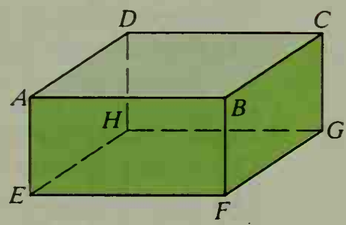
Written Exercises

A

1. State Theorem 1-2 using the phrase *one and only one*.
2. Reword Theorem 1-3 as two statements, one describing existence and the other describing uniqueness.
3. Planes M and N are known to intersect.
   a. What kind of figure is the intersection of M and N? line
   b. State the postulate that supports your answer to part (a).
4. Points A and B are known to lie in a plane.
   a. What can you say about $\overleftrightarrow{AB}$?
   b. State the postulate that supports your answer to part (a).

In Exercises 5-11 you will have to visualize certain lines and planes not shown in the diagram of the box. When you name a plane, name it by using four points, no three of which are collinear.



Exs. 5-12

5. Write the postulate that assures you that $\overleftrightarrow{AC}$ exists.
6. Name a plane that contains $\overleftrightarrow{AC}$.
7. Name a plane that contains $\overleftrightarrow{AC}$ but that is not shown in the diagram. ACGE
8. Name the intersection of plane $DCFE$ and plane $ABCD$.
9. Name four lines shown in the diagram that don't intersect plane $EFGH$.
10. Name two lines that are not shown in the diagram and that don't intersect plane $EFGH$.
11. Name three planes that don't intersect $\overleftrightarrow{EF}$ and don't contain $\overleftrightarrow{EF}$.
12. If you measure $\angle EFG$ with a protractor you get more than 90°. But you know that $\angle EFG$ represents a right angle in a box. Using this as an example, complete the table.

	$\angle EFG$	$\angle AEF$	$\angle DCB$	$\angle FBC$
In the diagram	obtuse	?	?	?
In the box	right	?	?	?

State whether it is possible for the figure described to exist. Write *yes* or *no*.

B

13. Two points both lie in each of two lines. no
14. Three points all lie in each of two planes.
15. Three noncollinear points all lie in each of two planes. no
16. Two points lie in a plane X, two other points lie in a different plane Y, and the four points are coplanar but not collinear.