SLO: I can use definitions & theorems about points, lines and planes to determine relationships between them.

VOCABULARY (use these words while you are answering questions)

Point	Perpendicular	Coplanar	Parallel	Parallel lines
Parallel planes	Skewed lines	Point of intersection	Line	Ray
Cone	Cylinder	Net	Prism	Right prism (in all of its forms)
Pyramid	Sphere	Surface area	Volume	Lateral edge
Lateral face	Lateral surface	Altitude	Regular	Vertex
Slant height	Radius	Great circle	Line segment	

TO DO: Review vocabulary: Skew, parallel, line, point, intersect, perpendicular, coplanar, collinear.

1) A _____ is a 2 dimensional surface.

2) Two lines intersect in a _____.

3) A plane and a line intersect in a _____.

4) Two planes intersect in a _____.

5) Lines that are in the same plane & don't intersect are

_____.

6) Lines that are not in the same plane & don't intersect

are _____.

7) Points or lines in the same plane are called

_____.

8) Points on the same line are called _____.

TO READ: Planes: Reading problems involving planes can be VERY challenging. Visualizing what you are reading can be MIND-NUMBING. Make this easy on yourself – use physical models to see what is going on. Read 1 step, set it up. Read the next step, set it up. Today you will use a toolkit with plastic representing planes and wooden dowels representing lines. Having this toolkit can turn the mind-numbing visualization into a fairly easy task.

TO READ USE AND RETURN: 1 Toolkit (must be shared between 3 or 4 students)
                                        --1 toolkit contain: 3 planes, 3 lines, and post-its for labeling lines and planes.

1) Lines AB and CD intersect at Q. Line EF passes through Q and is perpendicular to both lines AB and CD. Describe the relationship between line EF and the plane containing lines AB and CD.

_____

_____

2) Point Q is on line AB. How many planes pass through point Q? How many planes that pass through point Q are perpendicular to line AB?

_____

_____

3) Point Q is on plane R. How many lines pass through point R? How many lines that pass through point Q are perpendicular to plane R?

_____

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4) Do 2 lines have to be coplanar(in the same plane)? Explain. Lines AB and CD are perpendicular to plane R. Do lines AB and CD have to be coplanar (in the same plane)? Explain.

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_____

5) Planes R and S intersect. Do planes R and S have to be perpendicular? Explain.

_____

Now plane R contains line AB which is perpendicular to plane S. Now is plane R perpendicular to plane S? Explain.

_____

What if we start out knowing that plane R is perpendicular to plane S? Is there at least one line in plane R that is perpendicular to plane S? Do all the lines in plane R have to be perpendicular to plain S? Explain.

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6) Line AB is perpendicular to plane R at point Q. Line CD is perpendicular to line AB and passes through point Q. Does line CD have to be in plane R? Explain.

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7) Line AB is perpendicular to plane R. Are all of the planes that contain line AB perpendicular to plane R? Explain.

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8) Plane S and plane T are parallel. Plane R intersects plane S in line AB and plane T in line CD. What relationship do lines AB and CD have?

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9) Plane R is perpendicular to line AB and plane S is perpendicular to line AB. What relationship do the planes have? Explain.

_____

10) ON YOUR REGENTS EXAM, how will you make sure that you will have a "toolkit" to use?

I can make sure that I take at least _____ _____ to represent lines. To represent planes, I can use

_____ _____ or _____ or _____.