NAME:

SUNDAY WINNER CHIGOZIRM

COURSE:

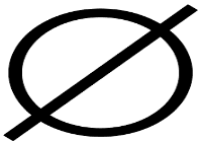
ENG 232; ENGINEERING DRAWING

DEPT:

MECHATRONICS ENGINEERING

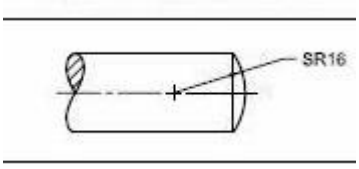
MATRIC:

18/ENG05/057

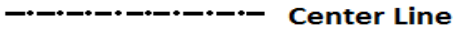
1. You use a cutting plane line to represent a sectioned surface on a drawing.
2. Principles of dimensions:
    - Dimensions should not be duplicated
    - Avoid unnecessary dimensions – only those needed to produce or inspect the part.
    - Dimensions should be placed at finished surfaces or important center lines.
    - Never cross dimension lines.
    - Never cross extension lines.
    - A center line may be extended and used as an extension line.
    - Leaders should slope at a 30, 45 or 60 angle.
    - Dimension numbers should be centered between arrowheads, except when using stacked dimensions then the numbers should be staggered.
    - In general, a circle is dimensioned by its diameter, an arc by its radius.
    - Holes should be located by their center lines.
    - Holes should be located in the view that shows the feature as a circle.
    - Extension lines start approximately $1/16^{th}$ from the object and extend $1/8^{th}$ past the last dimension.
    - The first dimension is approximately, ½'' from the object and spaced uniformly approximately, 3/8'' apart.
    - Always dimension the actual size of the object – not the scaled size.
3. (a) Half section: A half section is a view of an object showing one-half of the view in section. The diagonal lines on the section drawing are used to indicate the area that has been theoretically cut.
   (b) Full section: When the cutting plane line passes entirely through an object, the resulting section is called a full section.
4. A leading line consists of a type B line (thin, continuous, straight) going from the instruction to the feature and a terminator. The terminator can be a dot if the line ends within the outline of the part, an arrow if the line touches the outline of center line feature or without either an arrowhead or dot if the line touches a dimension.
5. (a) Scale = 5:1: This scale means that the object is five times bigger in real life than the drawing portrays.
   (b) Scale = 1:10: This scale means that the object is ten times smaller in real life than the drawing portrays.
6. (a) Diameter: 

   (b) Radius: **R**

(c) Square:

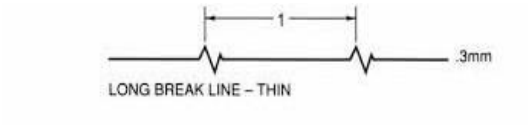


(d) Spherical radius:



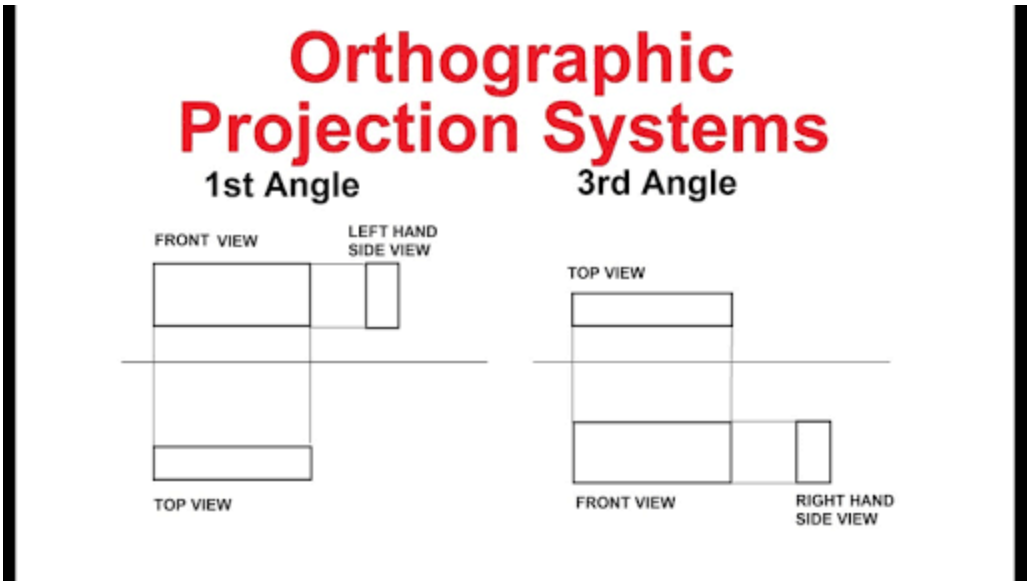
(e) Center line:

(f) Cutting plane line:



(d) Long break:

7. The elements to be considered are the veiws: front veiw, side veiw and plan veiw. Orthographic projection is a means of representing three-dimensional objects in two dimensions. It is a form of parallel projection, in which all the projection lines are orthogonal to the projection plane, resulting in every plane of the scen appearing in affine transformation on the veiwing surface.
8. An orthographic projection normally contains three veiws of an object: the front veiw in the lower left corner, thetop veiw in the upper left corner, and the right side veiw in the lower right corner.

9. 

(a) First angle projection: In this form of orthographic projection the front veiw is in the top left hand corner, the side veiw is in the top right hand veiw and the top/plan veiw is just below the fron veiw as shown in the digram above.

(b) Third angle Projection: In this form of orthographic projection the front veiw is in the bottom left hand corner, the side veiw is in the bottom right hand corner and the top/plan veiw is right baove the fornt veiw as shown in the diagram above.

OBJECTIVES:

1. D
2. A
3. D
4. A
5. A
6. B
7. C
8. B
9. B
10. A
11. C
12. A
13. C
14. C
15. D