Points, Lines and Planes

Point Point

Line

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 \overrightarrow{BC} .

2. Points A, B and C are collinear. Points A, B, C and D are noncollinear.

3. \overrightarrow{AB} lies in plane \Re and contains point *C*.

4. \overrightarrow{AB} and \overrightarrow{CD} intersect at E(-1,-1) for A(-3,-5) and C(-2,2).

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5. Line ℓ contains A and B, but does not contain C.

6. Lines ℓ , *m* and *n* are coplanar, but do not intersect.

7. Planes \mathcal{P} and \mathbb{Q} intersect in ℓ .

8. Point A and line ℓ lie in \mathcal{P} . Line ℓ intersects line m at B. Line ℓ and A are coplanar but ℓ, m and A are not.

9. Lines ℓ , *m* and *n* are coplanar, and meet at point *A*.

10. Planes \mathscr{P} and \mathfrak{Q} intersect, and planes \mathfrak{Q} and \mathfrak{R} intersect, but planes \mathscr{P} and \mathfrak{R} do not intersect.

11. Line ℓ lies in planes \mathcal{P} , \mathbb{Q} and \mathcal{R} .