

Tuesday, August 26

Objective:

Students will be able to
(SWBAT)

- Identify and sketch geometric figures

DO NOW

① $-24 = 7x + 18$

② $-8(3 - x) = 32$

③ $8x = -10x + 36$

Have syllabus out on desk to be checked

Write this in your warm-up sheet

HW: p. 5-6 #3-11

1.1 Points, Lines, and Planes

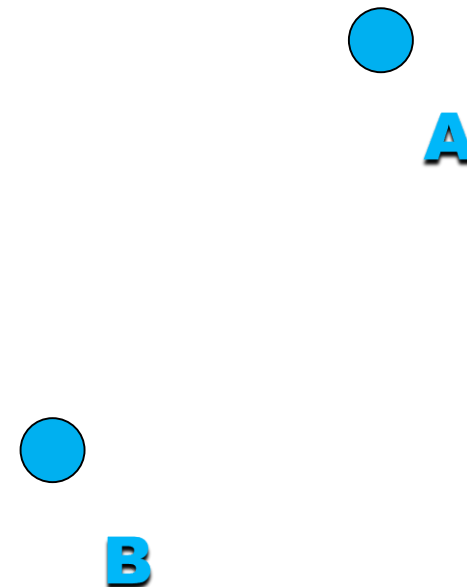
Agenda:

- **Do Now**
 - ✓ work and solve
 - ✓ Announcements
- **Introduction to New Material**
 - ✓ Intro to geometric figures
- **Guided Practice**
 - ✓ Identifying and using notation of geometric figures
- **Independent Practice**
 - ✓ Space Bags
- **Exit Ticket**
 - ✓ TOP 10 RESULTS

HW: p. 5-6 #3-11


Points

- A **point** is an exact location in space.
- A point has **no dimensions**.
- Points are represented by **dots**.
- A point has **no size**.
- Points are named with **capital letters**.

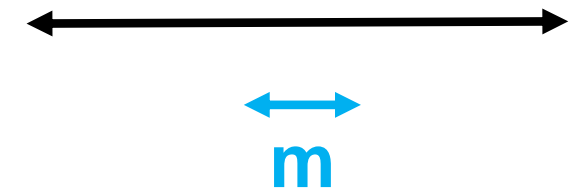


Lines

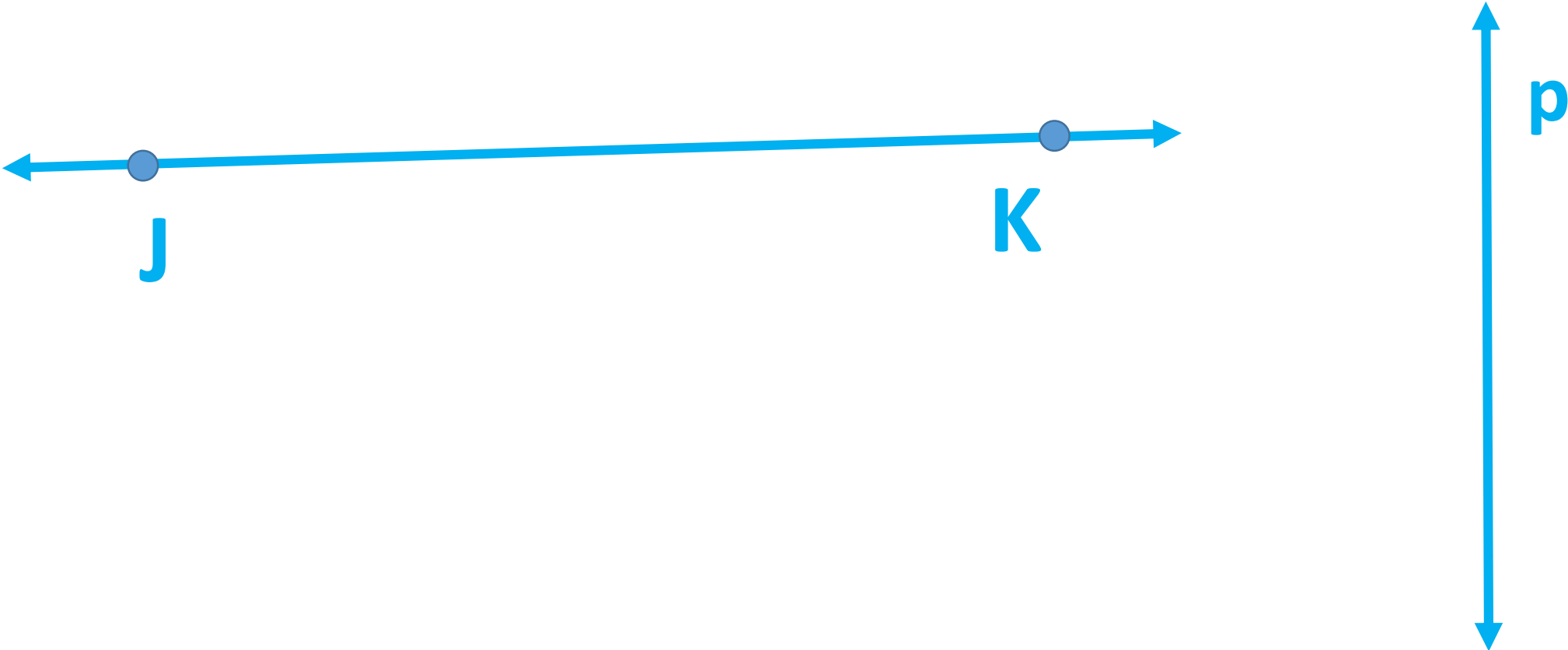
- A **line** is a straight arrangement of **points**.
- Lines extend **forever** in opposite directions.
- Lines are named using any **two points** on the line
line AB or line BA

- Lines may also be named using a lower case letter
line m 

- A line is represented by a straight line with two arrowheads to indicate that the line extends without end in two directions



Name these lines

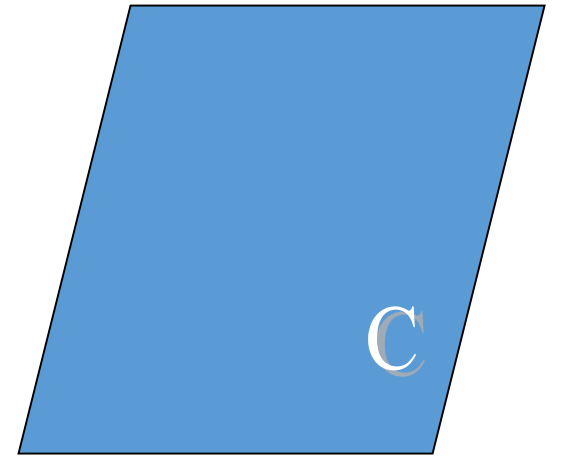


Planes

- A **plane** is a flat surface that extends in two dimensions **forever**.
- A plane has **no edges**, but you use a four-sided figure to represent a plane.
- Planes can be named using a **capital letter**.

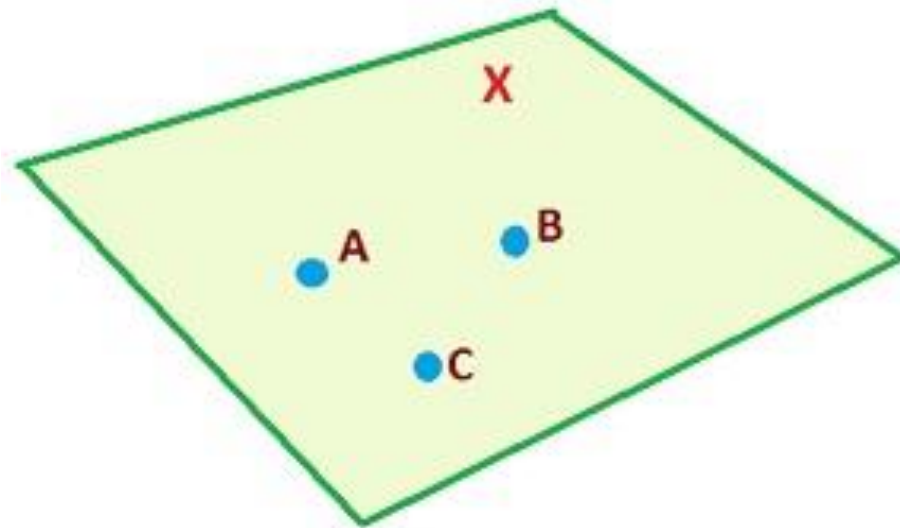
[IMPORTANT]

You must imagine that the plane extends without end even though the drawing of a plane appears to have edges.



Plane C

Planes can also be named using 3 points that are not on the same line.

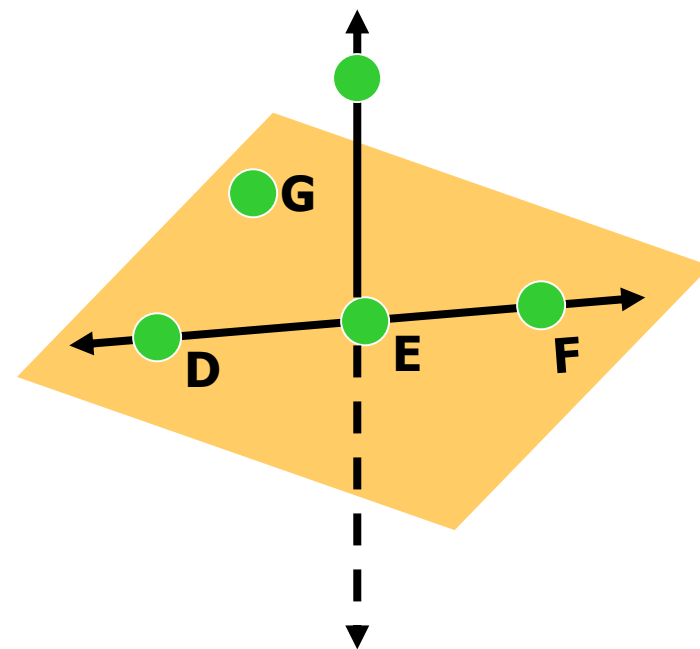


- **Collinear** points are points that lie on the same line.



- **Coplanar** points are points that lie on the same plane.

Dashes indicate where the line is hidden by the plane

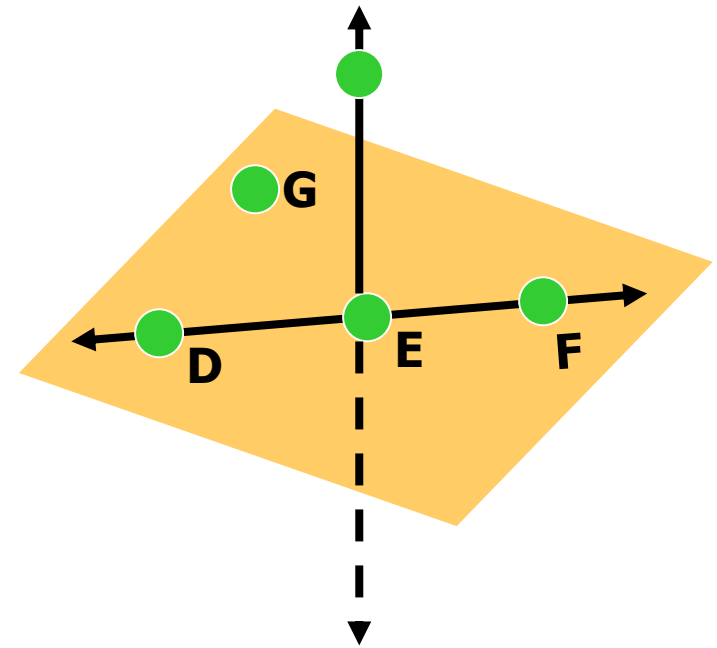


What are 4 coplanar points?

D, E, F, and G lie on the same plane, so they are coplanar.

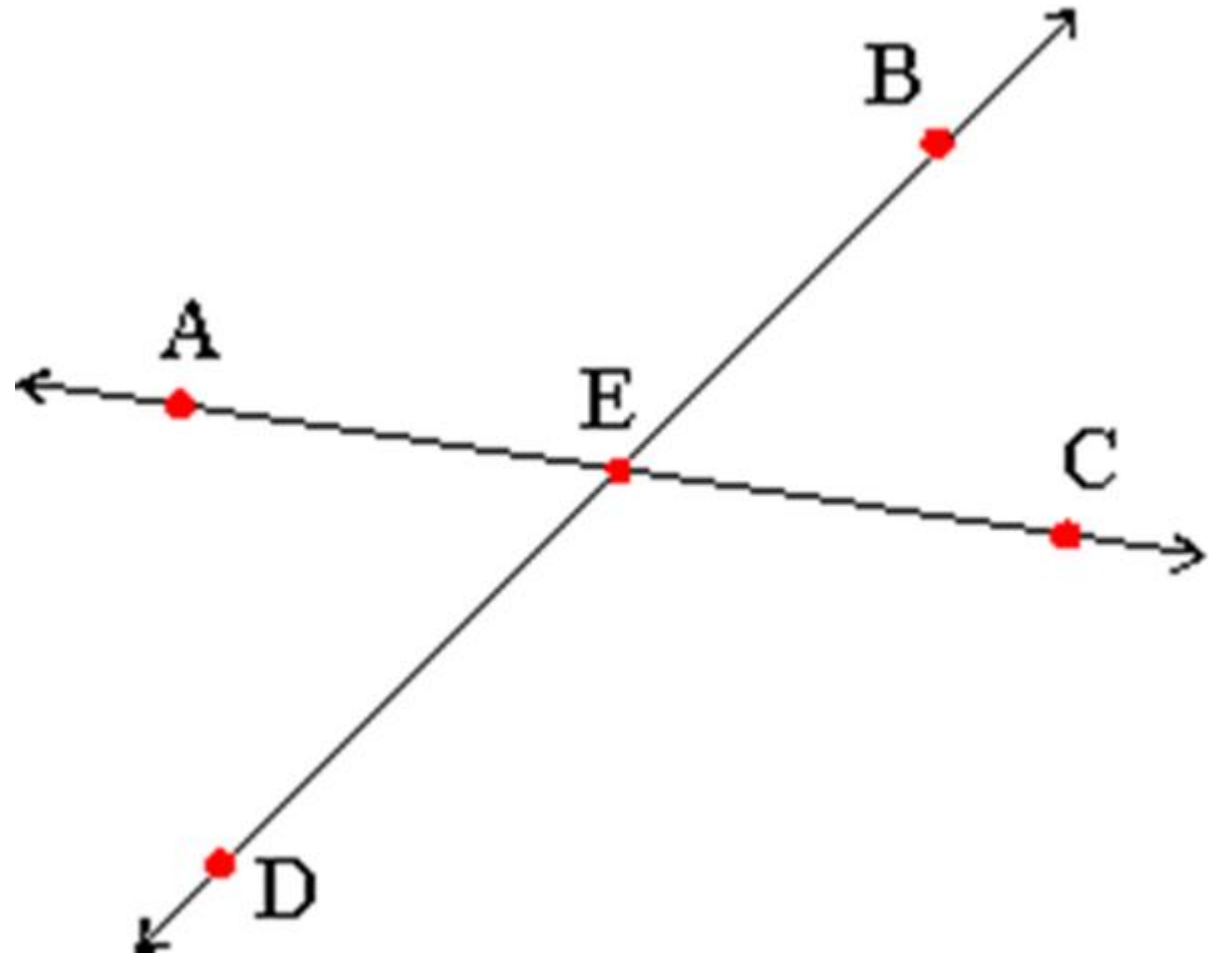
Also D, E, F, and H are coplanar; although, the plane containing them is not drawn.

What are 3 points that are **NOT** collinear points?

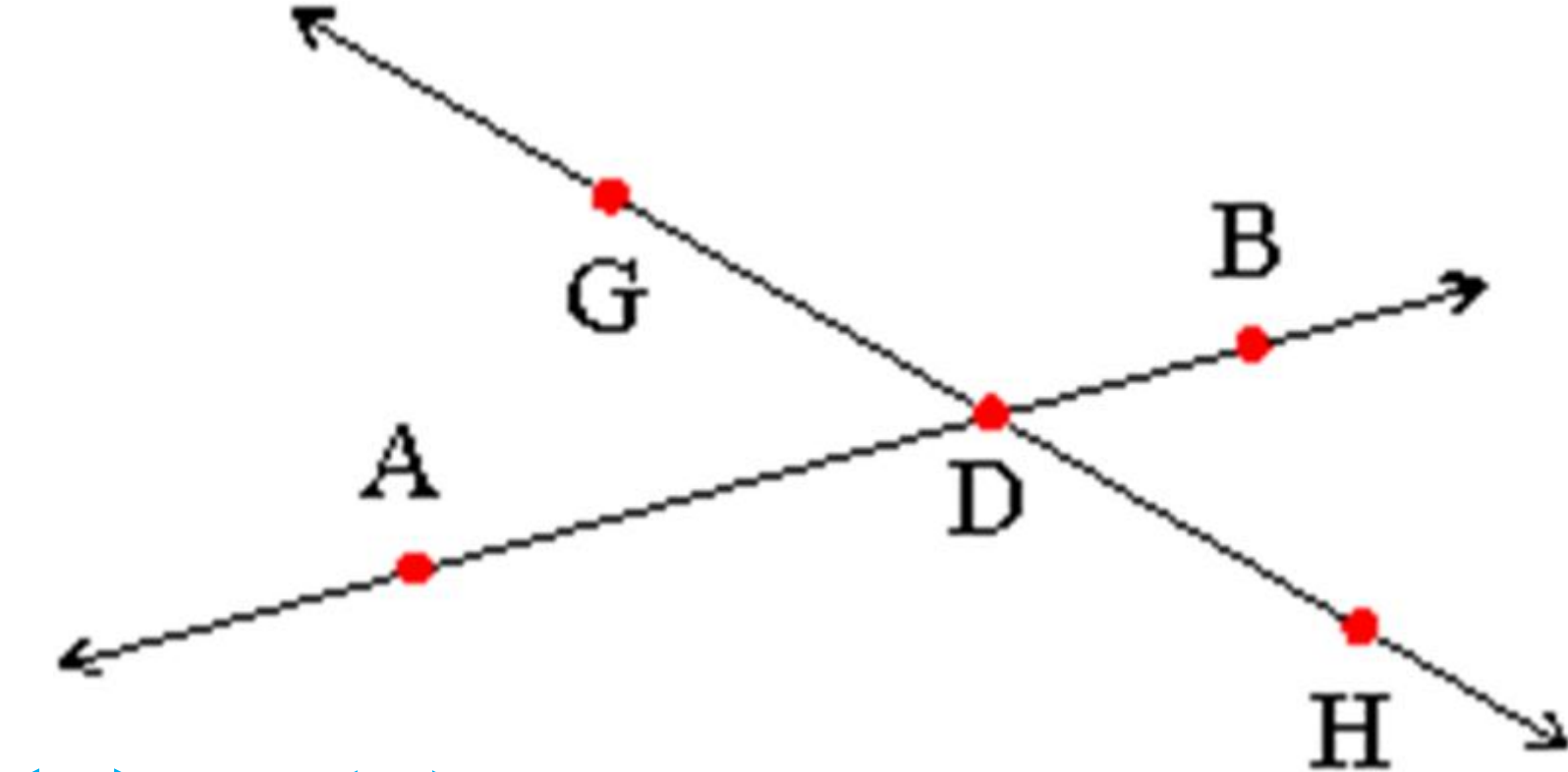


Intersecting lines

- Two lines that meet in one point **intersect**.
- Name the point at which \overleftrightarrow{AC} and \overleftrightarrow{BD} intersect
- **E**
- Are points B, C, and D collinear?
- **No!**



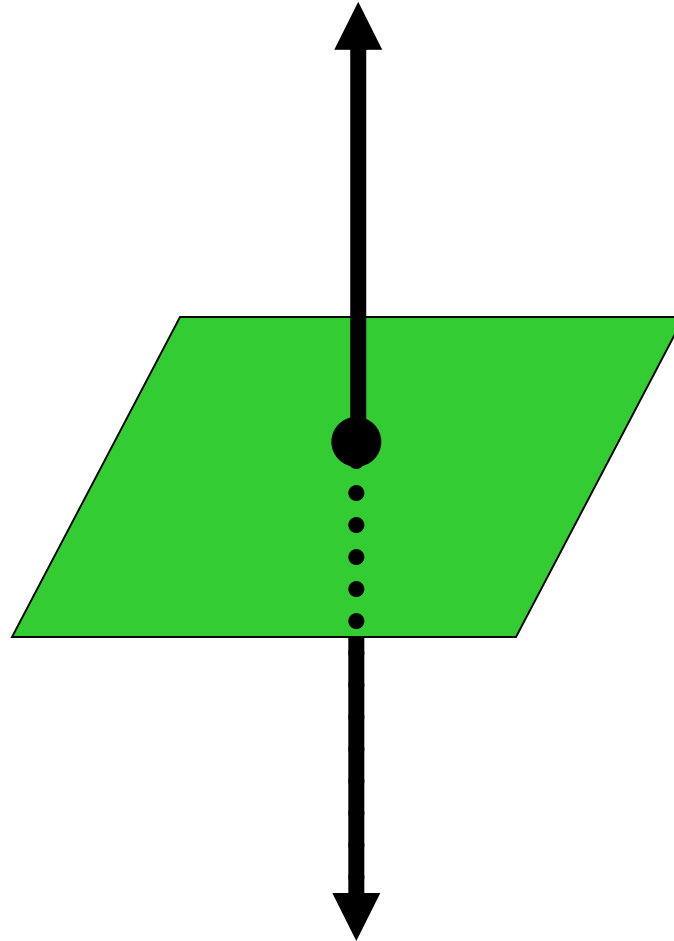
Name the intersecting lines and the point at which they intersect.



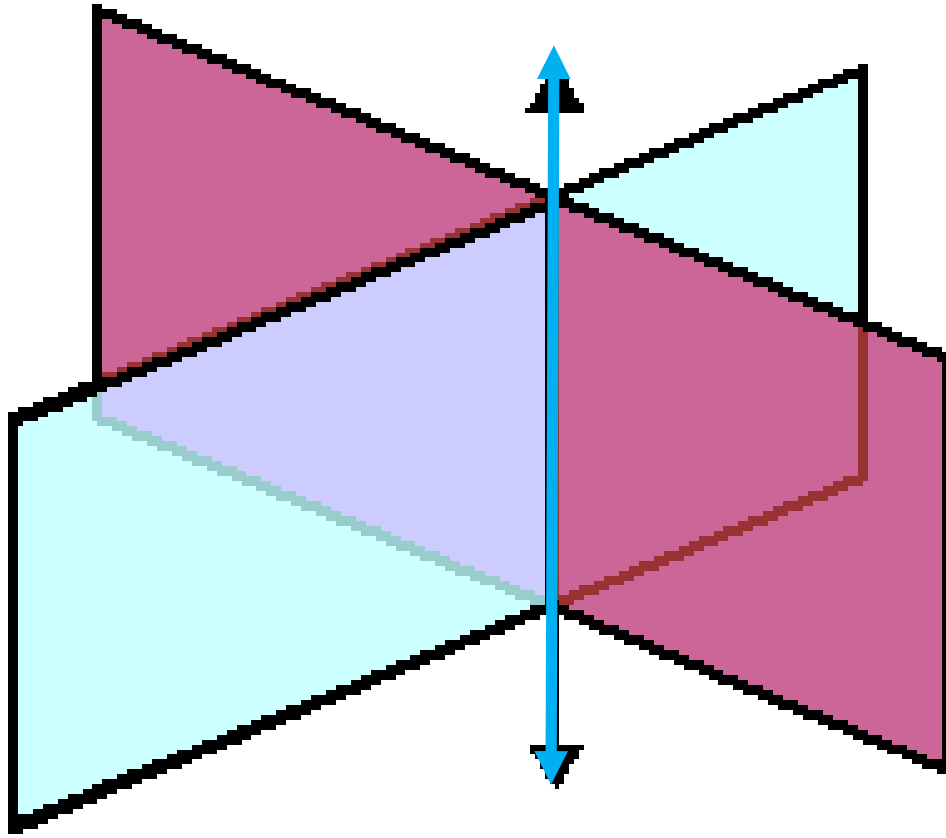
GH and AB intersect at point D. Note!

There are many other ways to name these lines!

If a line and a plane intersect and the line isn't in the plane, then they intersect in a point.



What do you get when 2 planes intersect?



A line

Line segments

- A **line segment** is part of a line.
- Line segments consist of 2 **endpoints** and all the points in between.
- Line segments are named using their **endpoints**.
- Name this line segment.

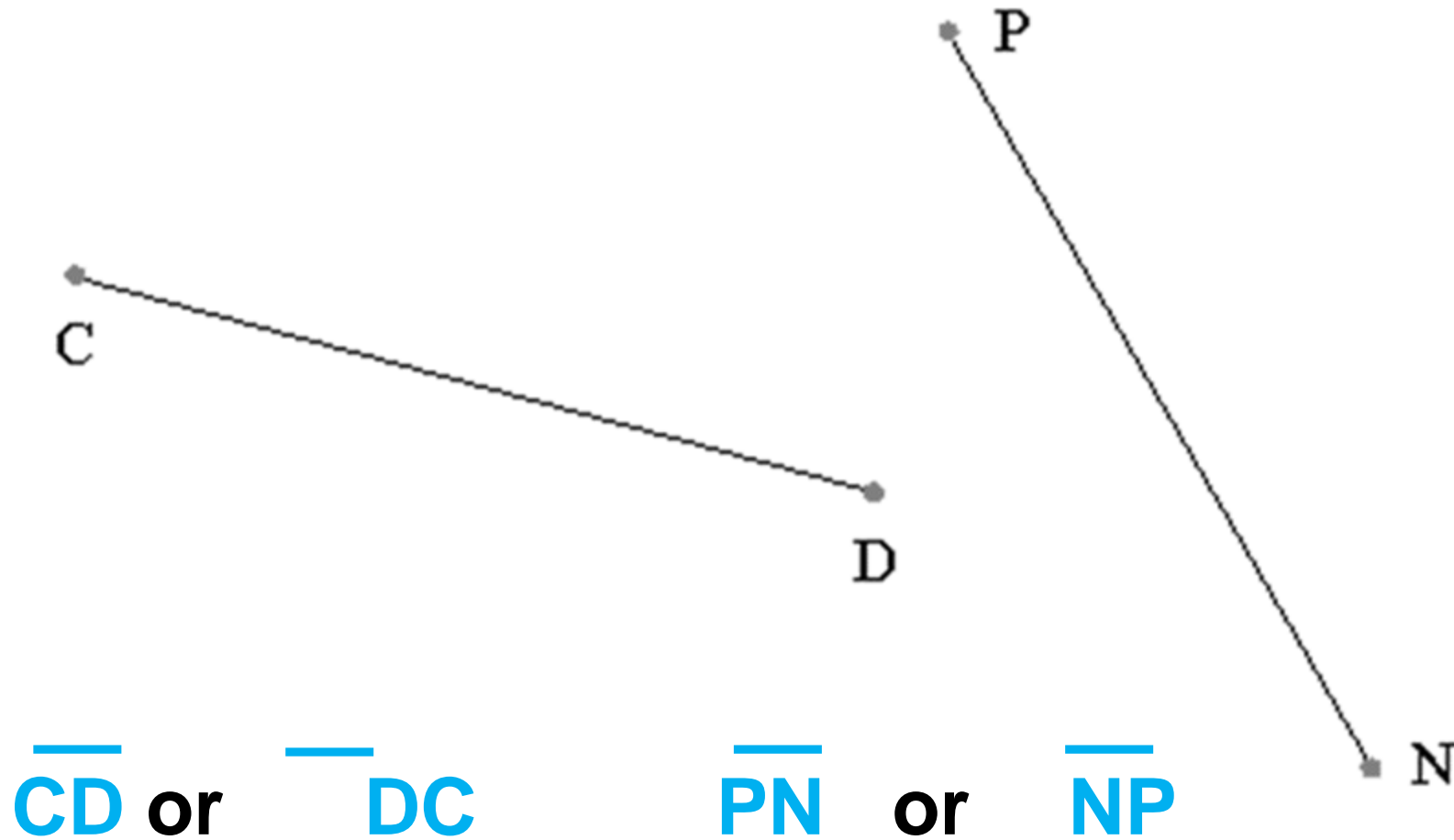
- **Segment ST**

- **Segment TS**

- ST TS

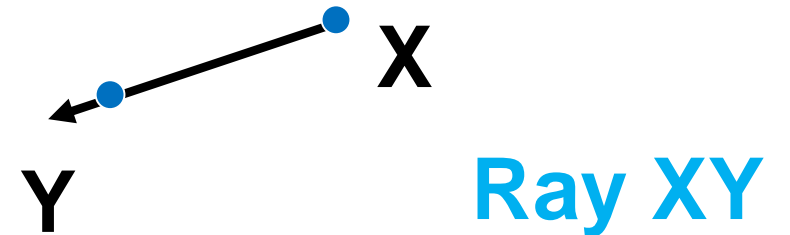
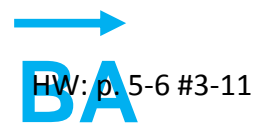
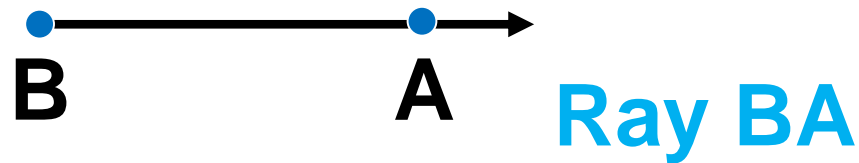


Name the line segments shown below.



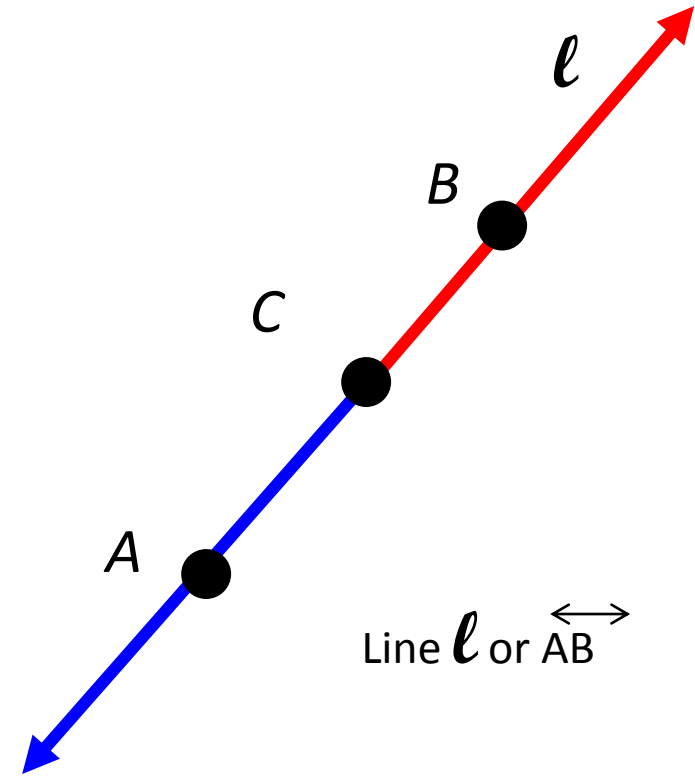
Rays

- A **ray** is a part of a line that has one **endpoint** and extends forever in one direction.
- Rays are named by writing the **endpoint** first, then another point on the ray.
- Name these rays:



Rays, cont'd

- If C is between A and B , then \overrightarrow{CA} and \overrightarrow{CB} are opposite rays.
- Like points, segments and rays are collinear if they lie on the same line. So, any two opposite rays are collinear.
- Segments, rays and lines are coplanar if they lie on the same plane.



1.1 Points, Lines, and Planes

EXIT TICKET

Sketch a plane and a line that is in the plane

Name the intersection of \overleftrightarrow{PQ} and line k from the figure below

