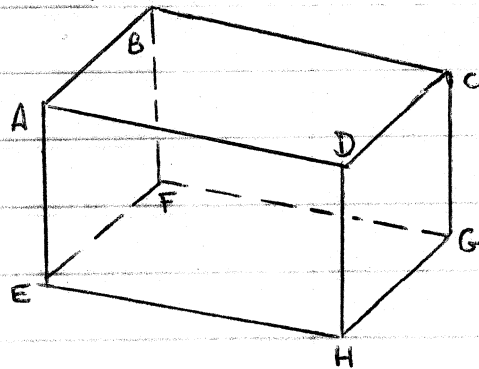


Geometry, Ch 3-1, Exer., pg 142 # 3-27

Think of each segment as part of a line. Which line(s) or plane(s) contain point B and appear to fit description?



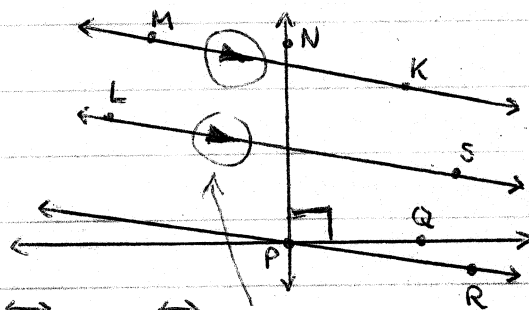
3. Line(s) parallel to  $\overleftrightarrow{CD}$ .  $\overleftrightarrow{AB}$  [ $\overleftrightarrow{EF}$  and  $\overleftrightarrow{GH}$  are parallel to  $\overleftrightarrow{CD}$ , but don't contain point B.]

4. Line(s) ~~parallel~~ perpendicular to  $\overleftrightarrow{CD}$ .  $\overleftrightarrow{CB}$

5. Line(s) skew to  $\overleftrightarrow{CD}$ .  $\overleftrightarrow{BF}$  [There are a number of lines not drawn, such as  $\overleftrightarrow{GB}$ ,  $\overleftrightarrow{HB}$ , etc.]

6. Plane(s) parallel to plane CDH. plane ABF.

Use the diagram to answer # 7-10.



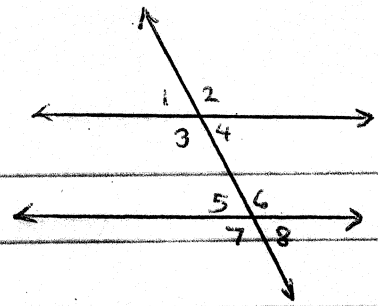
7. Name a pair of parallel lines.  $\overleftrightarrow{MK}$  and  $\overleftrightarrow{LS}$  [only pair with the arrow symbols]

8. Name a pair of  $\perp$  lines.  $\overleftrightarrow{NP}$  and  $\overleftrightarrow{PQ}$

9. Is  $\overleftrightarrow{PN} \parallel \overleftrightarrow{KM}$ ? No, they can't be parallel because they intersect.

10. Is  $\overleftrightarrow{PR} \perp \overleftrightarrow{NP}$ ? No, right angle symbol is not included.

Identify all angle pairs of the given type.



11. Corresponding.  $\angle 1$  and  $\angle 5$ ,  $\angle 2$  and  $\angle 6$ ,  $\angle 3$  and  $\angle 7$ ,  $\angle 4$  and  $\angle 8$ .

12. Alternate Interior.  $\angle 3$  and  $\angle 6$ ,  $\angle 4$  and  $\angle 5$

13. Alternate Exterior.  $\angle 1$  and  $\angle 8$ ,  $\angle 2$  and  $\angle 7$

14. Consecutive Interior.  $\angle 3$  and  $\angle 5$ ,  $\angle 4$  and  $\angle 6$ .

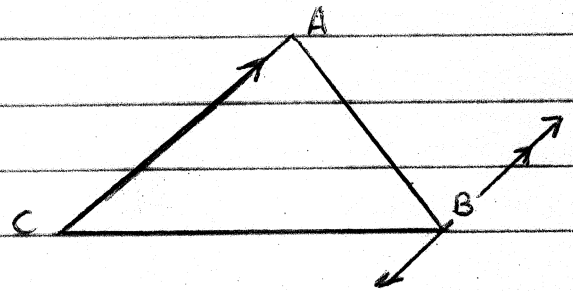
15. What is the error in saying  $\angle 1$  and  $\angle 8$  are corresponding?

They are not in corresponding positions; rather they are Alternate Exterior.

How many lines can be drawn that fit each description?  
Copy diagram and sketch all these lines.

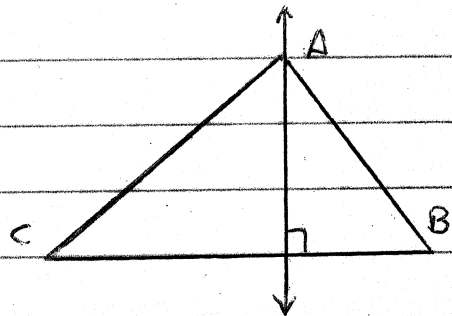
16. Lines through B and parallel to  $\vec{AC}$ .

only one.

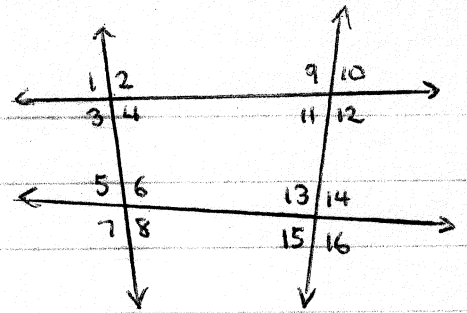


17. Lines through A and perpendicular to  $\vec{BC}$ .

only one.



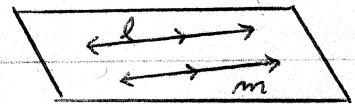
Classify each angle as Corresponding, Alt Int, Alt Ext, or Consecutive Int.



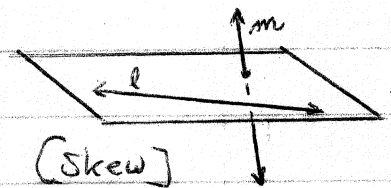
- 18.  $\angle 5$  and  $\angle 1$  Corresponding
- 19.  $\angle 11$  and  $\angle 13$  Consec. interior
- 20.  $\angle 6$  and  $\angle 13$  Consec. interior
- 21.  $\angle 10$  and  $\angle 15$  alt. exterior
- 22.  $\angle 2$  and  $\angle 11$  alt interior
- 23.  $\angle 8$  and  $\angle 4$  corresponding.

Copy and complete the statement with **SOMETIMES**, **ALWAYS**, or **NEVER**. Sketch examples to justify your answer.

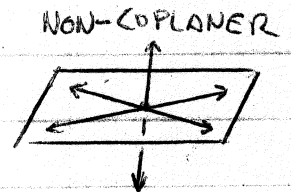
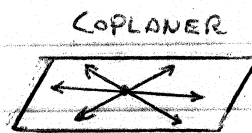
24. If two lines are parallel, then they are ALWAYS coplaner.



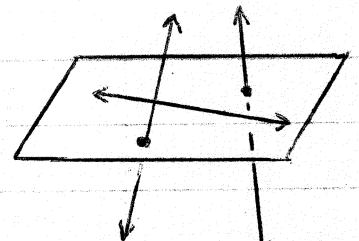
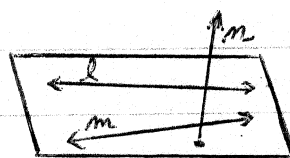
25. If two lines are not coplaner, then they NEVER intersect.



26. If three lines intersect at a single point, then they are SOMETIMES coplaner.



27. If two lines are skew to a third line, then they are SOMETIMES skew to each other.



$l$  and  $m$  skew to  $n$ , but not each other.

[A lines skew. Better drawing if used a cube!]