# PERSPECTIVE (or how to draw in three dimensions -3D)

Representing an object in perspective is more complicated than drawing views, but it has the advantage of allowing us to express the volume of the object with quickly.
In other words, perspective drawings represent all three dimensions and let us provide a more realistic idea of the object.

The more commonly used types of perspective are isometric, cavalier and conical perspective.
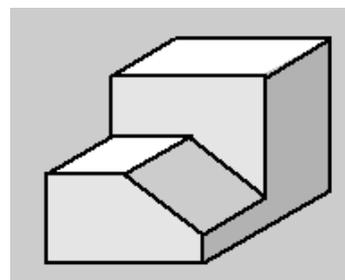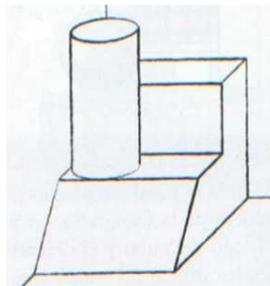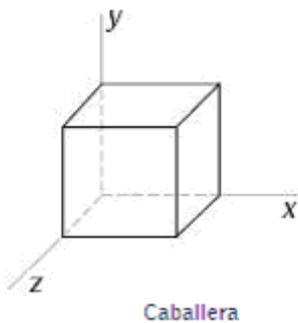
CAVALIER PERSPECTIVE

The axes are drawn in this way

or
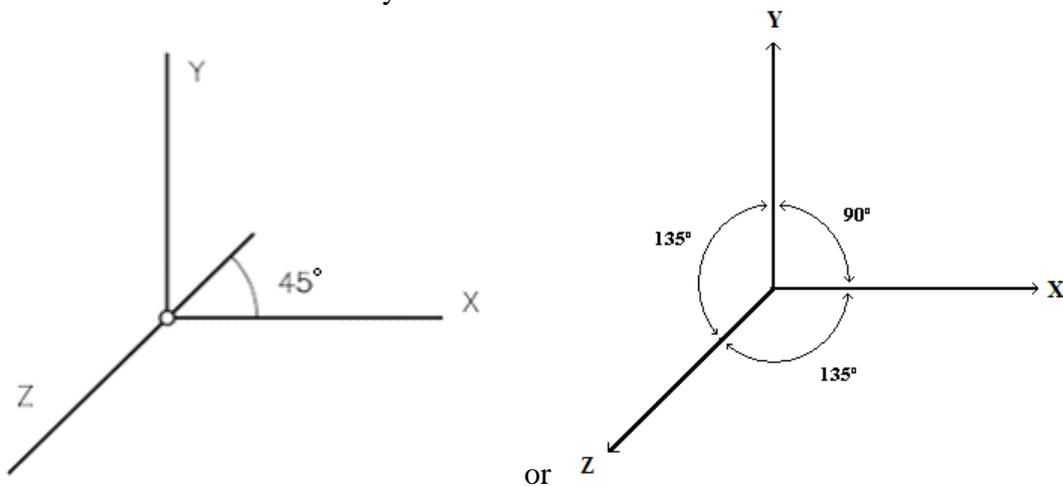
The angles are 90° and 45° (or 135=90+45)

Advantages: The front view is the same than in orthogonal views.
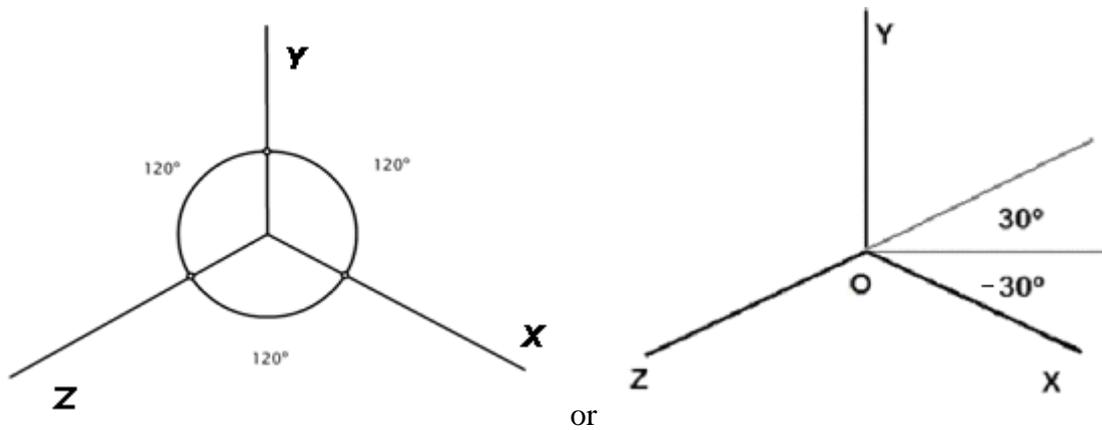**Disadvantages:** We have to divide the Z axis dimension (depth) in two.

Examples:

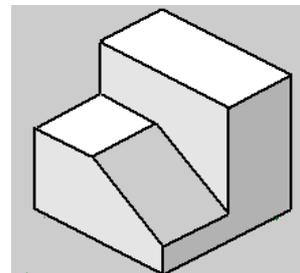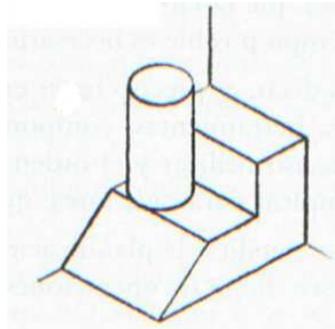Caballera

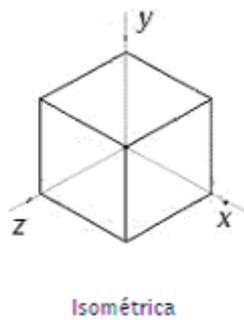## ISOMETRIC PERSPECTIVE

The axes are drawn in this way

The angles are 120º - 120º - 120º

or

Advantages: We don't have to modify any measurements.
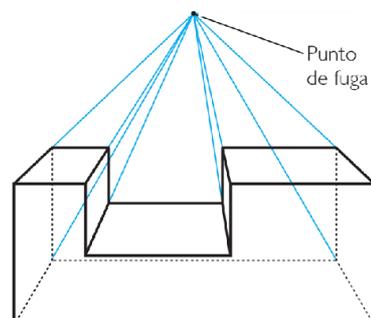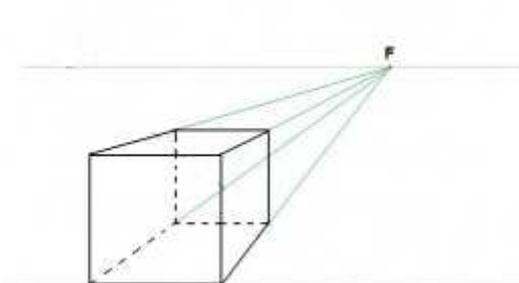Disadvantages: The angles are a bit difficult to draw and there aren't any horizontal lines.

Examples:

Isométrica

CONICAL PERSPECTIVE

It is no used in technical drawing. It is used in commercials and artistic drawing.

Examples:

Punto de fuga

How to draw an object in cavalier perspective (the easy way)

1. Draw the axes in thin lines
2. Draw the front view
3. Draw parallel lines to the Z axis, and measure the lines (don't forget to divide the real distance in two)
4. Close the points after measuring, using parallel lines to the X and Y axes
5. Remove the lines we can't see (or draw them like hidden lines)
6. Dimension the figure (if it is necessary). Don't forget to use the real size!
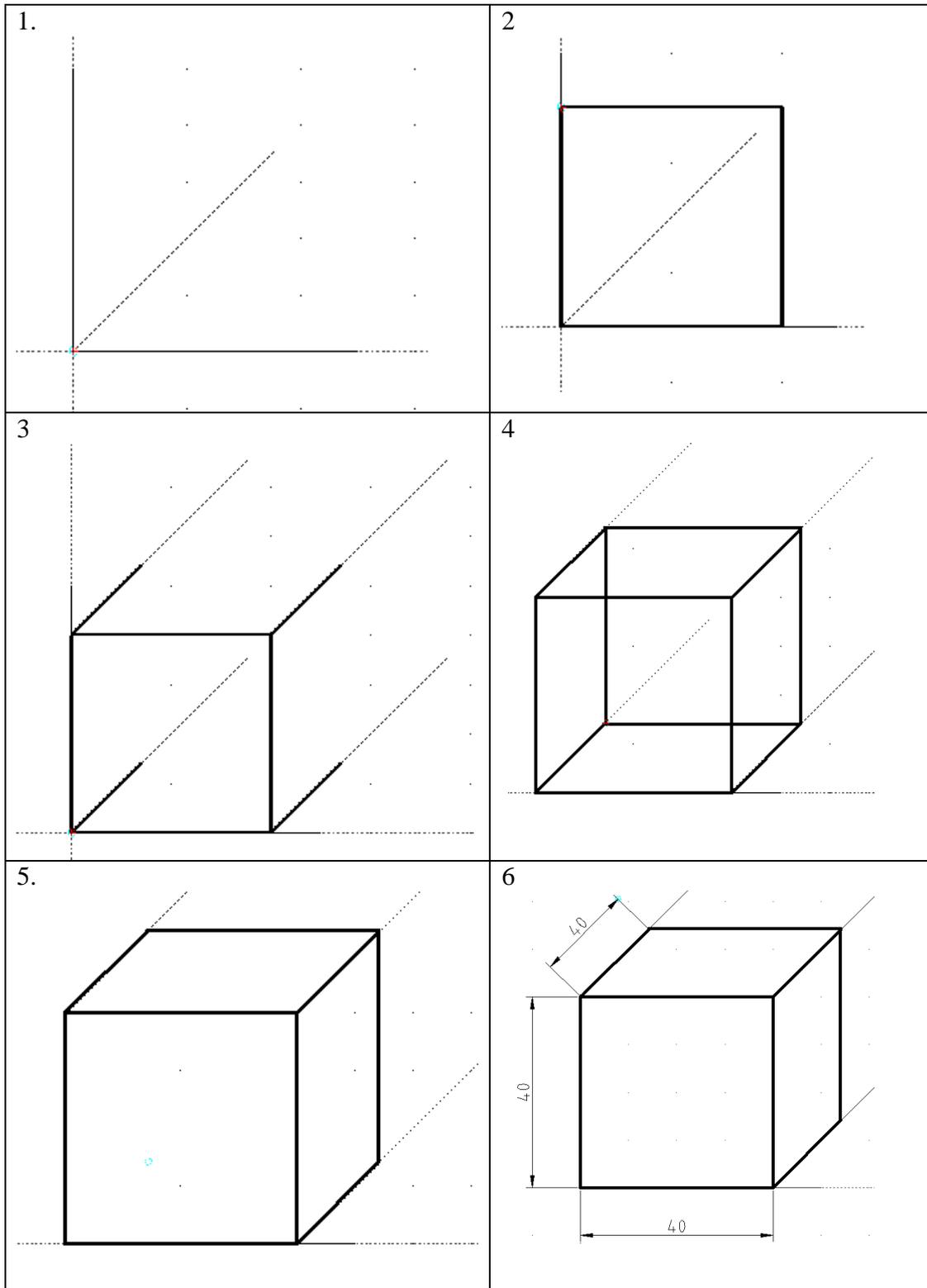
How to draw an object in cavalier perspective (difficult figures)
1. Draw the axes in thin lines
2. Draw the top view. Use parallel lines to the X axis and to the Z axis, and measure these lines (don't forget for the Z axis divide the real distance in two)
3. Draw parallels to the Y axis (high) and measure them.
4. Close the points after measuring, using parallel lines to the X and Z axes)
5. Remove the lines we can't see (or draw them like hidden lines)
6. Dimension the figure (if it is necessary).

1.

2.

3.

4.

5.

6
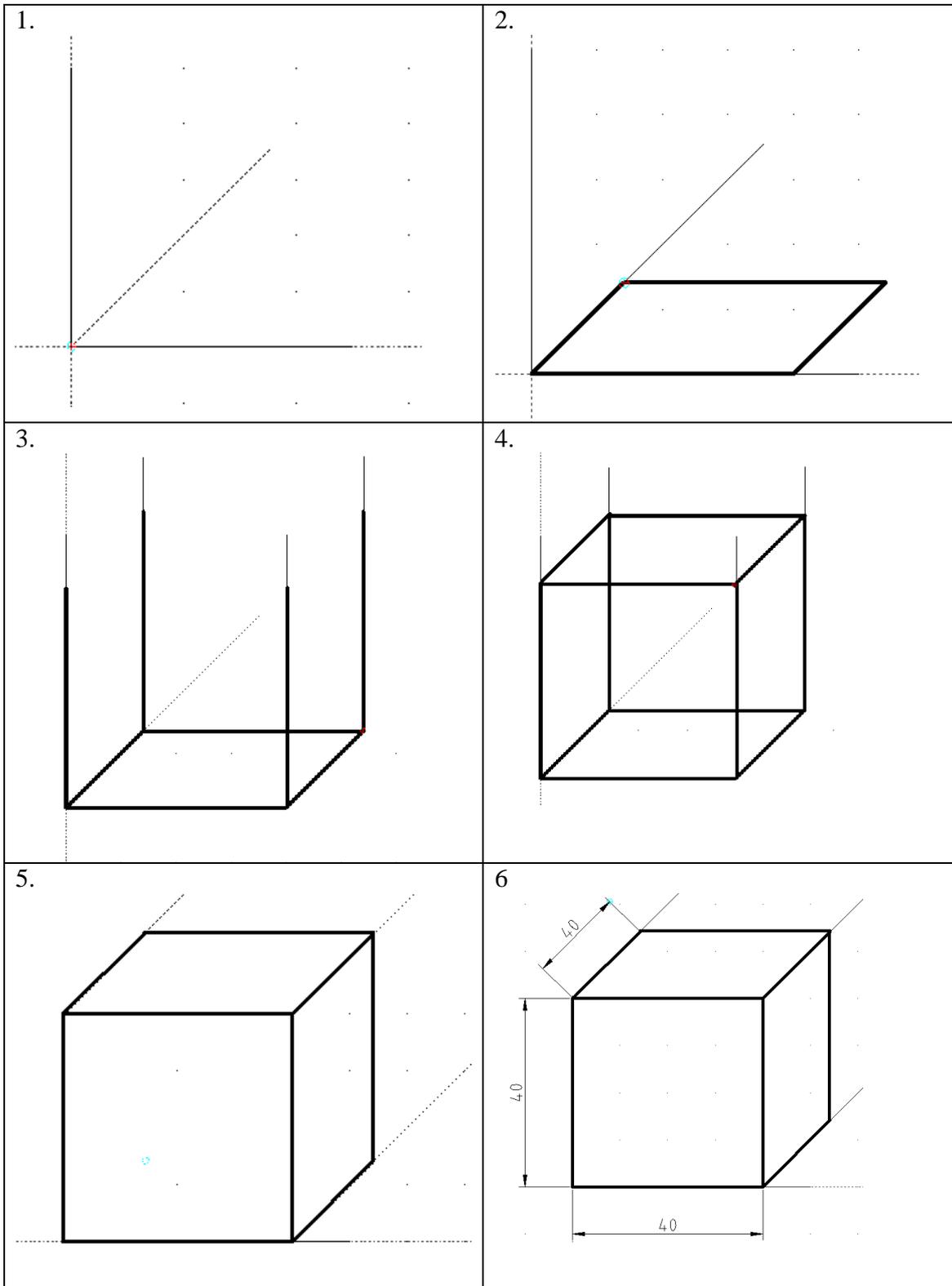
This second way to draw cavalier perspective is a bit more complicated to draw, but it is the only way to draw when the piece is difficult (there are some ramps in the front view or thick lines crossing the surface of the front view.

Key words:

English	Spanish
Edge /ɛdʒ/	Arista
Inclined plane /ɪnˈklʌɪnd pleɪn/	Plano inclinado
Sloping plane /ˈsləʊpɪŋ pleɪn/	Plano inclinado
Axis /ˈaksɪs/	Eje
Axes /ˈæksiːz/	Ejes
Cavalier perspective /ˈkavəlɪə pəˈspɛktɪv/	Perspectiva caballera
Isometric perspective /ʌɪsə(ʊ)ˈmɛtrɪk pəˈspɛktɪv/	Perspectiva isométrica
Conical perspective /ˈkɒnɪk(ə)l pəˈspɛktɪv/	Perspectiva cónica
Commercials /kəˈməːʃ(ə)ls/	Publicidad
Thin line /θɪn lʌɪn/	Línea fina
Thick line /θɪk lʌɪn/	Línea gruesa
Hidden line /ˈhɪdn lʌɪn/	Línea oculta
Ramp /ramp/	Rampa