

Answer Key/Possible Solutions

The Building Blocks of Geometry (Day 3, step C)

- Refer to student textbook to fill in the “symbol” and “definition” section of the chart. A symbol for intersecting lines may need to be agreed upon if one cannot be found in a text. The following symbols can be used for parallel and perpendicular lines, and a similar format could be followed for intersecting lines.

Parallel	Perpendicular	Intersecting
EF \parallel KM	EF \perp JR	KM \times JR

- Hopefully students’ textbooks will provide some real-world examples of the geometric building blocks. If not, the following descriptions could be used to refer to the different elements being discussed.
 - Point: head of a nail, pencil point
 - Line Segment: ruler, yardstick, straight piece of rope
 - Ray: sunbeam, flashlight beam
 - Plane: sheet of paper
 - Line: horizon (*continuous?)
 - Parallel Lines: latitude lines, parallel bars (*?), railroad tracks (*?)
 - Perpendicular Lines: 4-way stop (*continuous?)
 - Intersecting Lines: latitude and longitudinal lines, streets (*?)

*Note: Some real-world examples will be “tough” because there are very few places on earth where the lines are continuous in both directions. But searching for real-world examples will help students to begin “seeing” the geometry that is all around them.

Venn Diagram (Day 3, steps G-L)

- Students’ suggestions will probably follow the initial example when they begin explaining the characteristics shared by the overlapping rings.
 - Points and Line Segments: both are made of points and exist in a plane; two-dimensional; both are part of something bigger (points are part of other building blocks and line segments are part of lines); etc.
 - Line Segments and Planes: both consist of points; two-dimensional; both are related to lines (a line segment is part of a line, and a plane contains lines); etc.
 - Planes and Points: both consist of points; two-dimensional; both are fundamental to “building” other blocks (points are the fundamental building block and planes are the surface where points are connected via lines); etc.
 - Points, Line Segments, and Planes (center ring): two-dimensional; all consist of points; all are a part of bigger building blocks and polygons (geometry); all can be found in honeycombs—a hexagon is made up of points and line segments all within a plane; etc.