Projections of Points

Problem Set 1:

1. Draw the projections of the following points, keeping the distance between the projectors is 25mm on the same ground line:
    a. A is 20mm above HP & 25mm in front of VP
    b. B is 30 mm behind VP & 40mm above HP
    c. C is 25mm below HP & 20mm in front of VP
    d. D is 20 mm behind VP & 30mm below HP
    e. E is in VP and 25mm above HP
    f. F is in HP & 30mm behind VP
    g. G is in VP & 35mm below HP
    h. H in HP & 20mm in front of VP
    i. I in both HP & VP
    j. J is 35mm above HP & 35mm behind VP.

    Identify the quadrants in which the points lie.

2. A point P is 50mm from the both reference planes. Draw its projections in all possible positions on the same XY line.
3. The projections of the point Q coincide 40mm below the XY line. Draw the projections and identify the quadrant.
4. A point L is 15mm above the HP and 20mm in front of the VP. Another point M is 25mm behind the VP and 40mm below the HP. Draw their projections if the distance between the two points is 90mm. Draw lines joining their front and top views.
5. Two points R & S are in the HP. R is 30mm in front of the VP, while S is behind the VP. The distance between their end projectors is 75mm and the line joining their top views makes an angle of 45^0 with XY. Find the distance of S from VP.

Problem Set 2: Profile View

Draw all three projections of the points described below:

1. 30mm in front of VP, 20mm above HP & 25mm from LPP
2. 30mm behind VP, in HP & 20mm from RPP
3. 35mm behind VP, 15mm above HP & 25mm in front of LPP
4. 20mm behind VP, 40mm above HP & 25mm away from RPP
5. 30mm behind VP, 30mm above HP & 25mm away from LPP
6. 35mm below the HP, 20mm behind VP & 25mm behind RPP
7. On the HP, 20mm behind VP & 30mm from RPP
8. On the VP, 25mm below HP & 35mm behind the LPP
9. 40mm in front of VP, in the HP and 25mm from LPP
10. 40mm in front of VP, 30mm below HP & 25mm from RPP
11. The point touches all three principal planes

Problem Set 3:

1. Draw the projections of a point lying 20mm above HP & in the first quadrant, if its shortest distance from the line of intersection of HP & VP is 40mm. Find the distance of the point from the VP.
2. A point is in the first quadrant such that the shortest distance from the point of intersection of HP & VP is 70mm and at equal distances from the three principal planes. Draw the projections of the point and determine the distance of the point from the reference planes.
3. A point 20mm above the XY line is the front view of two points E & F. The top view of point E is 35mm above XY and top view of point F is 40mm below XY. Draw the projections of both points and state their positions with respect to the reference planes and the quadrants in which they lie.
4. A point 20mm below XY line is the top view of three points P, Q & R. point P is 25mm below HP, the point Q is 35mm above HP and R is on HP. Draw the projections of the three point and state their positions.