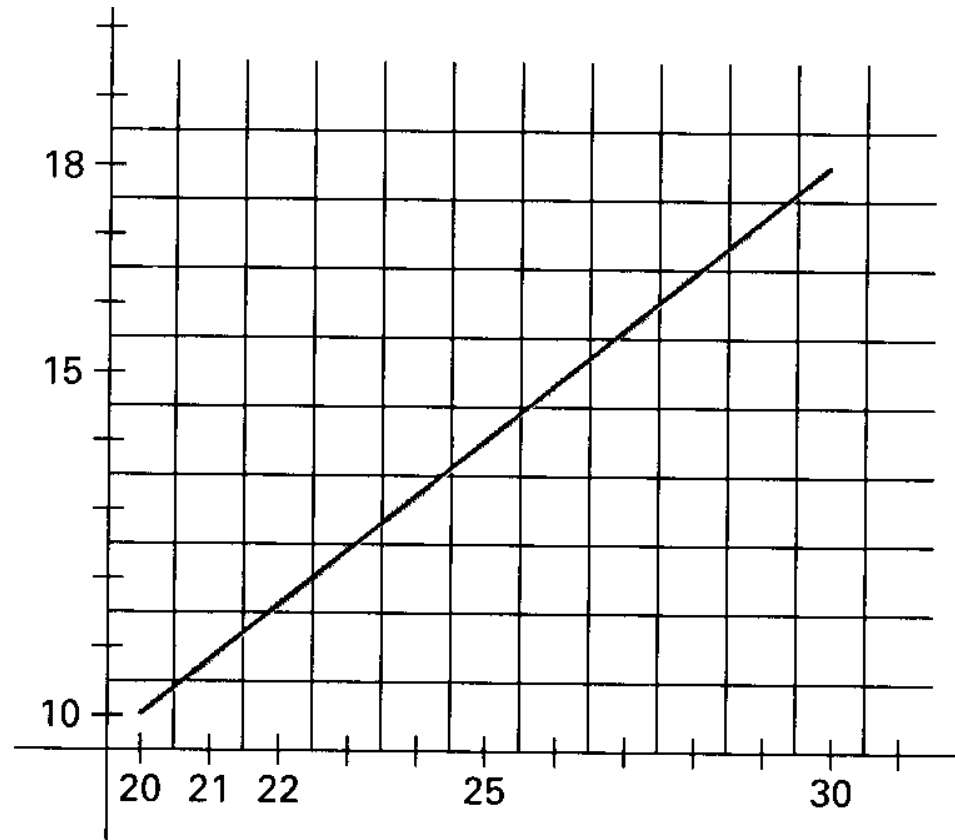# Introduction

An elementary graphics building block, such as a point, line or arc. In a solid modeling system, it is a cylinder, cube or sphere.
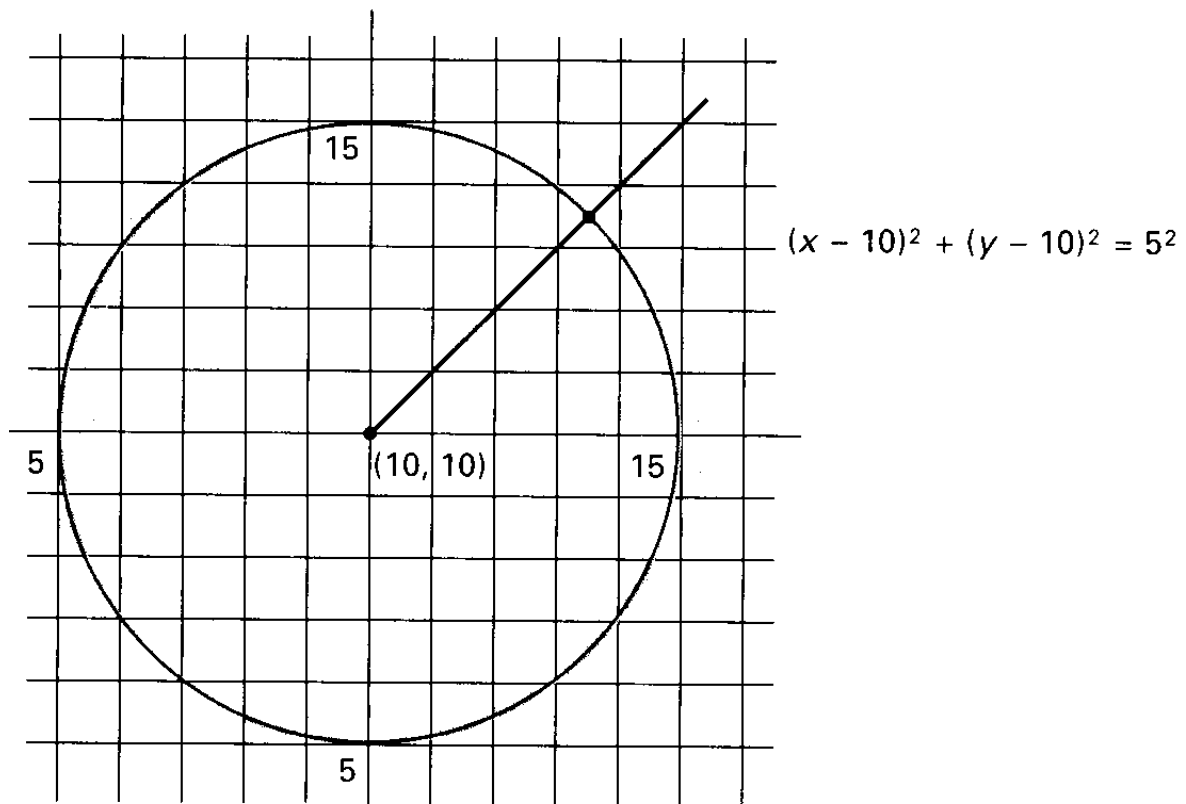
Output Primitives

- Characters,
- Geometric Entities.
- Lines,
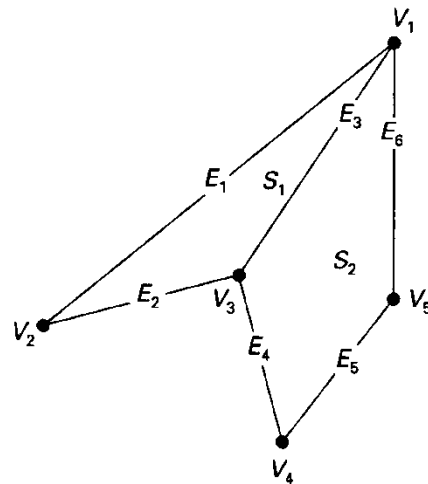- Filled Areas,
- Colours
- Polygons

Output Primitives - Lines and Points

Output Primitives - Circles

$$(x - 10)^2 + (y - 10)^2 = 5^2$$

Output Primitives - Polygon

VERTEX TABLE
V_1 : x_1, y_1, z_1
V_2 : x_2, y_2, z_2
V_3 : x_3, y_3, z_3
V_4 : x_4, y_4, z_4
V_5 : x_5, y_5, z_5

EDGE TABLE
E_1 : V_1, V_2
E_2 : V_2, V_3
E_3 : V_3, V_1
E_4 : V_3, V_4
E_5 : V_4, V_5
E_6 : V_5, V_1

POLYGON-SURFACE TABLE
S_1 : E_1, E_2, E_3
S_2 : E_3, E_4, E_5, E_6

Application

The application of graphics primitives such as points, lines, curves, and shapes or polygon(s), are used in **Vector graphics.** which are all based on mathematical expressions, to represent images in computer graphics. "Vector", in this context, implies more than a straight line.

Vector graphics is based on images made up of vectors (also called paths, or strokes) which lead through locations called control points. Each of these points has a definite position on the x and y axes of the work plan. Each point, as well, is a variety of database, including the location of the point in the work space and the direction of the vector (which is what defines the direction of the track). Each track can be assigned a color, a shape, a thickness and also a fill. This does not affect the size of the files in a substantial way because all information resides in the structure; it describes how to draw the vector.