G5-M6-Lesson 6

1. Plot and label the following points on the coordinate plane.

   $K\ (0.7, 0.6)$ $P\ (0.7, 1.1)$ $M\ (0.2, 0.3)$ $H\ (0.9, 0.3)$

   a. Use a straightedge to construct line segments KP and MH.

   b. Name the line segment that is perpendicular to the x-axis and parallel to the y-axis.
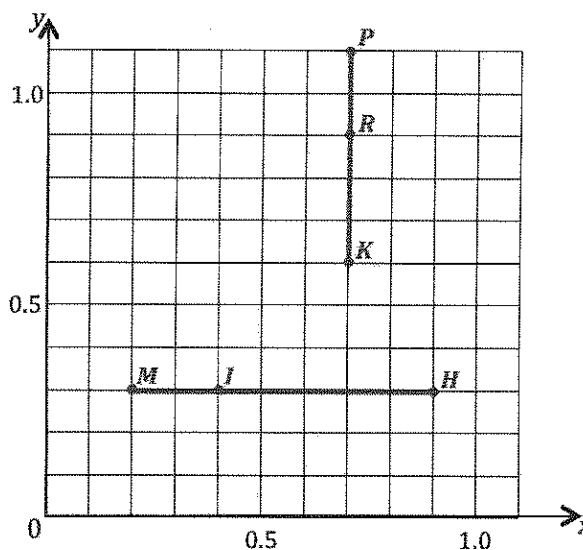
   $\overline{KP}$

   > Because the x-coordinates of K and P are the same, segment KP is parallel to the y-axis.

   c. Name the line segment that is parallel to the x-axis and perpendicular to the y-axis.

   $\overline{MH}$

   > Because the y-coordinates of M and H are the same, segment MH is perpendicular to the y-axis.

   d. Plot a point on $\overline{KP}$, and name it R.

   e. Plot a point on $\overline{MH}$, and name it I.

   f. Write the coordinates for points R and I.

   $R\ (0.7, 0.9)$ $I\ (0.4, 0.3)$

Lesson 6:   Investigate patterns in vertical and horizontal lines, and interpret points on the plane as distances from the axes.

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2. Construct line j such that the y-coordinate of every point is $2\frac{1}{4}$, and construct line k such that

the x-coordinate of every point is $1\frac{3}{4}$.

> Since all the y-coordinates are the same, line j will be a horizontal line.
>
> Since all the x-coordinates are the same, line k will be a vertical line.

a. Line j is _____ $2\frac{1}{4}$ _____ units from the x-axis.

b. Give the coordinates of the point on line j that is 1 unit from the y-axis.

$\left(1, 2\frac{1}{4}\right)$

> "1 unit from the y-axis" gives the value of the x-coordinate.

c. With a colored pencil, shade the portion of the grid that is less than $2\frac{1}{4}$ units from the x-axis.

> I use blue to shade the grid below line j.

d. Line k is _____ $1\frac{3}{4}$ _____ units from the y-axis.

e. Give the coordinates of the point on line k that is $1\frac{1}{2}$ units from the x-axis.

$\left(1\frac{3}{4}, 1\frac{1}{2}\right)$

> "$1\frac{1}{2}$ units from the x-axis" gives the value of the y-coordinate.

f. With another colored pencil, shade the portion of the grid that is less than $1\frac{3}{4}$ units from the y-axis.

> I use pink to shade the grid to the left of line k. The area of the grid that is below line j and to the left of line k now looks purple.

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              on the plane as distances from the axes.

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