

Tools For Geometry – Points, Lines & Planes

Notes Section 1.1

Name _____

Undefined terms in geometry: point, line, and plane

Point indicates a location. It has no dimension, is represented by a dot.



Line is represented by a straight path that extends indefinitely in two directions and has no thickness or width. A line contains infinite many points.



Plane is represented by a flat surface that extends without end in two dimensions and has not thickness. A plane contains infinite many points.



collinear points - points that lie on the same line.



Coplanar - coplanar points are points that lie in the same plane.



Space - space is the set of all points

Segment - Two points and all the points between them.



Ray - a segment that is extended indefinitely in one direction



Opposite rays - two collinear rays that extend in opposite directions



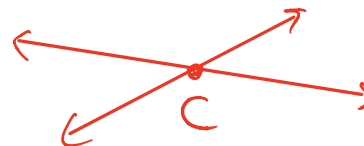
\overrightarrow{AB} and \overrightarrow{AC} are opposite rays

Postulate – a conditional statement that is accepted as being true.

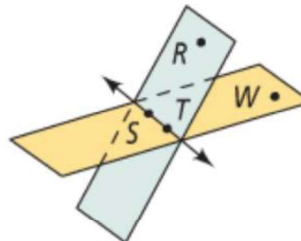
Postulate 1-1 – Through any two points is exactly one line.



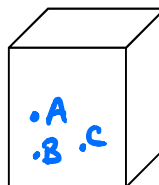
Postulate 1-2 – If two lines intersect, then their intersection is exactly one point.



Postulate 1-3 – If two planes intersect, then their intersection is a line.



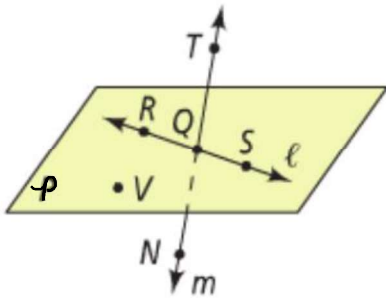
Postulate 1-4 – Through any three noncollinear points there is exactly one plane.



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1. What are two other ways to name \overleftrightarrow{QT} ?

$m, \overleftrightarrow{NQ}$

2. What are two other ways to name P ?

Plane RVS
Plane SQV

3. Name three collinear points.

N, V, S

4. Name a point not coplanar with points $R, S,$ and V .

T or N

5. Name the three line segments.

$\overline{DE}, \overline{DF}, \overline{EF}$

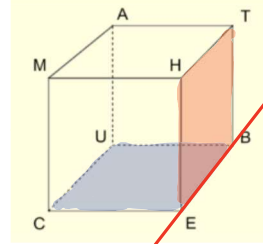
6. Name the four rays.

$\overrightarrow{DE}, \overrightarrow{ED}, \overrightarrow{EF}, \overrightarrow{FE}$

7. Which rays are opposite rays?

\overrightarrow{EF} and \overrightarrow{ED}

8. What is the intersection of plane CUE and plane EBT ?



\overleftrightarrow{EB}