Complete the outline as you view Video Lecture 1.3. Pause the video as needed to fill in the blanks. Then press Play to continue. Also, circle your answer to each numbered exercise.

**Objective 1** Learn the Basic Terms and Postulates of Geometry.

I. A(n) **__________** has no dimension (no length, width, or height). It does have a location, or position. Name it with a single capital letter.

II. A(n) **__________** extends in opposite directions without end and has one dimension—length. Name it with a single lowercase letter, or by any two points on it.

III. A(n) **__________** extends in two dimensions without end. The two dimensions are length and width, but no thickness. We represent this by a flat surface. Name it with a single capital letter, or by any 3 points on it (that do not lie on the same line).

IV. **__________** points are points that lie on the same line.

V. **__________** points are points that lie on the same plane.

VI. **__________** is the set of all points in three dimensions.

VII. A(n) **__________  __________** is any nonempty subset of space.

**Work Video Exercise 1 with me.**

Name three collinear points on plane C.

1.

---

Copyright © 2014 Pearson Education, Inc.
Section 1.3 Points, Lines and Planes

A(n) __________ __________ is part of a line. It consists of two endpoints and all the points between them. Name it by its endpoints.

A(n) __________ is part of a line. It consists of an endpoint and all the points of a line on one side of the endpoint. Name it by its endpoint and any other point on the ray. Here, the order of points is important—list the endpoint first.

_________ rays are two rays that share the same endpoint and form a line. Name each one as you would name a ray.

Pause and work Video Exercise 2.
Name the pair of opposite rays with endpoint T.

2.

Pause and work Video Exercise 3.
Name the line segment(s).

3.
Pause and work Video Exercise 4.
Is the following statement true or false?
4. \( \overrightarrow{XL} \) and \( \overrightarrow{LX} \) are opposite rays.

Play and check.

Pause and work Video Exercise 5.
Name three points that are not collinear.
5.

Play and check.

Through any two points there is exactly one \( \underline{\text{line}} \).

When two or more geometric figures overlap, their \( \underline{\text{intersection}} \) consists of the points they have in common.

If two distinct lines intersect, then they intersect at exactly one \( \underline{\text{point}} \).

If two distinct planes intersect, then they intersect in exactly one \( \underline{\text{line}} \).

Through any three noncollinear points, there is exactly one \( \underline{\text{plane}} \).
Section 1.3 Points, Lines and Planes

**Pause and work Video Exercises 6 and 7.**

6. Name the intersection of planes \( XWV \) and \( UVR \).

7. Name two planes that intersect at \( \overline{XT} \).

Play and check.

**Pause and work Video Exercise 8.**

8. Name a point that is coplanar with \( Q, R, \) and \( H \).

Play and check.

**Pause and work Video Exercise 9.**

Sketch the figure described. Assume that each figure lies on a plane.

9. Two lines that intersect at point \( A \) and another line that intersects both lines, but not at point \( A \).

Play and check.