1. A translation is applied to an object by
a) Repositioning it along with straight line path
b) Repositioning it along with circular path
c) Only b
d) All of the mentioned

2. We translate a two-dimensional point by adding
a) Translation distances
b) Translation difference
c) X and Y
d) None of the mentioned

3. The translation distances (dx, dy) is called as
a) Translation vector
b) Shift vector
c) Both a and b
d) Neither a nor b

4. In 2D-translation, a point (x, y) can move to the new position (x', y') by using the equation
a) x'=x+dx and y'=y+dx
b) x'=x+dx and y'=y+dy
c) X'=x+dy and Y'=y+dx
d) X'=x-dx and y'=y-dy

5. _____ is a rigid body transformation that moves objects without deformation.
a) Rotation
b) Scaling
c) Translation
d) All of the mentioned

6. Polygons are translated by adding _____ to the coordinate position of each vertex and the current attribute setting.
a) Straight line path
b) Translation vector
c) Differences
d) None of the mentioned

7. To change the position of a circle or ellipse we translate
a) Center coordinates
b) Center coordinates and redraw the figure in new location
c) Outline coordinates
d) All of the mentioned

8. The basic geometric transformations are
a) Translation
b) Rotation
c) Scaling
d) All of the mentioned

9. A two dimensional rotation is applied to an object by
a) Repositioning it along with straight line path
b) Repositioning it along with circular path
c) Both a and b
d) Any of the mentioned

10. To generate a rotation , we must specify
a) Rotation angle Θ
b) Distances dx and dy
c) Rotation distance
d) All of the mentioned

11. Positive values for the rotation angle Θ defines
a) Counterclockwise rotations about the end points
b) Counterclockwise translation about the pivot point
c) Counterclockwise rotations about the pivot point
d) Negative direction

12. The rotation axis that is perpendicular to the xy plane and passes through the pivot point is known as
a) Rotation
b) Translation
c) Scaling
d) Shearing

13. An ellipse can also be rotated about its center coordinates by rotating
a) End points
b) Major and minor axes
c) Only a
d) None

14. The transformation that is used to alter the size of an object is
a) Scaling
b) Rotation
c) Translation
d) Reflection

15. Scaling of a polygon is done by computing
a) The product of (x, y) of each vertex
b) (x, y) of end points
c) Center coordinates
d) Only a

`16. If the scaling factors values sx and sy < 1 then
a) It reduces the size of object
b) It increases the size of object
c) It stunts the shape of an object
d) None

17. If the scaling factors values sx and sy are assigned to the same value then
a) Uniform rotation is produced
b) Uniform scaling is produced
c) Scaling cannot be done
d) Scaling can be done or cannot be done

18. We control the location of a scaled object by choosing the position is known as
a) Pivot point
b) Fixed point
c) Differential scaling
d) Uniform scaling

19. f the value of sx=1 and sy=1 then
a) Reduce the size of object
b) Distort the picture
c) Produce an enlargement
d) No change in the size of an object

20. Reversing the order in which a sequence of transformations is performed may affect the transformed position of an object.
a) True
b) False

21. Which one of the following is the correct notation of a matrix with ‘m’ rows and ’n’ columns?
a) m + n
b) m – n
c) m x n
d) m/n

22. How many minimum numbers of zeros are there in ‘3 x 3’ triangular matrix?
a) 4
b) 3
c) 5
d) 6

23. Which of the following represents shearing?
a) (x, y) → (x+a, y+b)
b) (x, y) → (ax, by)
c) (x, y) → (x cos(θ)+y sin(θ), -x sin(θ)+y cos(θ))
d) (x, y) → (x+ay, y+bx)

24. Shearing is also termed as _____
a) Selecting
b) Sorting
c) Scaling
d) Skewing

25. Which of this is compulsory for 2D reflection.
a) Reflection plane.
b) Origin
c) Reflection axis
d) Co-ordinate axis.

26. A _____ is a system which uses one or more numbers, or coordinates, to uniquely determine the position of a point.
a) co-ordinate system
b) binary-system
c) vector-system
d) euclid geometry

27. Which co-ordinates allow common vector operations such as translation, rotation, scaling and perspective projection to be represented as a matrix by which the vector is multiplied.
a) vector co-ordinates
b) 3d co-ordinates
c) affine co-ordinates
d) homogenous co-ordinates

28. A view is selected by specifying a sub-area of the _____ picture area.
a) half
b) total
c) full

d) quarter

29. Co-ordinates are ranging according to the screen resolution.
a) True
b) False

30. Any convenient co-ordinate system or Cartesian co-ordinates which can be used to define the picture is called _____
a) spherical co-ordinates
b) vector co-ordinates
c) viewport co-ordinates
d) world co-ordinates

31. The process of elimination of parts of a scene outside a window or a viewport is called _____
a) cutting
b) plucking
c) clipping
d) editing

32. For a 2d transformation viewing, in how many ways a clipping algorithm can be applied?
a) 3
b) 2
c) 1
d) 5

33. Which of the following is NOT a type of clipping algorithm used on the raster system?
a) line clipping
b) point clipping
c) area clipping
d) solid clipping

34. For a point to be clipped, which of the following conditions must be satisfied by the point?
a) $xw_{min} < x < xw_{max}$
b) $xw_{min} = x = xw_{max}$
c) $xw_{min} > x > xw_{max}$
d) $yw_{min} = y = yw_{max}$

35. In polygon clipping, line clipping algorithms can be used.
a) True
b) False

36. The object space or the space in which the application model is defined is called _____
a) World co-ordinate system
b) Screen co-ordinate system
c) World window
d) Interface window

37. What is the name of the space in which the image is displayed?
a) World co-ordinate system
b) Screen co-ordinate system
c) World window
d) Interface window

38. The process of mapping a world window in World Coordinates to the Viewport is called Viewing transformation.
a) True
b) False

39. By changing the dimensions of the viewport, the _____ and _____ of the objects being displayed can be manipulated.
a) Number of pixels and image quality
b) X co-ordinate and Y co-ordinate
c) Size and proportions
d) All of these

40. A polygon can be clipped using clipping operations.
a) True
b) False

41. Which vertex of the polygon is clipped first in polygon clipping?
a) top right
b) bottom right
c) bottom left
d) top left

42. We can change the size or resize the bitmap image.
a) True
b) False

43. In line clipping, the portion of line which is _____ of window is cut and the portion that is _____ the window is kept.
a) outside, inside
b) inside, outside

c) exact copy, different
d) different, an exact copy

44. Cohen-Sutherland clipping is an example of _____
a) polygon clipping
b) text clipping
c) line clipping
d) curve clipping

45. The Cohen-Sutherland algorithm divides the region into _____ number of spaces.
a) 8
b) 6
c) 7
d) 9

46. The centre region of the screen and the window can be represented as_____
a) 0000
b) 1111
c) 0110
d) 1001

47. The Cohen–Sutherland algorithm can be only be used on a rectangular clip window.
a) True
b) False

48. If both codes are 0000, (bitwise OR of the codes yields 0000) line lies _____ the window.
a) completely outside
b) half inside half outside
c) completely inside
d) can’t say anything

49. The 4-bit code of top-left region of the window is _____
a) 1001
b) 1100
c) 0101
d) 1010