

8/26/19 - Warm Up Problem

Solve each equation.

$$\underline{3x} + \underline{2x} - 5 = 15$$

$$\underline{5x} - 5 = 15$$

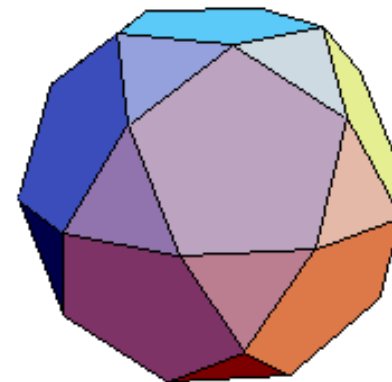
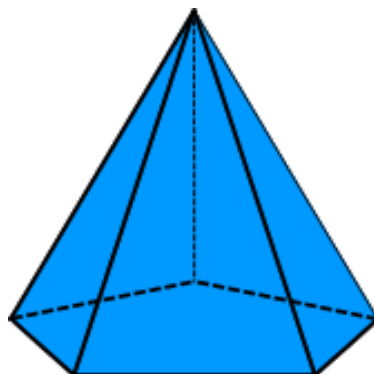
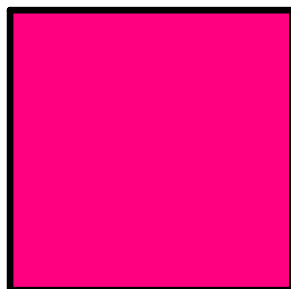
$$5x = 20$$

$$x = 4$$


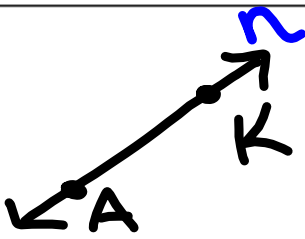


$$\underline{4x} - 12 = -\underline{3x} + 9$$
$$7x = 21$$
$$x = 3$$

Concept 1 - Basic Geometric Figures

GOALS: IDENTIFY AND NAME POINTS, LINES PLANES, SEGMENTS, RAYS, AND ANGLES. DEFINE AND IDENTIFY COLLINEAR AND COPLANAR POINTS.



Basic Geometric Shapes

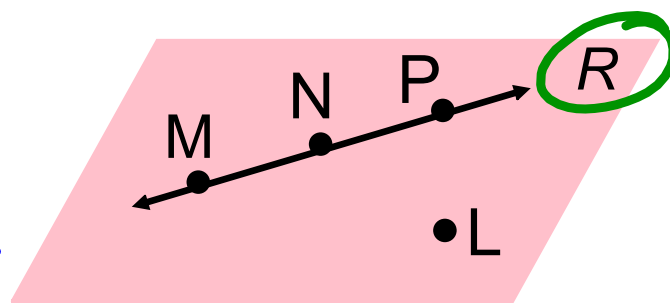
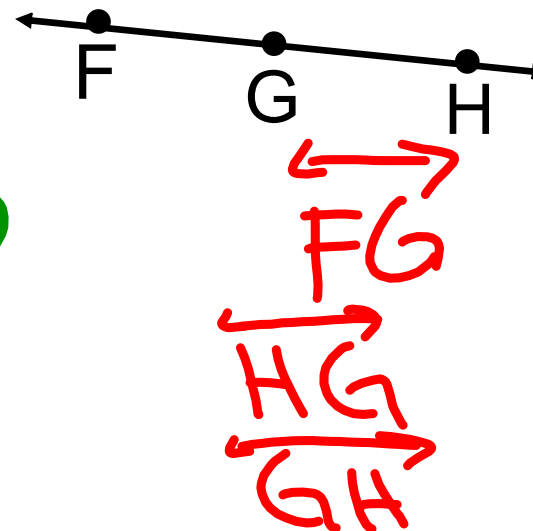
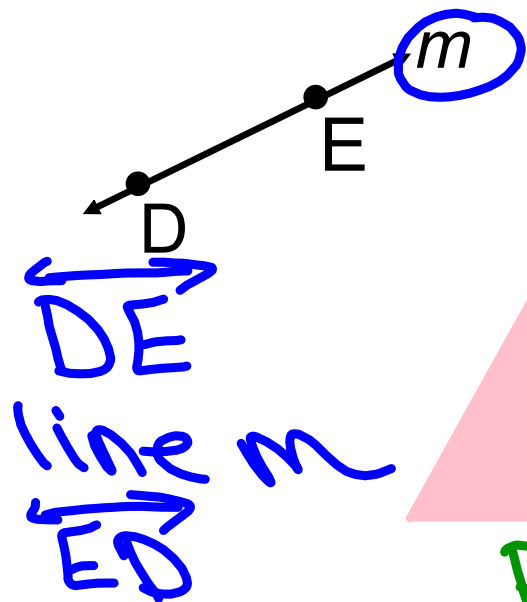
	Example	How to Name It	
POINT		Named with one capital letter	- a location represented with a dot - has no shape or size
LINE		Named by any two points on the line with the line symbol or by one lowercase letter  AK line	- straight path extending in opposite directions w/out end - has no thickness - contains infinite points
PLANE		Named by <u>3 or more</u> points not from the same line or by a capital letter in one corner of the plane Plane ETS Plane J	- flat surface extending w/out end - has no thickness - contains infinitely many lines

Collinear:

Coplanar: in the same plane

Name that geometric figure!

Write the name of each geometric figure in three different ways.

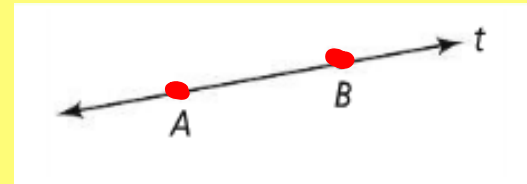
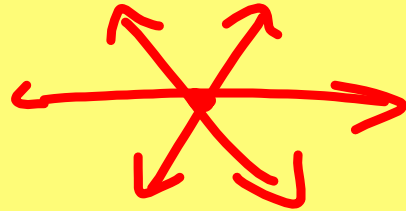


Plane MNL
 Plane R
 Plane PMLN

Postulate (Axiom): an accepted statement of fact

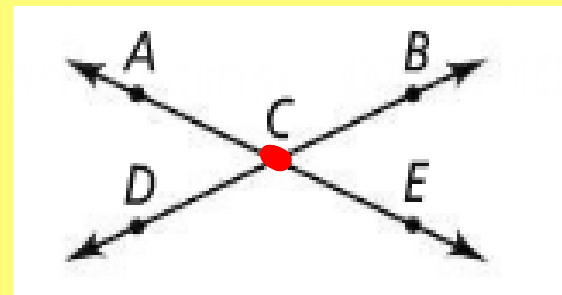
Postulate 1-1

Through any 2 points there is exactly one line.

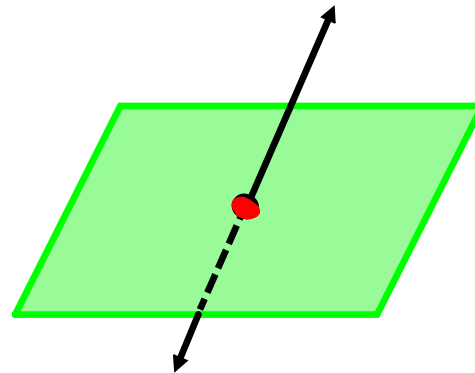
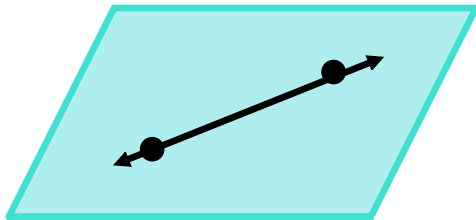
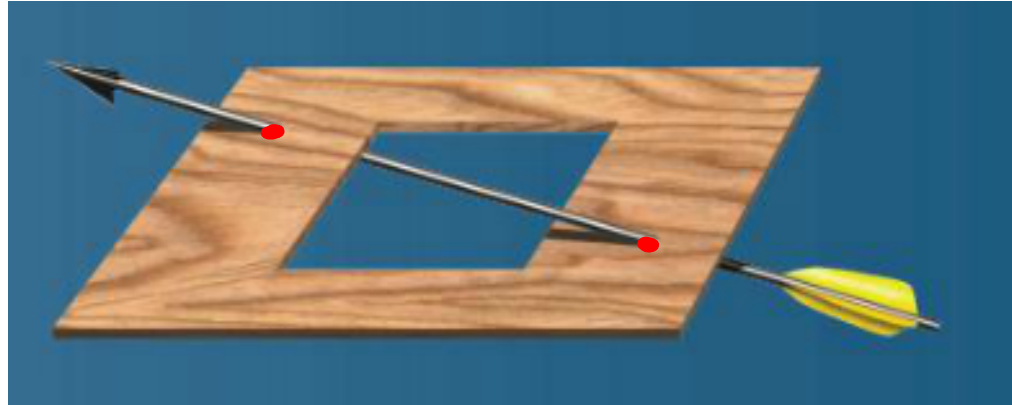


Postulate 1-2

If two distinct lines intersect, then they intersect in exactly 1 point.

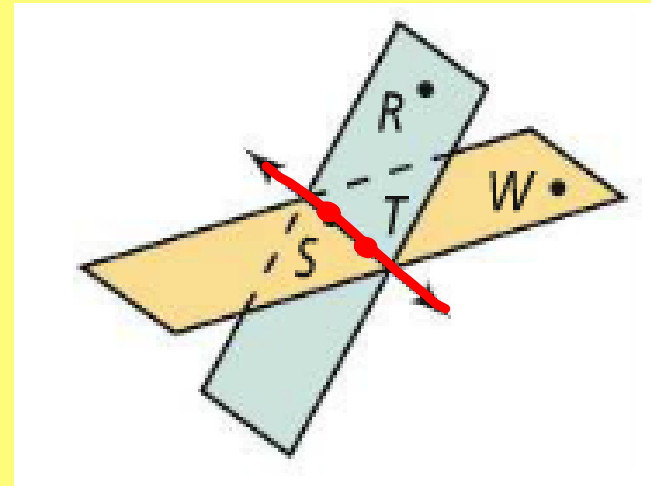


Using a straight arrow and a solid board, would constructing this figure be possible? Use geometric figures to describe why or why not.



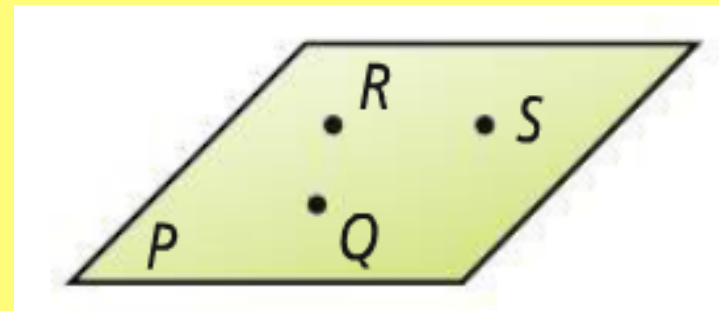
Postulate 1-3

If two distinct planes intersect, then they intersect in exactly one line.



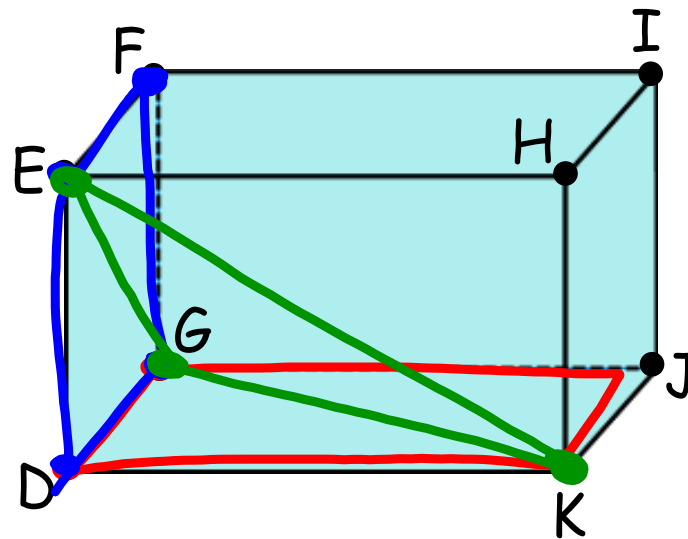
Postulate 1-4

Through any 3 noncollinear points there is exactly one plane.



The prism is formed from intersecting planes.

- How many different planes are shown on the figure?
- Find a plane that contains points D, G, and K.
- Find a plane that contains points E, F, and G.
- Find a plane that contains points E, G, and K.



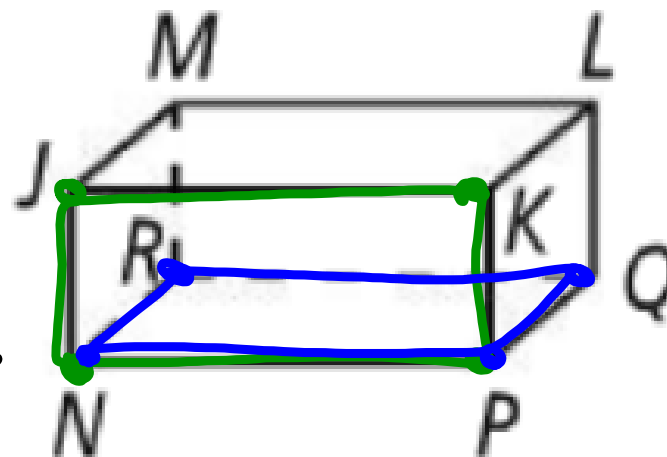
Naming Intersections

\overleftrightarrow{JM} and \overleftrightarrow{ML} M

\overleftrightarrow{RQ} and \overleftrightarrow{PQ}

planes JNP and RQP \overleftrightarrow{NP}

planes MLK and LQP



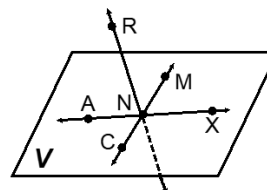
Assignment:

Concept 1 Worksheet - due Friday 8/30
(front only)

POINTS LINES AND PLANES

Use the figure below for Exercises 1–8. Note that \overline{RN} goes through the plane at N .

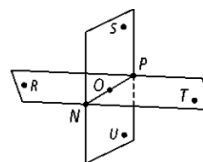
1. What is the intersection of \overline{CM} and \overline{RN} ? **N**
2. Name three points that are collinear.
3. What is another way to name plane V ?
4. What is another way to name \overline{CM} ?
5. Which point is not contained in Plane V ?
6. Name the line that contains point A .



7. Is it possible for one line to be shorter in length than another? Explain.
8. Two points are in Plane P . Explain why the line containing the two points must also be in Plane P .

Postulate 1-4 states that any three noncollinear points lie in one plane. Find the plane that contains the first three points listed. Then determine whether the fourth point is in that plane. Write *coplanar* or *noncoplanar* to describe the points.

- | | |
|------------------|------------------|
| 9. P, T, R, N | 10. P, O, S, N |
| 11. T, R, N, U | 12. P, O, R, S |



Name the intersection of each pair of planes or lines.

Remember: Two lines intersect in exactly 1 point, but two planes intersect in exactly 1 line.

13. planes AOR and QRO
14. \overline{RQ} and \overline{RO}
15. planes ADR and DCQ
16. planes BCD and BCQ
17. \overline{OP} and \overline{QP}
18. planes ABP and BCD

