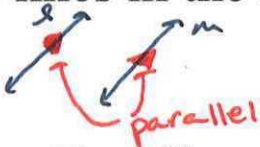


3-1 Relationships Between Lines

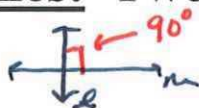
Objective: Identify Relationships between Lines

Parallel lines: Two lines in the same plane that do not intersect.



$l \parallel m$
parallel

Perpendicular lines: Two lines that intersect to form right angles.



$l \perp m$
perpendicular

Skew Lines: Two lines that do not intersect and do not lie in the same plane.

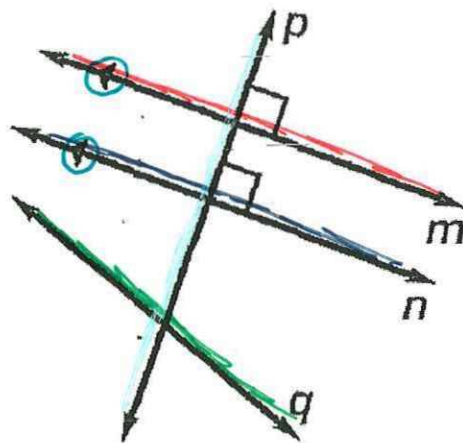
Examples:

1. Determine whether the lines are parallel, perpendicular, or neither.

a. n and m
parallel $n \parallel m$

b. p and q
neither

c. n and p
perpendicular $n \perp p$

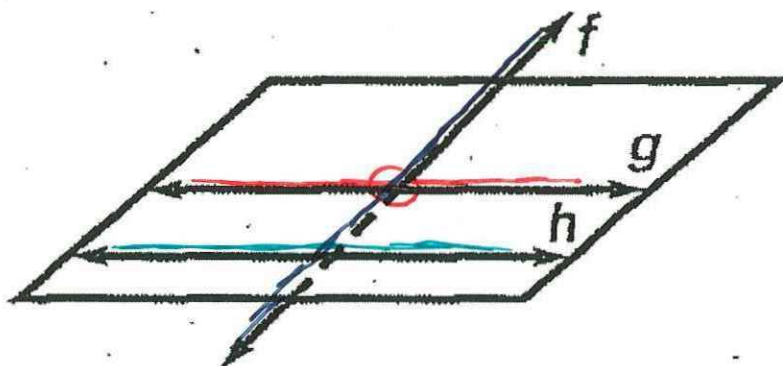


2. Determine whether the lines are skew.

a. f and g not skew

b. f and h skew

c. g and h not skew



3. Use the diagram at the right.
 a. Name a pair of parallel lines.

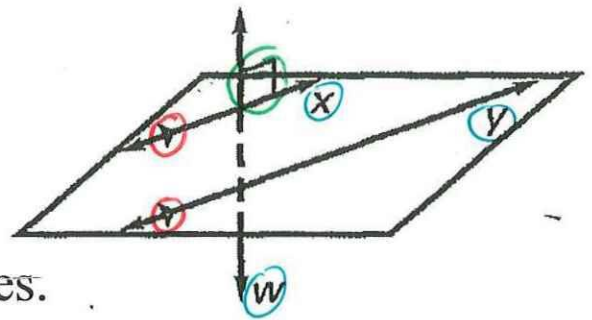
$x \parallel y$

- b. Name a pair of perpendicular lines.

$x \perp w$

- c. Name a pair of skew lines.

$w \& y$



4. Use the diagram at the right.

- a. Name a plane that parallel to plane B.

plane C

- b. Name a line that is perpendicular to plane B.

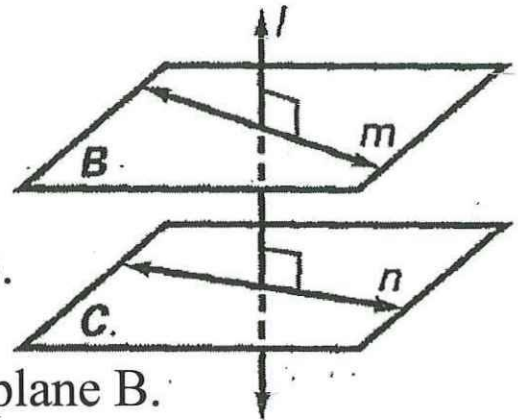
l

- c. Is line l perpendicular to plane C? Explain.

Yes

- d. Is line n perpendicular to plane C? Explain.

No. " n " lies in plane C



5. Use the diagram at the right.

- a. Name a line that is skew to \overleftrightarrow{VW} .

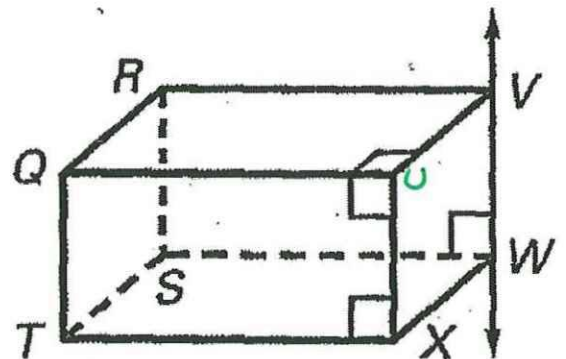
\overleftrightarrow{QT}

- b. Name a plane that appears parallel to plane VXW.

plane RST

- c. Name a line that is perpendicular to plane VXW.

\overleftrightarrow{SW}



$p \parallel o \# 1-28$