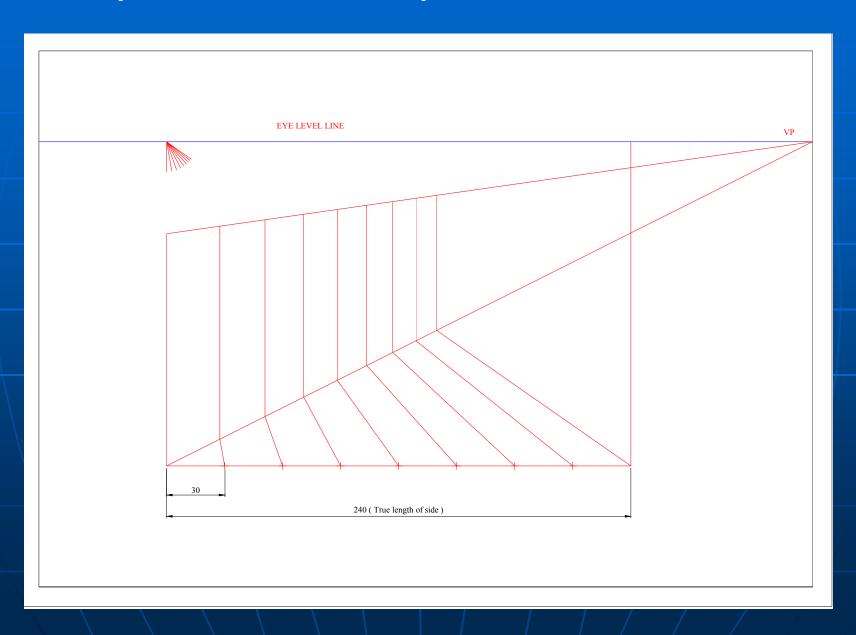
Eliminating diagonals and replacing by a perspective scale to determine perspective dimensions



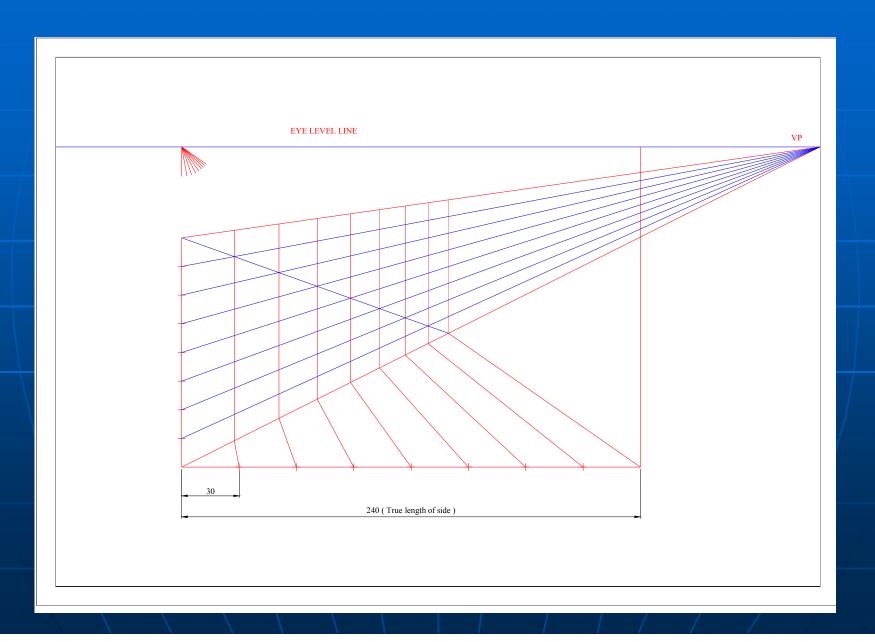
Enlarged view showing that diagonals and the perspective scale coincide exactly.



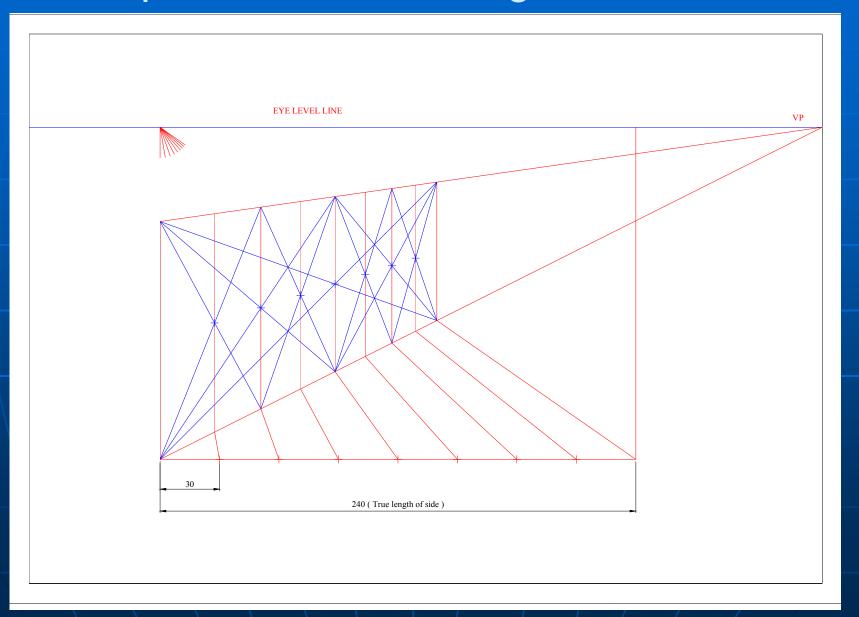
Perspective scale explained in more detail



Comparison with the diagonal method

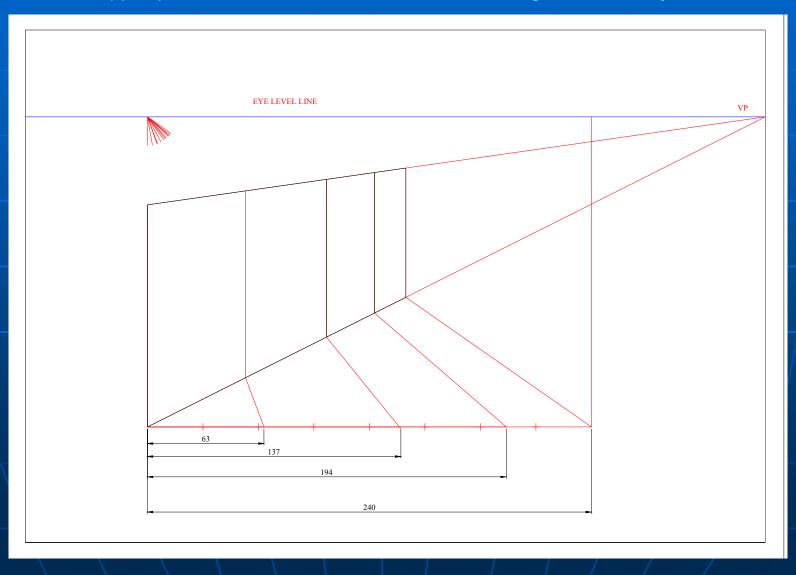


Comparison with the diagonals method

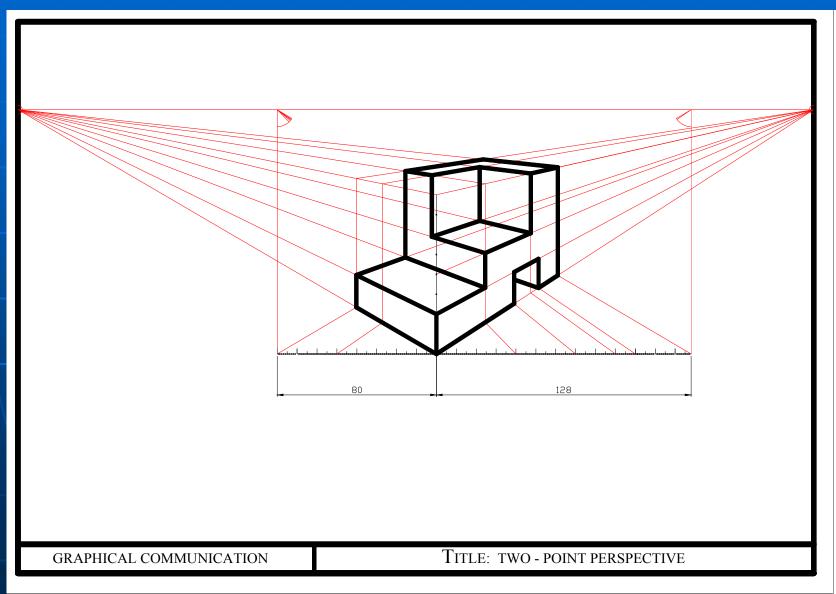


Advantages of the perspective scale over other methods

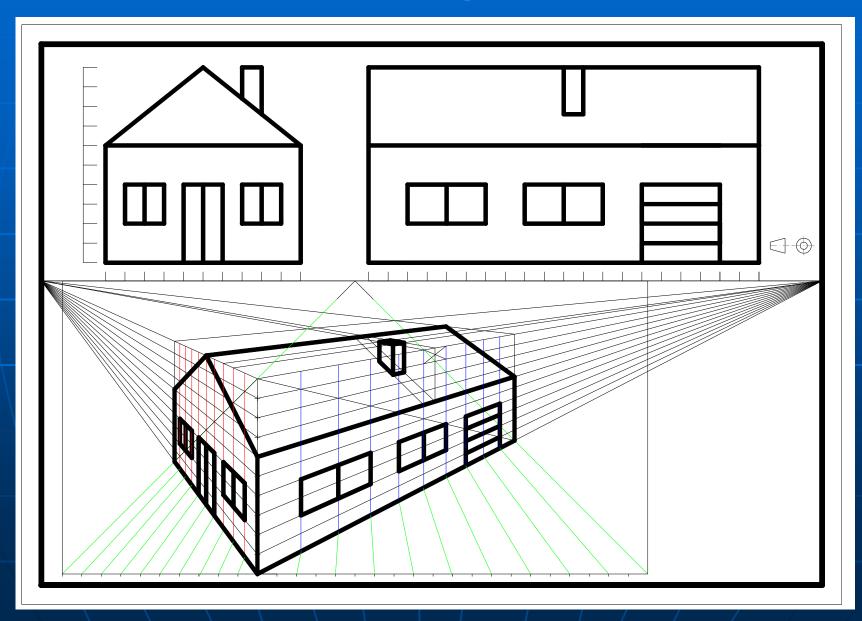
- a) Any dimension can be represented using the perspective scale method,
- b) diagonals can be eliminated thus keeping the drawing simpler and more tidy,
- c) perspective circles can be constructed with much greater accuracy.



Example 2

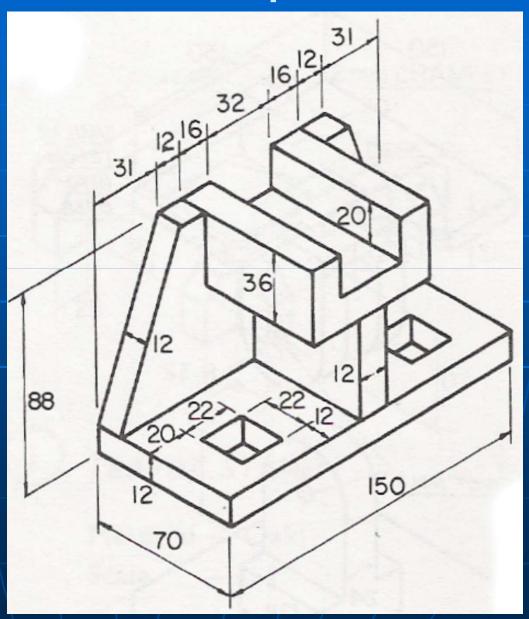


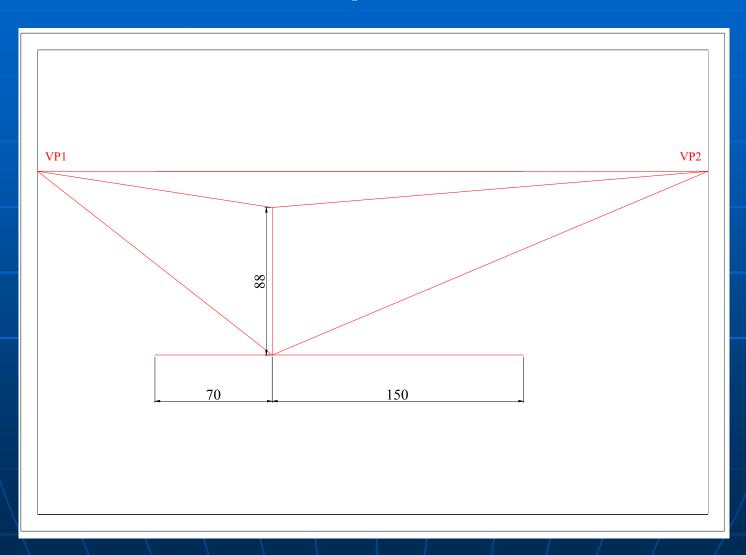
Example

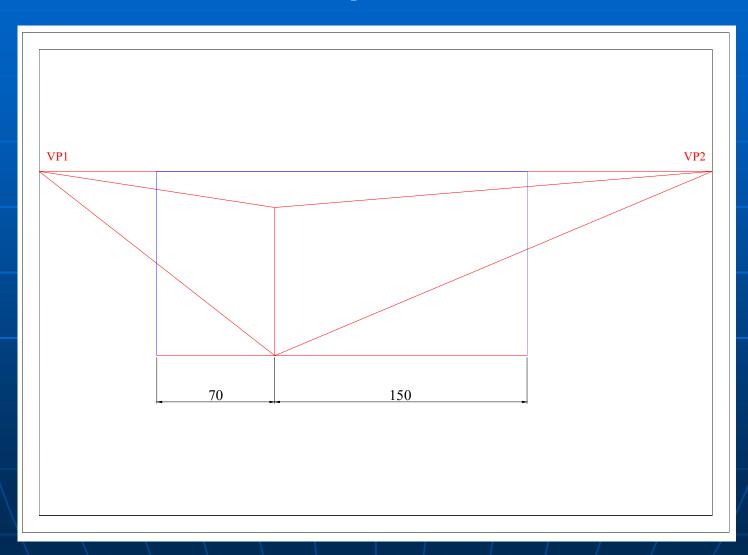


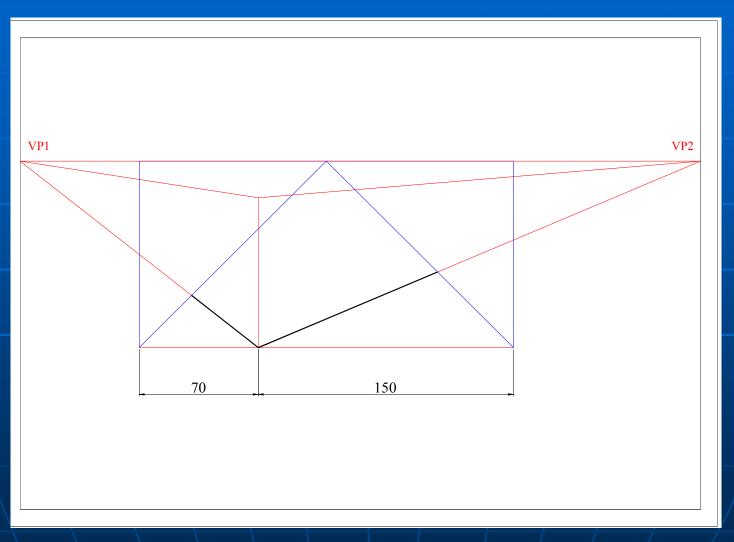
Worked Example

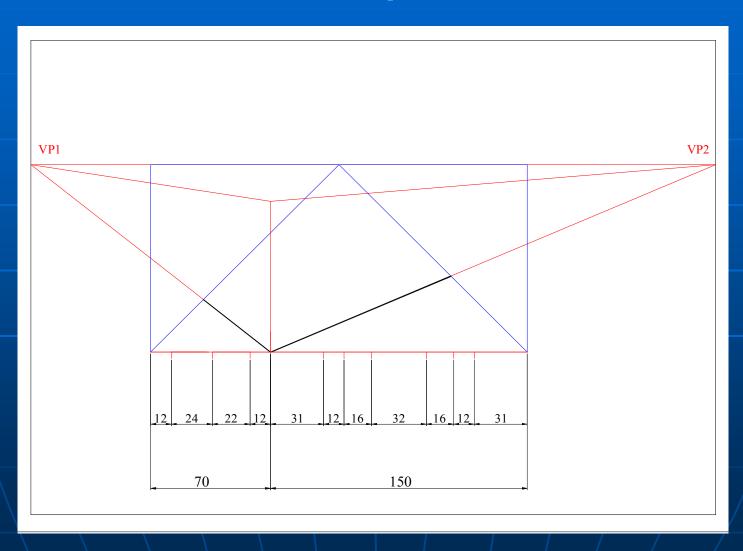
Convert the given isometric projection into a perspective projection.

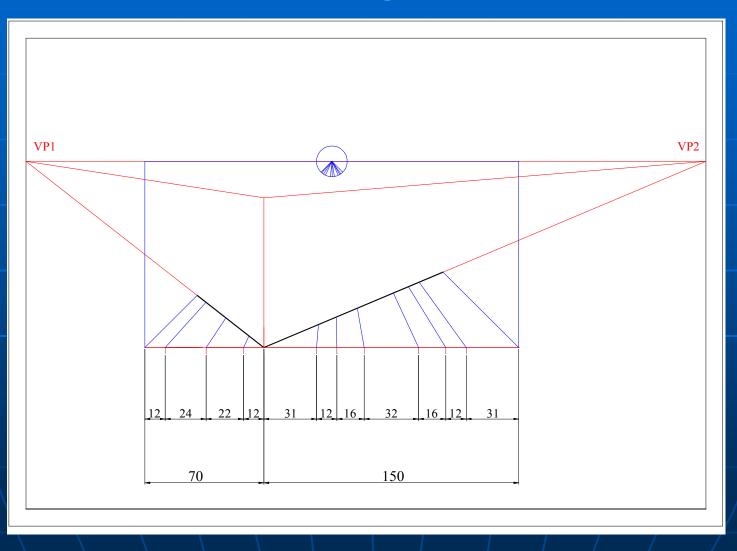


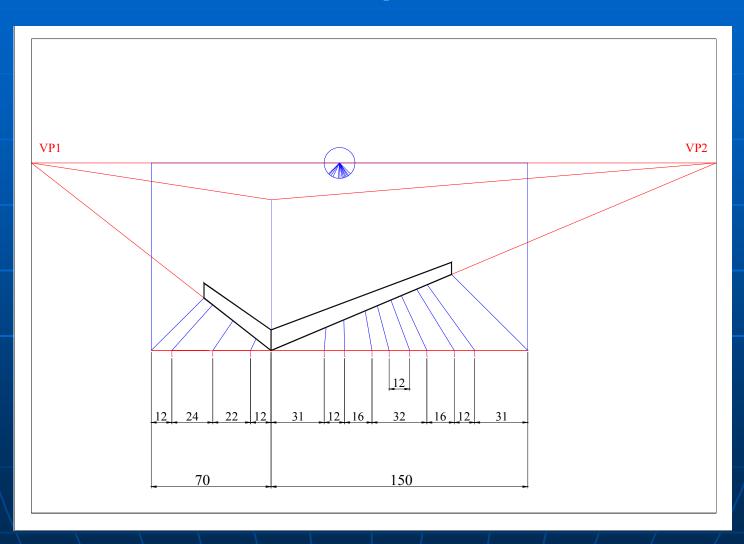


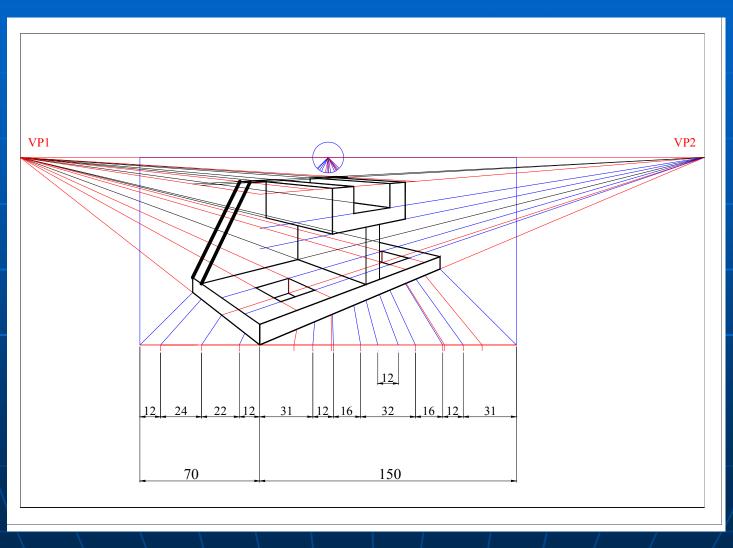


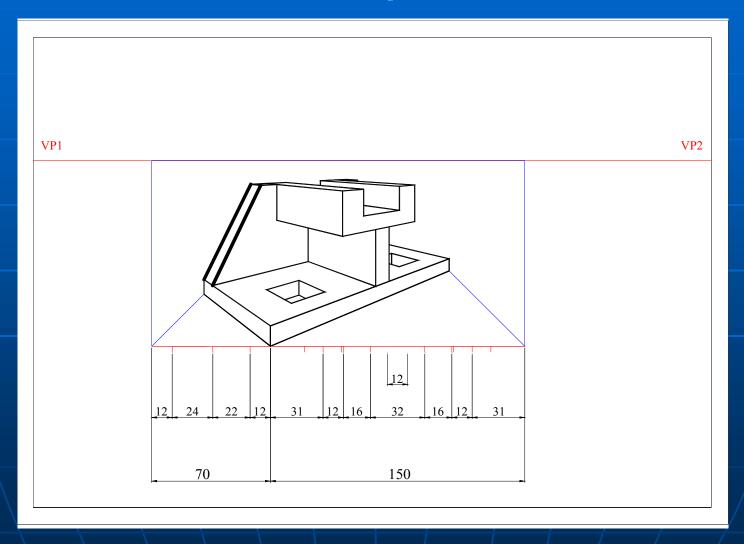




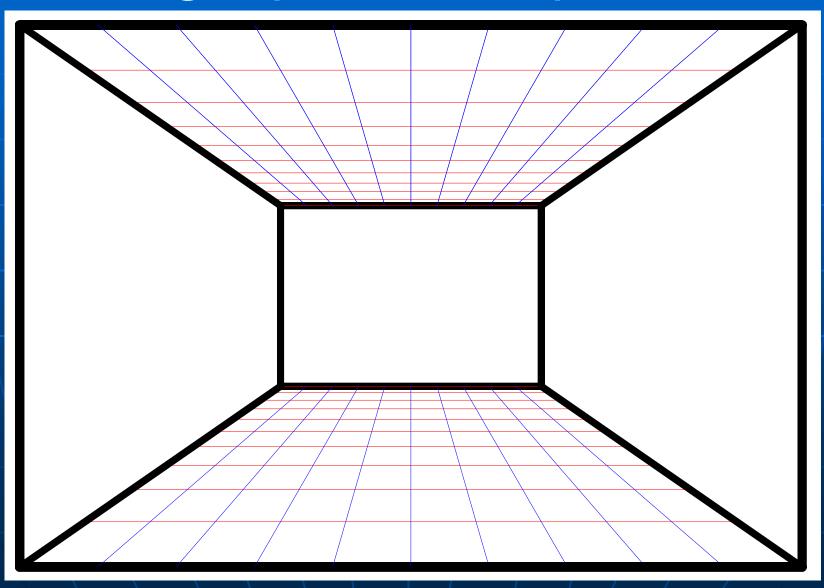




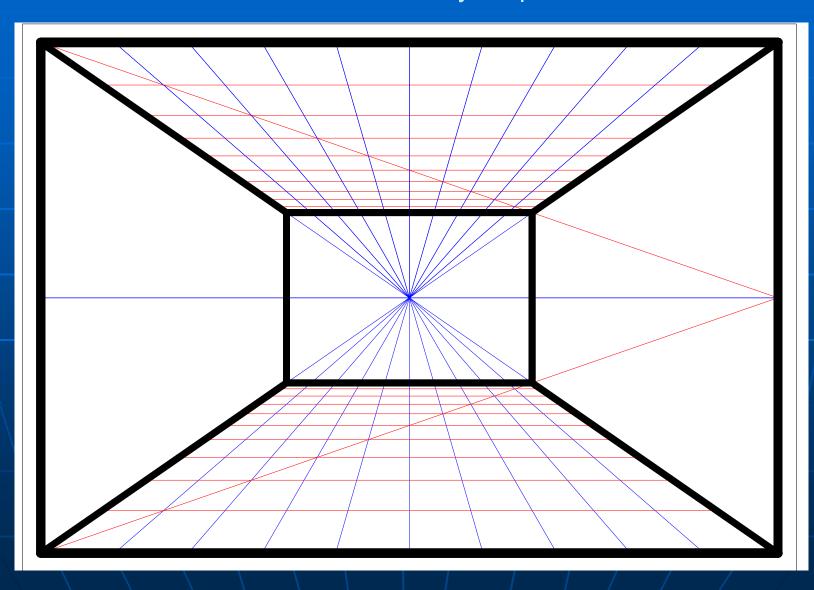




Single-point Perspective



In this particular condition, the construction of a single-point perspective room is considerably simplified

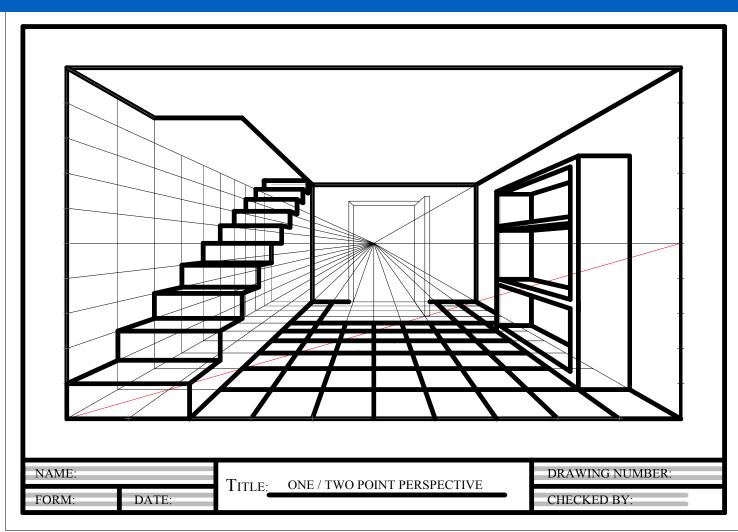


One / Two-Point Perspective

Matchbox experiments on chequered tiles

Drawing of an interior using 1 vanishing point.





One / Two-Point Perspective

Matchbox experiments on chequered tiles
Drawing of an interior using 3 vanishing points.



