

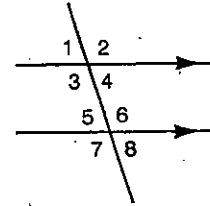
Practice 9

When Lines and Planes Are Parallel

Lessons 3-1 through 3-3

In Exercises 1-4, classify each pair of angles as corresponding, alternate interior, or same-side interior angles.

- $\angle 4$ and $\angle 5$ Alt. Int.
- $\angle 4$ and $\angle 8$ Corresp.
- $\angle 3$ and $\angle 5$ SS Int.
- $\angle 3$ and $\angle 7$ corr.



Exs. 1-8

- Name all angles congruent to $\angle 2$. $\angle 3, \angle 6, \angle 7$
- Name all angles supplementary to $\angle 6$. $\angle 4, \angle 8, \angle 5, \angle 1$
- If $m\angle 1 = 35$, then $m\angle 8 =$ 35.
- If $m\angle 3 = 2x - 5$ and $m\angle 5 = x + 20$, find the value of x . 55

$$2x - 5 + x + 20 = 180$$

$$3x + 15 = 180$$

$$3x = 165$$

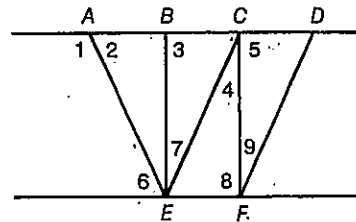
$$x = 55$$

Complete each statement with the word *always*, *sometimes*, or *never*.

- Two lines that do not intersect are sometimes parallel.
- Two lines perpendicular to a third line are sometimes parallel to each other.
- Two skew lines are never coplanar.
- Two lines that lie in parallel planes are sometimes skew.
- If two parallel lines are cut by a transversal, same-side interior angles are always supplementary.
- If two parallel planes are cut by a third plane, then the lines of intersection are always parallel.

In Exercises 15-20, use the given information to name the segments that must be parallel. If there are no such segments, write *none*.

- $\angle 7 \cong \angle 4$ $\overline{BE} \parallel \overline{CF}$
- $m\angle 4 = m\angle 9$ $\overline{CE} \parallel \overline{DF}$
- $\angle 1$ is supplementary to $\angle 6$. $\overline{AC} \parallel \overline{EF}$
- $\overline{EF} \perp \overline{BE}, \overline{EF} \perp \overline{CF}$ $\overline{BE} \parallel \overline{CF}$
- $\angle 7 \cong \angle 9$ none
- $\angle 3 \cong \angle 5 \cong \angle 8$ $\overline{BE} \parallel \overline{CF} \ \& \ \overline{AD} \parallel \overline{EF}$



Exs. 15-20