Points, Lines and Planes

Point

Line
$\underline{\text { Line Segment }}$

Ray

Plane

## Coplanar

## Collinear

## Skew Lines

## Parallel Lines

Perpendicular Lines

Directions: Draw and label a figure for each relationship.

1. Point $A$ lies on $\overleftrightarrow{B C}$.
2. Points $A, B$ and $C$ are collinear. Points $A, B, C$ and $D$ are noncollinear.
3. $\overleftrightarrow{A B}$ lies in plane $\mathbb{R}$ and contains point $C$.
4. $\overleftrightarrow{A B}$ and $\overrightarrow{C D}$ intersect at $E(-1,-1)$ for $A(-3,-5)$ and $C(-2,2)$.

5. Line $\ell$ contains $A$ and $B$, but does not contain $C$.
6. Lines $\ell, m$ and $n$ are coplanar, but do not intersect.
7. Planes $\mathscr{P}$ and $\mathfrak{Q}$ intersect in $\ell$.
8. Point $A$ and line $\ell$ lie in $\mathscr{P}$. Line $\ell$ intersects line $m$ at $B$. Line $\ell$ and $A$ are coplanar but $\ell, m$ and $A$ are not.
9. Lines $\ell, m$ and $n$ are coplanar, and meet at point $A$.
10. Planes $\mathscr{P}$ and $\mathcal{Q}$ intersect, and planes $\mathcal{Q}$ and $\mathfrak{R}$ intersect, but planes $\mathscr{P}$ and $\mathscr{R}$ do not intersect.
11. Line $\ell$ lies in planes $\mathscr{P}, \mathcal{Q}$ and $\mathfrak{R}$.
