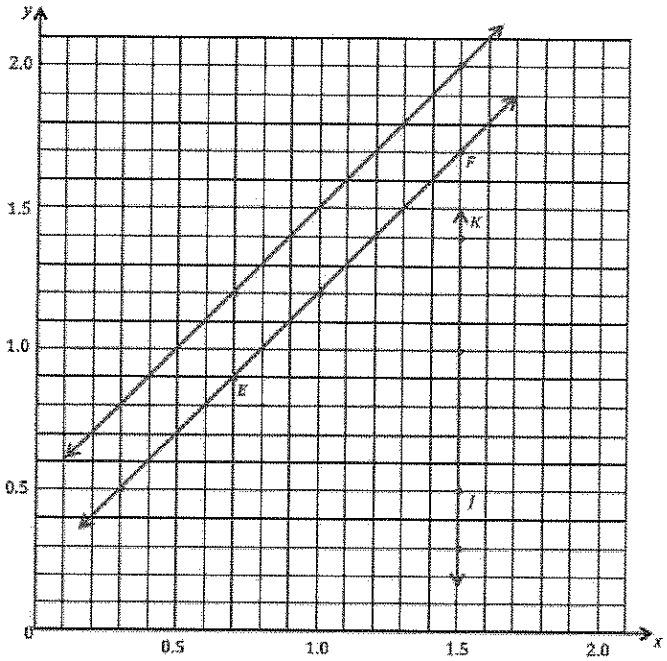
G5-M6-Lesson 12

1. Write a rule for the line that contains the points $(0.3, 0.5)$ and $(1.0, 1.2)$.

   y is 0.2 more than x.

   a. Identify 2 more points on this line. Then draw it on the grid below.

Point	x	y	(x, y)
E	0.7	0.9	$(0.7, 0.9)$
F	1.5	1.7	$(1.5, 1.7)$



   b. Write a rule for a line that is parallel to $\overleftrightarrow{EF}$ and goes through point $(0.7, 1.2)$. Then draw the line on the grid.

   y is 0.5 more than x.

Since this line needs to be parallel to $\overleftrightarrow{EF}$, it must be an addition rule. In the coordinate pair $(0.7, 1.2)$, I can see that the y-coordinate is 0.5 more than the x-coordinate.

2. Give the rule for the line that contains the points $(1.5, 0.3)$ and $(1.5, 1.0)$.

   x is always 1.5.

   a. Identify 2 more points on this line. Draw the line on the grid above.

Point	x	y	(x, y)
J	1.5	0.5	$(1.5, 0.5)$
K	1.5	1.4	$(1.5, 1.4)$

   b. Write a rule for a line that is parallel to $\overleftrightarrow{JK}$.

   x is always 1.8.

Since this line must be parallel to $\overleftrightarrow{JK}$, it must be another vertical line where the x-coordinate is always the same.

3. Give the rule for a line that contains the point $(0.3, 0.9)$ using the operation or description below. Then, name 2 other points that would fall on each line.

a. Addition: *y is 0.6 more than x.*

Point	x	y	(x, y)
T	0.4	1	$(0.4, 1)$
U	1	1.6	$(1, 1.6)$

b. A line parallel to the x-axis: *y is always 0.9.*

Point	x	y	(x, y)
G	0.4	0.9	$(0.4, 0.9)$
H	1	0.9	$(1, 0.9)$

A line parallel to the x-axis is a horizontal line. Horizontal lines have y-coordinates that do not change.

c. Multiplication: *y is x tripled.*

Point	x	y	(x, y)
A	0.2	0.6	$(0.2, 0.6)$
B	0.5	1.5	$(0.5, 1.5)$

d. A line parallel to the y-axis: *x is always 0.3.*

Point	x	y	(x, y)
V	0.3	1.3	$(0.3, 1.3)$
W	0.3	2	$(0.3, 2)$

A line parallel to the y-axis is a vertical line. Vertical lines have x-coordinates that do not change.

e. Multiplication with addition: *Double x, and then add 0.3.*

Point	x	y	(x, y)
R	0.4	1.1	$(0.4, 1.1)$
S	0.5	1.3	$(0.5, 1.3)$

I can use the original coordinate pair, $(0.3, 0.9)$, to help me generate a multiplication with addition rule.

$0.3 \times 2 = 0.6$ (This is the "*Double x*" part of the rule.)

$0.6 + 0.3 = 0.9$ (This is the "*then add* 0.3" part of the rule.)