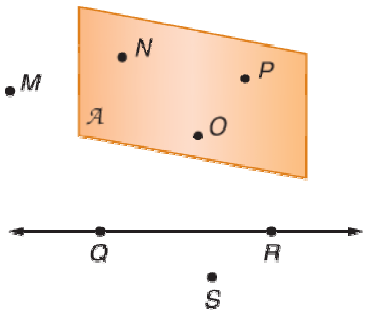
Lesson 5-1

Example 1

In the figures shown, name the following.

a. two collinear points **b.** three noncollinear points

c. three coplanar points **d.** two noncoplanar points



Solution

a. Q and R lie on the same line, so they are collinear.

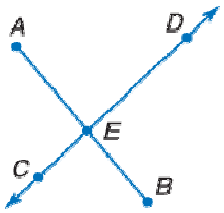
b. Q, R, and S are noncollinear since there is no line that contains all three points.

c. N, O, and P lie in the same plane, so they are coplanar.

d. M and N are noncoplanar since they do not lie in the same plane.

Example 2

In the figure, $\overleftrightarrow{CD}$ bisects $\overline{AB}$.
Name two congruent line segments.



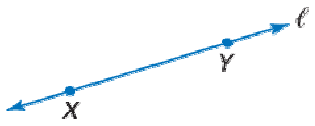
Solution

Since $\overleftrightarrow{CD}$ bisects $\overline{AB}$, point E is the midpoint of $\overline{AB}$.
Therefore, segments $\overline{AE}$ and $\overline{EB}$ have the same length,
or $\overline{AE} \cong \overline{EB}$.

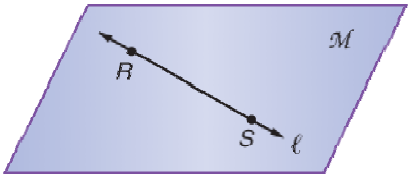
Example 3

State which postulate is illustrated in each figure.

a.



b.



Solution

a. Points *X* and *Y* form line l, so the figure illustrates *Postulate 1*.

b. Points *R* and *S* are contained in plane *M*, and the line they form, l, is also contained in the plane. This illustrates *Postulate 3*.