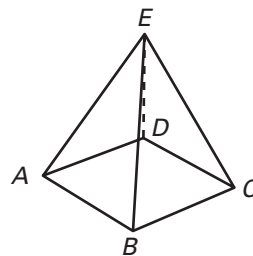


**Reteaching with Practice**

For use with pages 129–134

**GOAL****Identify relationships between lines and identify angles formed by transversals****VOCABULARY**Two lines are **parallel lines** if they are coplanar and do not intersect.Lines that do not intersect and are not coplanar are called **skew lines**.Two planes that do not intersect are called **parallel planes**.A **transversal** is a line that intersects two or more coplanar lines at different points.When two lines are cut by a transversal, two angles are **corresponding angles** if they occupy corresponding positions.When two lines are cut by a transversal, two angles are **alternate exterior angles** if they lie outside the two lines on opposite sides of the transversal.When two lines are cut by a transversal, two angles are **alternate interior angles** if they lie between the two lines on opposite sides of the transversal.When two lines are cut by a transversal, two angles are **consecutive interior angles** (or **same side interior angles**) if they lie between the two lines on the same side of the transversal.**Postulate 13 Parallel Postulate** If there is a line and a point not on the line, then there is exactly one line through the point parallel to the given line.**Postulate 14 Perpendicular Postulate** If there is a line and a point not on the line, then there is exactly one line through the point perpendicular to the given line.**EXAMPLE 1****Identifying Relationships in Space**Think of each segment in the diagram as part of a line.  
Which of the lines appear to fit the description?

- a. parallel to  $\overleftrightarrow{AB}$       b. skew to  $\overleftrightarrow{AB}$   
 c. parallel to  $\overleftrightarrow{BC}$       d. Are planes  $ABE$  and  $CDE$  parallel?

**SOLUTION**

- a. Only  $\overleftrightarrow{CD}$  is parallel to  $\overleftrightarrow{AB}$ .  
 b.  $\overleftrightarrow{ED}$  and  $\overleftrightarrow{EC}$  are skew to  $\overleftrightarrow{AB}$ .  
 c. Only  $\overleftrightarrow{AD}$  is parallel to  $\overleftrightarrow{BC}$ .  
 d. No, the two planes are not parallel. At the very least, we can see that the two planes intersect at point  $E$ .

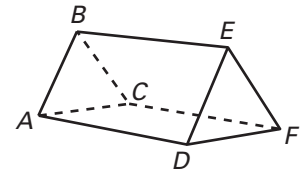
## Reteaching with Practice

For use with pages 129–134

### Exercises for Example 1

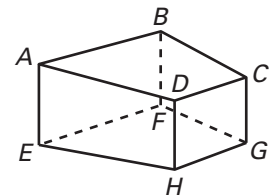
Think of each segment in the diagram as part of a line.  
Fill in the blank with *parallel*, *skew*, or *perpendicular*.

- $\overleftrightarrow{DE}$  and  $\overleftrightarrow{CF}$  are \_\_\_\_\_.
- $\overleftrightarrow{AD}$ ,  $\overleftrightarrow{BE}$ , and  $\overleftrightarrow{CF}$  are \_\_\_\_\_.
- Plane  $ABC$  and plane  $DEF$  are \_\_\_\_\_.
- $\overleftrightarrow{BE}$  and  $\overleftrightarrow{AB}$  are \_\_\_\_\_.



Think of each segment in the diagram as part of a line.  
There may be more than one right answer.

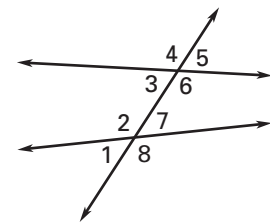
- Name a line perpendicular to  $\overleftrightarrow{HD}$ .
- Name a plane parallel to  $DCH$ .
- Name a line parallel to  $\overleftrightarrow{BC}$ .
- Name a line skew to  $\overleftrightarrow{FG}$ .



### EXAMPLE 2 Identifying Angle Relationships

List all pairs of angles that fit the description.

- corresponding
- alternate exterior
- alternate interior
- consecutive interior



#### SOLUTION

- |                              |                              |                              |                              |
|------------------------------|------------------------------|------------------------------|------------------------------|
| a. $\angle 1$ and $\angle 3$ | b. $\angle 1$ and $\angle 5$ | c. $\angle 2$ and $\angle 6$ | d. $\angle 2$ and $\angle 3$ |
| $\angle 2$ and $\angle 4$    | $\angle 8$ and $\angle 4$    | $\angle 7$ and $\angle 3$    | $\angle 7$ and $\angle 6$    |
| $\angle 8$ and $\angle 6$    |                              |                              |                              |
| $\angle 7$ and $\angle 5$    |                              |                              |                              |

### Exercises for Example 2

Complete the statement with *corresponding*, *alternate interior*, *alternate exterior*, or *consecutive interior*.

- $\angle 4$  and  $\angle 8$  are \_\_\_\_\_ angles.
- $\angle 2$  and  $\angle 6$  are \_\_\_\_\_ angles.
- $\angle 1$  and  $\angle 8$  are \_\_\_\_\_ angles.
- $\angle 7$  and  $\angle 2$  are \_\_\_\_\_ angles.
- $\angle 4$  and  $\angle 5$  are \_\_\_\_\_ angles.
- $\angle 5$  and  $\angle 1$  are \_\_\_\_\_ angles.

