1. Name the point where $\overleftrightarrow{PN}$ and $\overleftrightarrow{QC}$ intersect.

R

2. Name $\overleftrightarrow{PK}$ two other ways.

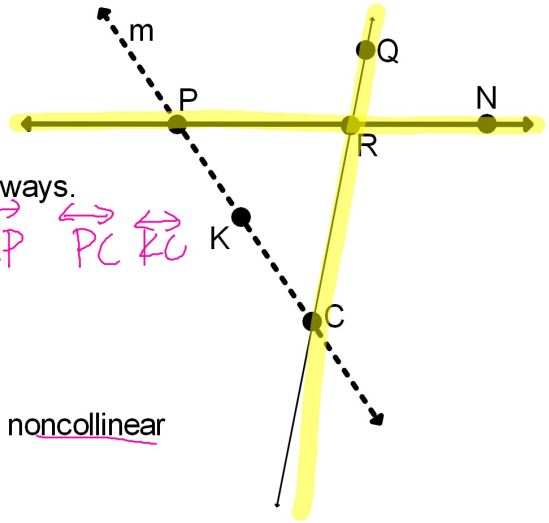
line m $\overleftrightarrow{KP}$ $\overleftrightarrow{PC}$ $\overleftrightarrow{KC}$

3. Name a point that is collinear with C and R.

Q

4. Name a point that is noncollinear with P.

Q



Use these points for 5 to 7.

$A(4,5)$ $B(6,-3)$ $C(-8,2)$ $D(18,0)$

5. Find the slope and the length of segment $\overline{AC}$

$m = \frac{5-2}{4-(-8)} = \frac{3}{12} = \frac{1}{4}$ $d = \sqrt{(4-(-8))^2 + (5-2)^2} = \sqrt{12^2 + 3^2} = \sqrt{153}$

6. Find another segment congruent to $\overline{AC}$ (use distance formula)

$\overline{DB}$ $\sqrt{(18-6)^2 + (-3)^2} = \sqrt{144+9} = \sqrt{153}$

7. Find another segment perpendicular to $\overline{AC}$ (use slope)

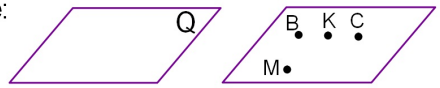
$-\frac{4}{1}$ $m_{\overline{AB}} = \frac{-3-5}{6-4} = \frac{-8}{2} = -4$

Plane: a flat surface that extends forever in all directions.

Represented by: Usually a parallelogram.

Named by: a Capital Letter
or
at least three of its noncollinear points.

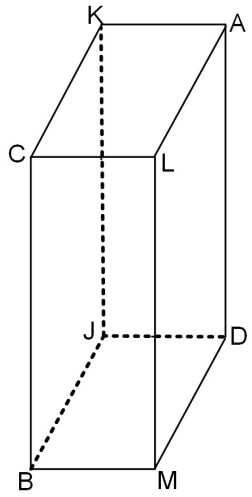
Example:



Plane Q

Plane MCK

Not Plane BKC



1. Name the plane that represents the bottom of the box.

JDMB

2. Name the plane that represents the left side of the box.

KCBJ

3. Which side of the box is Plane KAL ?

the Top

Coplanar:

Points that lie in the same plane.

NONCOPLANAR

PTS NOT ON THE SAME PLANE

Postulate (or Axiom) :

- A statement that is accepted as fact.
- It can't be proven.
- The building blocks used to prove other statements (Theorems).

Postulate 1-1

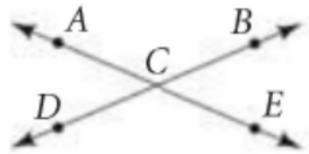
Through any two points there is exactly one line.

Line t is the only line that passes through points A and B.

Postulate 1-2

If two lines intersect, then they intersect in exactly one point.

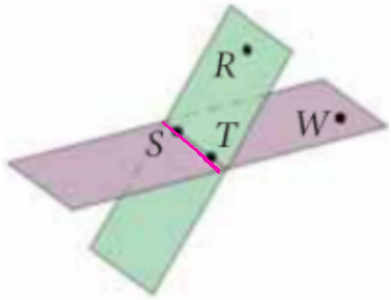
$\overleftrightarrow{AE}$ and $\overleftrightarrow{BD}$ intersect at C.



Postulate 1-3

If two planes intersect, then they intersect in exactly One Line

Plane RST and Plane STW intersect at $\overleftrightarrow{ST}$



Postulate 1-4

Through any three noncollinear points there is exactly one plane.

What kind of chair will never wobble?

A chair with 3 legs (a stool)