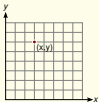
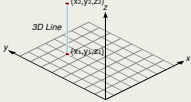
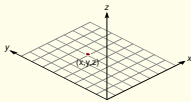
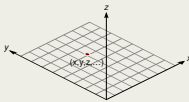
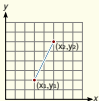
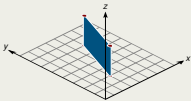
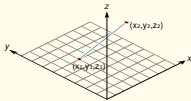
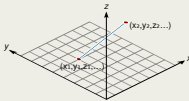
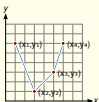
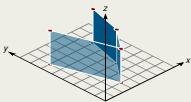
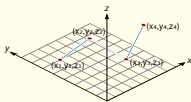
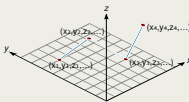

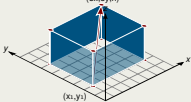
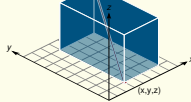
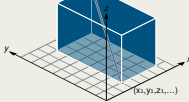
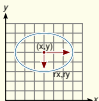
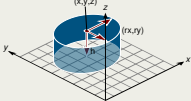
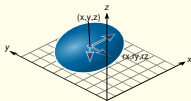
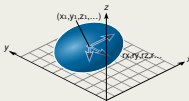
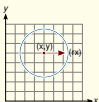
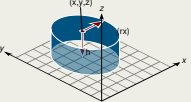
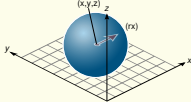
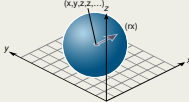

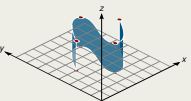
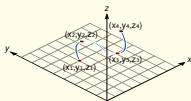
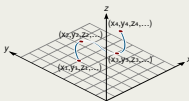
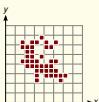
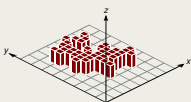
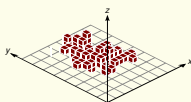
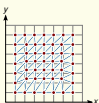
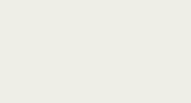
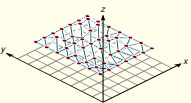


- Point/Vertex
- Line
- Vector

2D	2D Extruded	3D	nD
 <p><b>Point</b></p>	<p>Note: perpendicular to z axis</p>  <p><b>Line</b></p>	 <p><b>Point</b></p>	 <p><b>Point</b></p>
 <p><b>Line</b></p>	 <p><b>Rectangular surface</b> <i>2D rectangle in 3D projection (or mesh—better for orientation)</i></p>	 <p><b>Line</b></p>	 <p><b>Line</b></p>
 <p><b>Polyline</b></p>	 <p><b>Rectangular surface</b></p>	 <p><b>Polyline</b></p>	 <p><b>Polyline</b></p>
 <p><b>Rectangle</b></p>	 <p><b>Rectangular surface</b></p>	 <p><b>Cuboid</b></p>	 <p><b>Hyper-cuboid</b></p>
 <p><b>Ellipse</b></p>	 <p><b>Elliptical cylindrical surface</b></p>	 <p><b>Ellipsoid</b></p>	 <p><b>Hyper-ellipsoid</b></p>
 <p><b>Circle</b></p>	 <p><b>Circular cylindrical surface</b></p>	 <p><b>Sphere</b></p>	 <p><b>Hyper-sphere</b></p>
 <p><b>Spline</b></p>	 <p><b>Spline surface</b></p>	 <p><b>Spline</b></p>	 <p><b>Spline</b></p>
 <p><b>Mask</b></p>	 <p><b>Mask</b></p>	 <p><b>Mask</b></p>	<p>Masks may be bitmasks, integer or floating point. Allow pixel inclusion criterion to be selected when computing mask from shape?</p>
 <p><b>Mesh/Vertex array</b></p>	 <p><b>Mesh/Vertex array</b></p>	 <p><b>Mesh/Vertex array</b></p>	<p>Can represent arbitrary polygons and polyhedrons, including surfaces and volumes</p>

2D	2D Extruded	3D	nD
<p><b>Arc</b></p>	<p><b>Arc surface</b></p>	<p><b>Arc</b></p>	<p><b>Arc</b></p>
<p><b>Categorised/ Nested ROIs</b></p>		<p><b>Elliptic cylinder</b></p>	
<p><b>Distance</b></p>		<p><b>Cone</b></p>	
		<p><b>Distance</b></p>	<p><b>Distance</b></p>

## Alternative representations

Figure 1 displays four plots illustrating different ways to represent an ellipse:

- Top-left:** Ellipse (half axes). Shows a blue ellipse with red arrows indicating the x and y half-axes.
- Top-right:** Ellipse (bounding rectangle). Shows a blue ellipse with a red bounding rectangle.
- Bottom-left:** Rectangle/cuboid (vectors). Shows a blue rectangle with red arrows indicating the vectors from the origin to the vertices.
- Bottom-right:** Ellipse (Mahalanobis distance). Shows a green shaded ellipse representing the Mahalanobis distance from the origin.

### Drawing / annotation

**Drawing vs Measuring:**  
**Drawing:** Annotating an image with labels, shapes etc.  
**Measuring:** Using shapes to make measurements.