# 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 ∥ KM | EF ⊥ JR | KM ✕ 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.
  - <u>Point</u>:  head of a nail, pencil point
  - <u>Line Segment</u>: ruler, yardstick, straight piece of rope
  - <u>Ray</u>: sunbeam, flashlight beam
  - <u>Plane</u>: sheet of paper
  - <u>Line</u>: horizon (*continuous?)
  - <u>Parallel Lines</u>: latitude lines, parallel bars (*?), railroad tracks (*?)
  - <u>Perpendicular Lines</u>: 4-way stop (*continuous?)
  - <u>Intersecting Lines</u>: 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.
  - <u>Points and Line Segments</u>: 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.
  - <u>Line Segments and Planes</u>: 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.
  - <u>Planes and Points</u>: 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.
  - <u>Points, Line Segments, *and* Planes</u> (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.