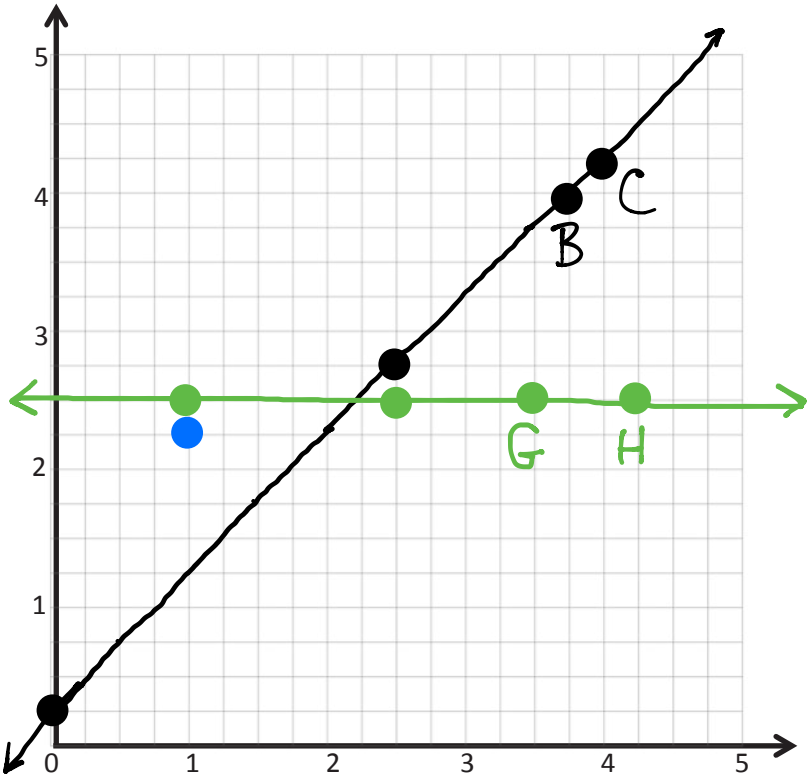
Name _____ Date _____

1. Write a rule for the line that contains the points $(0, \frac{1}{4})$ and $(2\frac{1}{2}, 2\frac{3}{4})$.

y is $\frac{1}{4}$ more than x.

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

Point	x	y	(x, y)
B	4	$4\frac{1}{4}$	$(4, 4\frac{1}{4})$
C	$3\frac{3}{4}$	4	$(3\frac{3}{4}, 4)$



b. Write a rule for a line that is parallel to $\overleftrightarrow{BC}$ and goes through point $(1, 2\frac{1}{4})$.

y is $1\frac{1}{4}$ more than x.

2. Give the rule for the line that contains the points $(1, 2\frac{1}{2})$ and $(2\frac{1}{2}, 2\frac{1}{2})$.

y is always $2\frac{1}{2}$.

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

(Answers will vary.)

Point	x	y	(x, y)
G	$3\frac{1}{2}$	$2\frac{1}{2}$	$(3\frac{1}{2}, 2\frac{1}{2})$
H	$4\frac{1}{4}$	$2\frac{1}{2}$	$(4\frac{1}{4}, 2\frac{1}{2})$

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

(Answers will vary.)

y is always 1.

3. Give the rule for a line that contains the point $(\frac{3}{4}, 1\frac{1}{2})$, using the operation or description below. Then, name 2 other points that would fall on each line.

a. Addition: $y = x + \frac{3}{4}$

Point	x	y	(x, y)
T	2	$2\frac{3}{4}$	$(2, 2\frac{3}{4})$
U	$3\frac{1}{4}$	4	$(3\frac{1}{4}, 4)$

b. A line parallel to the x-axis: y is always $1\frac{1}{2}$

Point	x	y	(x, y)
G	2	$1\frac{1}{2}$	$(2, 1\frac{1}{2})$
H	4	$1\frac{1}{2}$	$(4, 1\frac{1}{2})$

c. Multiplication: $y = x$ times 2

Point	x	y	(x, y)
A	1	2	$(1, 2)$
B	3	6	$(3, 6)$

d. A line parallel to the y-axis: x is always $\frac{3}{4}$

Point	x	y	(x, y)
V	$\frac{3}{4}$	2	$(\frac{3}{4}, 2)$
W	$\frac{3}{4}$	5	$(\frac{3}{4}, 5)$

e. Multiplication with addition: x times 1 and add $\frac{3}{4}$.

Point	x	y	(x, y)
R	2	$2\frac{3}{4}$	$(2, 2\frac{3}{4})$
S	$3\frac{1}{4}$	4	$(3\frac{1}{4}, 4)$

4. On the grid, two lines intersect at (1.2, 1.2). If line a passes through the origin, and line b contains the point (1.2, 0), write a rule for line a and line b.

Line a: y is the same as x.

Line b: y is always 1.2.