APPENDIX – G
Final Draft of the Diagnostic Test

Diagnostic Test

Name of the Student: _______________________________ Date: ______

Name of the School: ______________________________________________________________________________

Note: - Read the questions properly.

I. Group the following as defined & undefined terms:
   Point, Line, Line-Segment, Ray
   Defined terms -

   Undefined terms -

II. Define the following terms:
   Collinear Points -

   Non-Collinear Points -

   Co-Planar Points -

   Non-Coplanar Points -

   Opposite Rays -

   Angle -
III. Observe the figure and select the most appropriate symbol to make the statement correct with reference to the given figure:

Symbols: ∈, ∉, ⊂, =, ≠

1. X ___ \ell  
2. Y ___ \ell  
3. A ___ \ell  
4. F ___ \ell  
5. YB ___ \ell  
6. AB ___ \ell  
7. BD ___ \ell  
8. AB ___ \ell  
9. BD ___ AB  
10. B ___ YA  
11. AB ___ AB  
12. XZ ___ \ell  
13. YB ___ \ell  
14. C ___ AB  
15. A ___ AD  
16. X ___ ZX  
17. Z ___ C  
18. BD ___ \ell  
19. BD ___ BD  
20. Z ___ YD  
21. AB ___ \ell  
22. AB ___ AD  
23. D ___ AB  
24. A ___ AD  
25. A ___ BD  
26. BA ___ AB  
27. AB ___ AB  
28. BD ___ AB  
29. AD ___ BD  
30. BA ___ BY  
31. DA ___ BA  
32. BD ___ AD
IV. Draw a figure representing the following situations:

1. Three distinct lines \( \ell_1, \ell_2 \) & \( \ell_3 \)

2. \( AB = CD \)

3. \( \ell_1 \cap \ell_2 = \emptyset \)

4. \( \ell_1 = \overline{AB} \)

5. \( X \in \ell \) & \( Y \in \ell \)

6. \( X, Y, Z \) are three distinct non-collinear points

7. \( A, B, C \) are three distinct collinear points
8. $\ell_2 \cap \ell_1 = \{X\}$

9. $AB \subset t$

10. $\overline{AB} \cap t = \overline{AB}$

11. $\overline{AB} \cap \overline{XY} = \overline{AB}$

12. $\overline{AB} \cap \overline{CD} = \emptyset$

13. $\overline{XY} \cap \overline{YZ} = \{Y\}$

14. $\overline{XY} \cap \overline{YZ} = \overline{YZ}$
15. \( AO \)

16. \( AB \cap BO = \{B\} \)

17. \( AB \cap AC = \{A\} \)

18. \( AB \cap AD = AB \)

19. \( AB \subset \ell \)

20. \( XY \cap AB = \phi \)

21. A-C-D-B
V. Answer the following questions based on the figure below:

1. What is AB? Ans. ____________
2. What is YC? Ans. ____________
3. What is AX? Ans. ____________
4. What is CX? Ans. ____________
5. What is AY? Ans. ____________
6. Which are the points in the positive direction of line \( \ell \)?
   Ans. ____________
7. Which are the points in the negative direction of line \( \ell \)?
   Ans. ____________
8. Which is the origin of line \( \ell \)?
   Ans. ____________
9. Which is the mid-point of \( \overline{OB} \)?
   Ans. ____________
10. What will be the number corresponding to the mid-point of \( \overline{CX} \)?
    Ans. ____________
11. What will be the number corresponding to the mid-point of \( \overline{CY} \)?
    Ans. ____________
12. Which are the congruent line-segments to \( \overline{YA} \)?
    Ans. ____________
13. Which is the congruent line-segment to \( \overline{AC} \)?
    Ans. ____________
14. Which point is equidistant from X & Y?
    Ans. ____________

VI. Answer the following questions:

1. Represent \( \overline{AB} \) in a set form?
   Ans.

2. Represent \( \overline{AB} \) in a set form?
   Ans.

3. Line-segment has how many end-points?

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4. Line has how many end points?
   Ans.

5. Ray has how many end-points?
   Ans.

6. How many planes pass through one point?
   Ans.

7. How many lines pass through two distinct points?
   Ans.

8. How many lines pass through one point?
   Ans.

9. How many planes pass through two distinct points?
   Ans.

10. How many planes pass through three distinct non-collinear points?
    Ans.

11. How many distinct points determine a line?
    Ans.

12. How many distinct points determine a plane?
    Ans.

13. Into how many parts does a line divide the plane?
    Ans.

14. What is the intersection of two distinct intersecting lines?
15. Does line have a bisector?
   Ans.

16. A line-segment has how many mid-points?
   Ans.

17. How many distinct lines determine a plane?
   Ans.

18. What is the intersection of two distinct intersecting planes?
   Ans.

19. When will two rays be opposite to each other?
   Ans.

20. How many arms does an angle have?
   Ans.

21. How many vertices does an angle have?
   Ans.

22. How many bisectors does an angle have?
   Ans.

23. Are supplementary angles congruent?
   Ans.

24. Are vertically opposite angles congruent?
   Ans.

25. Do adjacent angles always form a linear pair of angles?
   Ans.

26. Is linear pair of angles adjacent?
27. Are complementary angles adjacent? 
   Ans.

28. Is linear pair of angles congruent? 
   Ans.

VII. Answer the following questions based on the figure below:

1. $\overline{AD} \cap \overline{AB} =$  
2. $\overline{BC} \cap \overline{DA} =$  
3. $\ell_2 \cap \ell_4 =$  
4. $\overline{CB} \cap \overline{CA} =$  
5. $\overline{CB} \cap \overline{DA} =$  
6. $\ell_2 \cap \ell_3 =$  
7. $\overline{BC} \cap \overline{DA} =$  
8. $\overline{AG} \cap \overline{CB} =$  
9. $\overline{BD} \cap \overline{FD} =$  
10. $\overline{AG} \cap \overline{BC} =$  
11. $\overline{CE} \cap \ell_4 =$  
12. $\overline{CB} \cap \overline{BA} =$  
13. $\overline{FB} \cap \overline{BA} =$  
14. $\overline{FB} \cap \ell_2 =$  
15. $\overline{BD} \cap \overline{FD} =$  
16. $\overline{BD} \cap \overline{FB} =$  
17. $\overline{CE} \cap \overline{BC} =$  
18. $\overline{DA} \cap \overline{CE} =$

VIII. Answer the following questions based on the figure below:
In the figure X, Y & Z are 3 parallel planes.

1. Which all points are coplanar with respect to plane X?
Ans.

2. Which all points are coplanar with respect to plane Y?
Ans.

3. Which all points are coplanar with respect to plane Z?
Ans.

4. List all the points that are coplanar to the point R.
Ans.

5. Are $\overline{AB}$ & $\overline{CE}$ parallel?
Ans.

6. Are $\overline{AB}$ & $\overline{PQ}$ parallel?
Ans.

7. Are $\overline{QS}$ & $\overline{FG}$ parallel?
Ans.

8. Mention all the points lying in the same half planes with respect to $\overline{CE}$?
Ans.

9. What is the relation between $\overline{CE}$ & plane X?
Ans.

10. Are lines $\overline{AB}$ and $\overline{GD}$ coplanar?
Ans.

11. Are lines $\overline{AB}$ and $\overline{QS}$ coplanar?
Ans.
IX [A]. Look at the following figure below and answer the following questions:

1. Name the arms of $\angle QRS$
   Ans. __________

2. List the points lying in the interior of $\angle PRS$
   Ans. __________

3. List the points lying in the exterior of $\angle PRS$
   Ans. __________

4. List the points lying on the angle $\angle QRS$
   Ans. __________

5. Are angles $\angle QRS$ & $\angle PRS$ same?
   Ans. __________

6. Are angles $\angle PRS$ & $\angle PRC$ same?
   Ans. __________

7. How many partitions of the plane are made by an angle $\angle QRS$?
   Ans. __________

8. Will the ray $RD$ intersect $PS$?
   Ans. __________

9. Will the ray $RA$ intersect $PS$?
   Ans. __________

10. Will the ray $RS$ intersect $PS$?
    Ans. __________

IX [B]. Fill up the table below having the arms & vertices of the corresponding angles.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Angles</th>
<th>Arms</th>
<th>Vertex</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>$\angle DEF$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>$\overline{PQ}, \overline{PR}$</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
X. Refer the figure below and select appropriate option(s) for the given pair of angles (Put a mark ‘V’ in the table against the selected options)

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Pairs of Angles</th>
<th>Complementary Angles</th>
<th>Supplementary Angles</th>
<th>Adjacent Angles</th>
<th>Linear Pair of Angles</th>
<th>Vertically Opposite Angles</th>
<th>No Relation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>∠DOA, ∠DOC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>∠PQT, ∠TQR</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>3.</td>
<td>∠DOC, ∠COB</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4.</td>
<td>∠PQT, ∠OQR</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>5.</td>
<td>∠ORS, ∠ORQ</td>
<td></td>
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</tr>
<tr>
<td>6.</td>
<td>∠URP, ∠URS</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>7.</td>
<td>∠DOC, ∠QOR</td>
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</tr>
<tr>
<td>8.</td>
<td>∠OQR, ∠OQP</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>9.</td>
<td>∠QOR, ∠ROB</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>10.</td>
<td>∠QOR, ∠COB</td>
<td></td>
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</tr>
<tr>
<td>11.</td>
<td>∠ORS, ∠PRU</td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

XI. Answer the following questions based on the same figure above:

1. Which type of angle is ∠COB? Ans. _____________________
2. Which type of angle is ∠OQP? Ans. _____________________
3. Which type of angle is ∠OQR? Ans. _____________________
4. Which type of angle is ∠ORS? Ans. _____________________
5. Which type of angle is ∠ROA? Ans. _____________________
6. Which type of angle is ∠COA? Ans. _____________________
7. Which type of angle is ∠QOA? Ans. _____________________