

6.1/6.3. Honors Geometry

DATE: 10/15 - 10/16

Target 2A. Identify and describe the basic terms of geometry

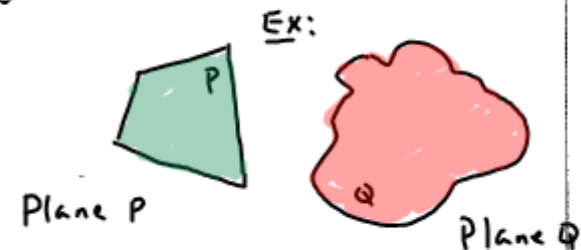
REVIEW

- Collinear points: Points that lie on the same line
- Non-collinear points: points that don't lie on same line

RELATING LINES TO PLANES

- **Plane:** a flat surface (with no thickness) that is infinite in length and width. What are the two ways of naming a plane?
Find examples of planes in the classroom.

① With capital letter ② 2 non-collinear pts.



- Coplanar: points, lines, segments and so forth that lie in the same plane.
- Non-coplanar: points, lines, segments and so forth that don't lie in the same plane

- Foot: The point of intersection of a line and a plane.

Parallel vs. Skew

Target 2A notes.pdf - Adobe Reader

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- **Foot:** The point of intersection of a line and a plane.

Parallel vs. Skew

- **Parallel lines:** Coplanar lines that don't intersect.
- **Skew lines:** Lines that are NOT parallel and DO NOT intersect. In other words, lines that are on parallel planes but they are not parallel to each other.
Find examples of parallel and skew lines in the classroom.

POSTULATE 1: If two lines intersect, then their intersection is exactly one point.

POSTULATE 2: If a line intersects a plane not containing it, then their intersection is exactly one point.

POSTULATE 3: If two planes intersect, then their intersection is exactly one line.

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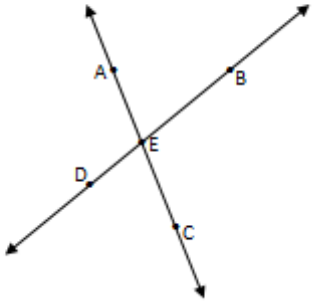
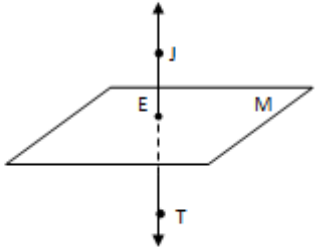
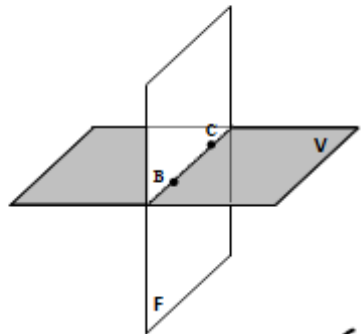
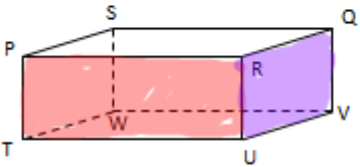
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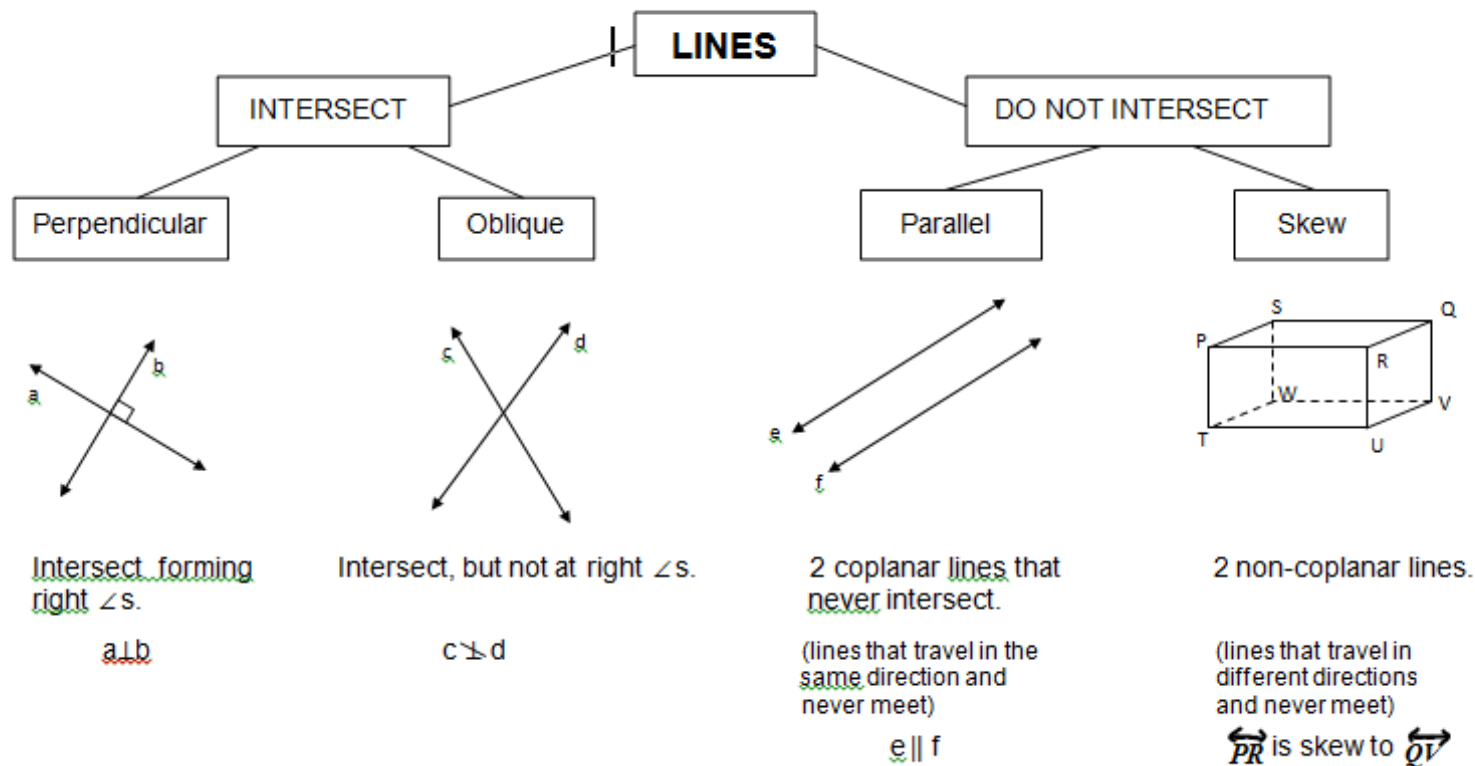
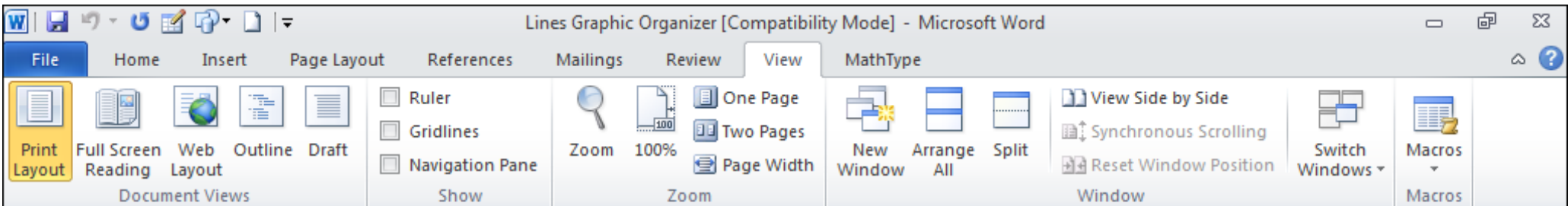
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INTERSECTIONS

2 Lines	A Line and a Plane	2 Planes
<p>The intersection of 2 lines is a <u>point</u>.</p>  <p>$\leftrightarrow AC$ intersects $\leftrightarrow DB$ at <u>E</u>.</p>	<p>The intersection of a line and a plane is a <u>point</u>.</p>  <p>$\leftrightarrow JT$ intersects Plane <u>M</u> at <u>E</u>.</p>	<p>The intersection of 2 planes is a <u>line</u>.</p>  <p>Plane <u>F</u> intersects Plane <u>V</u> at <u>BC</u>.</p>  <p>Plane <u>PTUR</u> intersects Plane <u>RUVQ</u> at <u>RU</u>.</p>



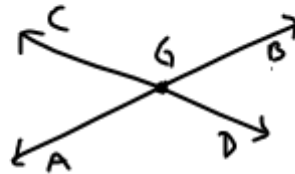
Name some streets in the Berwyn/Cicero area that fit each category:

<u>Perpendicular</u>	<u>Oblique</u>	<u>Parallel</u>	<u>Skew</u>
22nd and Austin	Ogden and Austin	Harlem and Austin	Central and 55 hwy

Draw a picture containing the following information:

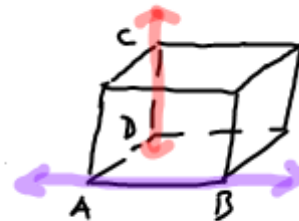
1. Lines AB and CD that intersect at point G and lie in the same plane.

$$\overleftrightarrow{AB} \cap \overleftrightarrow{CD} = G$$



2. Lines AB and CD that are skew.

$$\overleftrightarrow{AB}, \overleftrightarrow{CD} \text{ skew}$$



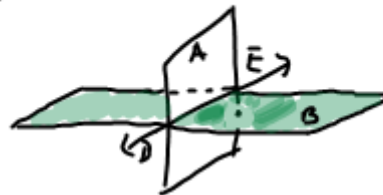
3. Line BC that intersects plane M at point C.

$$\overleftrightarrow{BC} \cap \text{Plane } M = C$$



4. Plane A and B that intersect at line DE.

$$\text{Plane } A \cap \text{Plane } B = \overleftrightarrow{DE}$$



5. Plane M and N that are parallel to each other.

$$\text{Plane } M \parallel \text{Plane } N$$



Use the diagram on the right to answer #6-13.

Use the diagram on the right to answer #6-13.

6. What is the intersection of A and B? \overleftrightarrow{UT}

Plane A \cap Plane B

7. S, T, U determine which plane? A

8. What is the intersection of m and n? T

$m \cap n$

9. What is the foot of line ST in plane B? T

10. Lines ST and TU determine which plane? A

$\overleftrightarrow{ST}, \overleftrightarrow{TU}$

11. Does point S lie in plane B?

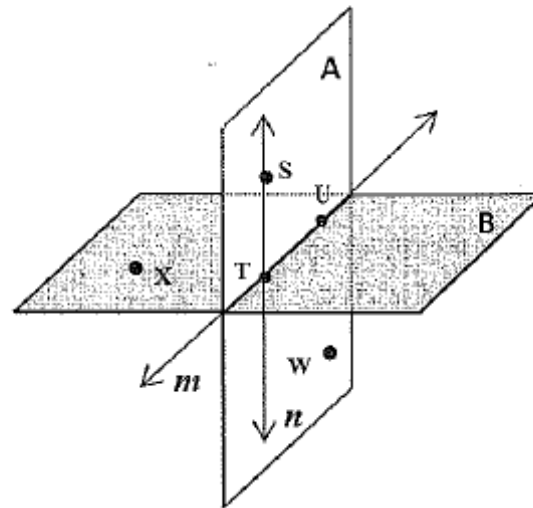
No

12. Name 4 coplanar points.

S, T, U, W

13. If line ST is perpendicular to TU, name the right angles formed.

$\overleftrightarrow{ST} \perp \overleftrightarrow{TU} \Rightarrow \angle T, \angle STU, \angle UTS$



14. Are points S, T, X coplanar?

Yes!

15. Are points, S, T, U, X coplanar? No