NAME:_____

1. Describe the locus of points a distance 3 from point X .

   [A] a sphere with center X and radius 3   [B] a plane a distance 3 from the point X

   [C] a circle with center X and radius 3   [D] a line segment with length 6 and X as the midpoint

2. Describe the locus of points a distance 2 from a line segment of length 5.

   [A] a cylindrical surface with radius 2 and height 5 and two hemispheres with radii 2 and centers at the endpoints of the line segment

   [B] a rectangular solid that is 9 by 4 by 4

   [C] a sphere with radius 2   [D] a rectangle with length 9 and width 4

3. Describe the locus of points in space that are equidistant from two given points.

4. Describe the locus of points equidistant from two given points in two dimensions and in three dimensions.

[1] A_____

[2] A_____

[3] the plane that is the perpendicular bisector of the line segment joining the two points

[4] In 2 dimensions: a line that is the perpendicular bisector of the segment connecting the two points; in 3 dimensions: a plane that is the perpendicular bisector of the segment connecting the two points.