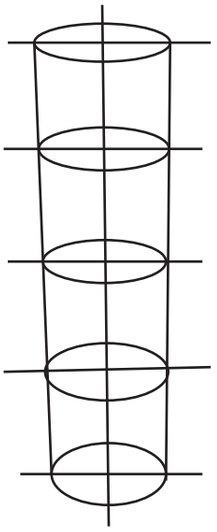
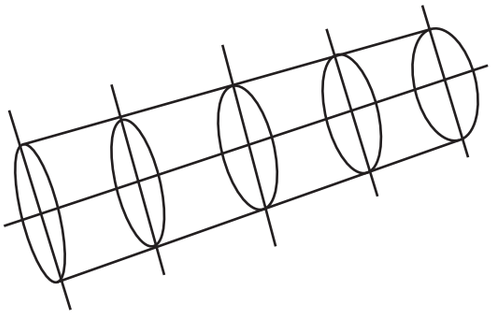
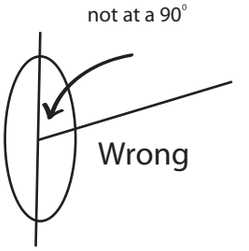
Foreshortened Circles



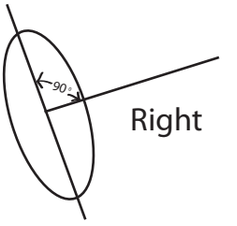


The ellipses become rounder as they move away from the eye, in this case from left to right.

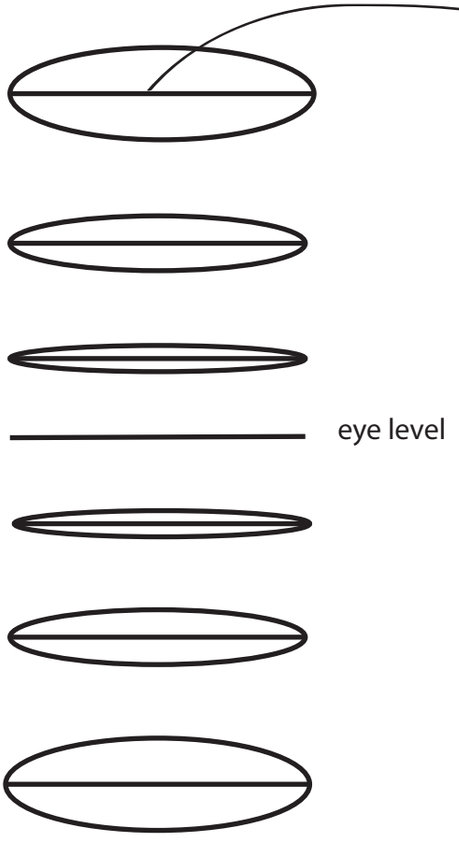
IN ANY CYLINDER, NO MATTER WHAT ITS ORIENTATION, THE MAJOR AXIS IS ALWAYS AT A RIGHT ANGLE TO THE MINOR AXIS. THE MINOR AXIS ALSO COINCIDES WITH THE AXLE RUNNING THROUGH THE MIDDLE OF THE CYLINDER.



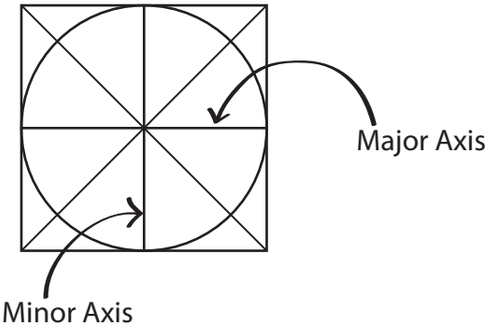
In the example above the axes are incorrect because the major axis is not at a right angle (90 degree angle).

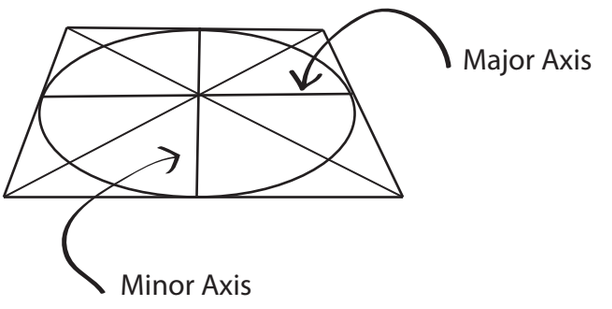


This example shows the correct orientation of the axes.



Where circles are parallel to the ground plane, the major axis is always horizontal to the viewer. At eye level a circle appears to be a straight line. As it moves further up or down from eye level it appears as an ellipse that is opening wider and wider.





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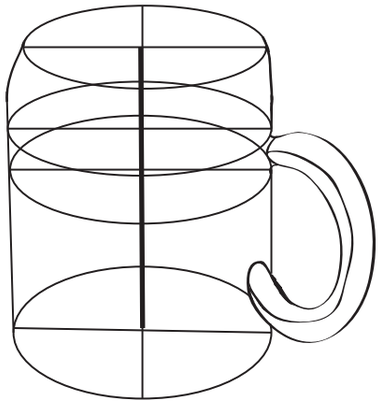
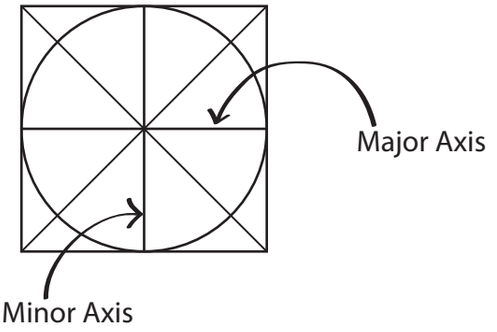
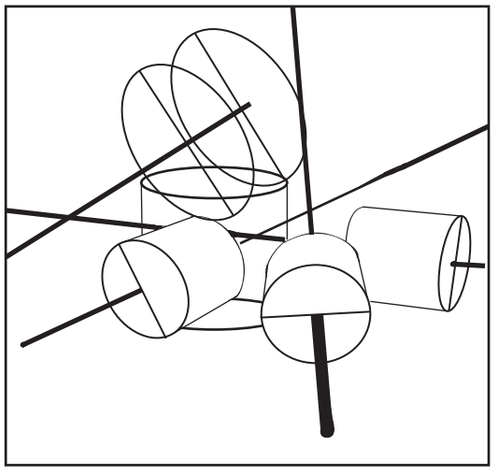
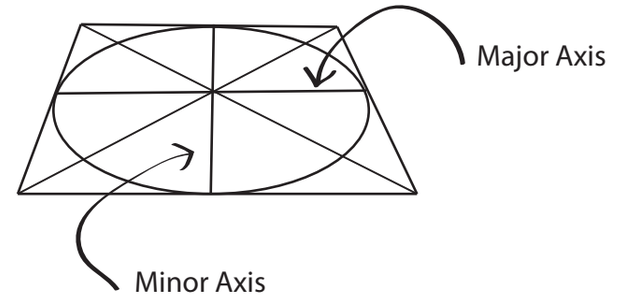
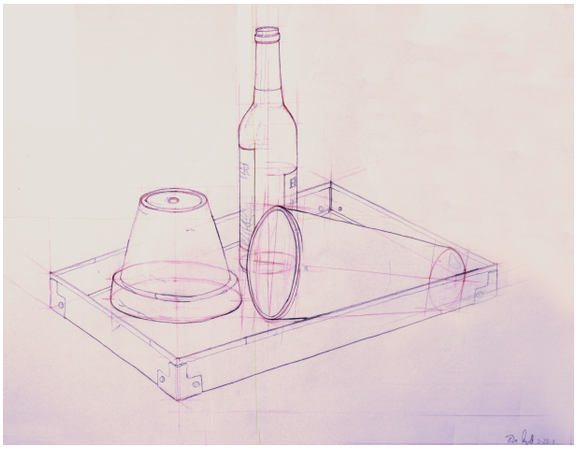


To capture the apparent increased curvature that occurs when foreshortened circles (ellipse) are positioned progressively further away from our eye level, we need to make a concerted effort to make each foreshortened circle slightly fuller than the one preceding it.





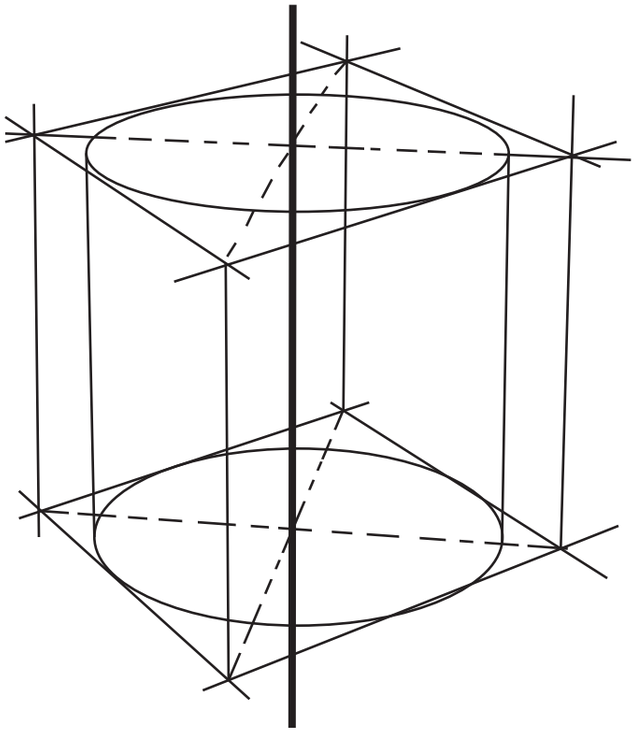


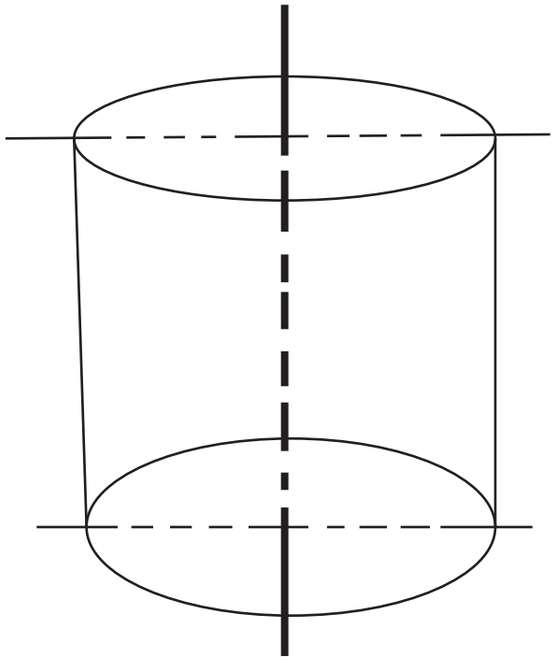


In the three dimensional world a central cylindrical axis is, by definition, equidistant from and parallel to the outside edges of the cylinder. In a two dimensional image, the central axis Is always equidistant from the cylinder's edges, but it can either be parallel to them (when it and the outside edges are parallel to the picture plane) or converge with them at a common point (when the cylinder is receding in space). Any circular cross section of a cylinder that is tilting back in space appears as an ellipse which is compressed along its minor axes and whose major axis is an actual 90 degrees to the cylindrical axis.

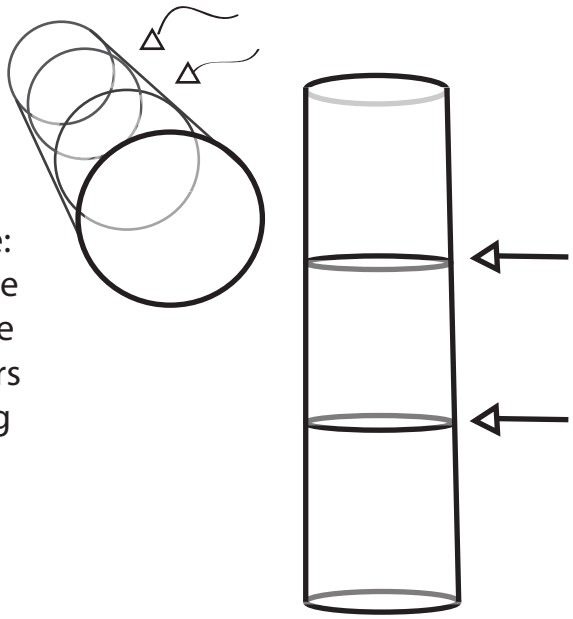
Foreshortened Circles

Depicting the center line (central axis) of a symmetrical object is something that artists have done for centuries to help in the accurate creating of form in space. This can also aid in making sure that the object being drawn, such as the vase and bowling pin to the left, are believably sitting on a flat surface, such as a table or floor.





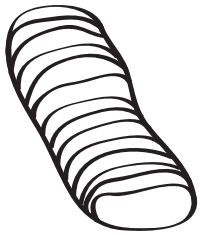
FORESHORTENING



Length vs. Measuring Points

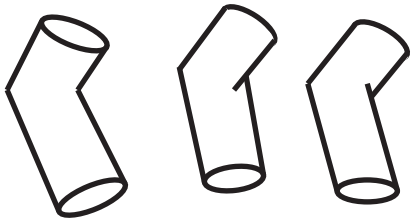
Look at the object at length, then determine the divisions to use: Quarters, thirds, divided in half, make note of what landmarks are in the areas you are marking off, then in the foreshortened shape make the same divisions and place landmarks or rework contours to help clarify landmarks. Also note that the ellipses overlapping the form shrink as they go back into space. This is also a form of perspective to consider, as the length of the form changes.

Cross Contours



One can see the shapes as forms because of the lines that cross over the forms, or in this case, the end shapes help define the form. Using cross contours solidifies the forms dimensionally.

Overlapping Lines



The contour lines of the forms define the boundaries we are viewing. When defining foreshortened forms, as the forms overlap one another it is clear that the outlines are not where the forms attach. The forms connect on the interior space. Extending the lines or crossing them over each other in a certain direction creates a sense of overlap; it helps us understand what form is in front of what. Just by changing the line direction, this changes the configuration of the shapes.

Line weight variation

Paying attention to the varying thickness and thinness, as well as the lightness and darkness of the lines that are being used can help suggest the feeling of a form receding or moving forward. A gradual shift toward a thin, light line can suggest an area of a form that is moving away from the viewer. A line that gradually gets darker and thicker can imply an area of an object that is closer to the viewer.