Recognising Relationships between Linear Graphs

Plot each pair of linear graphs on the axes given.
Write a sentence about what you notice about each pair of lines.
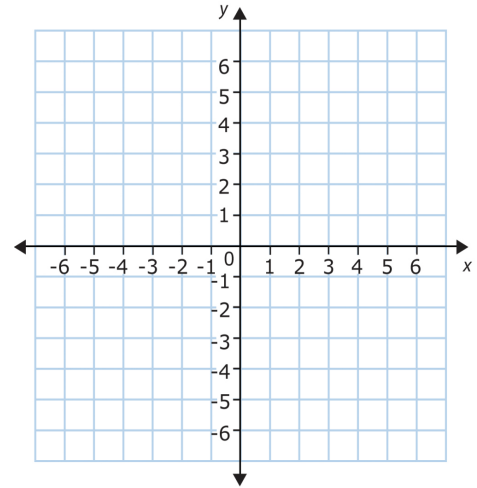
1) On the axes on the right, plot the graphs of
$y = 2x + 1$ and
$y = 3x + 1$

Table of values of $y = 2x + 1$

x	-2	-1	0	1	2
y					

Table of values of $y = 3x + 1$

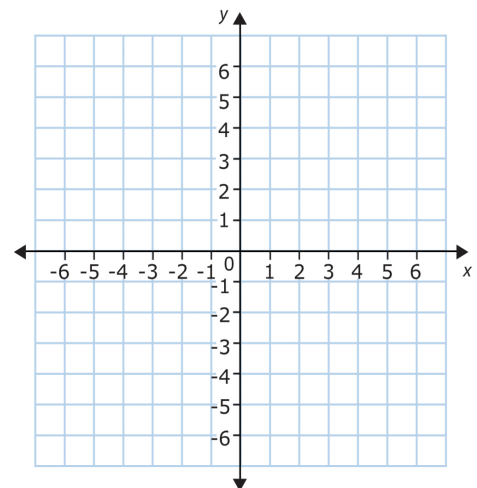| x	-2	-1	0	1	2
y					

2) On the axes on the right, plot the graphs of
$y = 2x - 1$ and
$y = 2x - 2$

Table of values of $y = 2x - 1$

x	-2	-1	0	1	2
y					

Table of values of $y = 2x - 2$

x	-2	-1	0	1	2
y					

3) On the axes on the right, plot the graphs of
$y = -2x$ and
$y = -2x + 1$

Table of values of $y = -2x$

x	-2	-1	0	1	2
y					

Table of values of $y = -2x + 1$
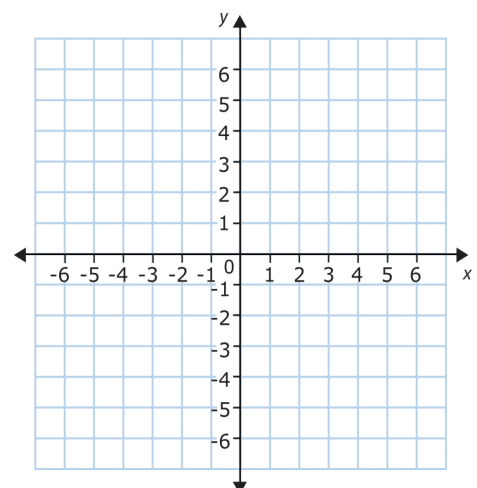
x	-2	-1	0	1	2
y					

4) On the axes on the right, plot the graphs of $y = \frac{1}{2}x$ and
$y = 2x$

Table of values of $y = \frac{1}{2}x$

x	-2	-1	0	1	2
y					

Table of values of $y = 2x$

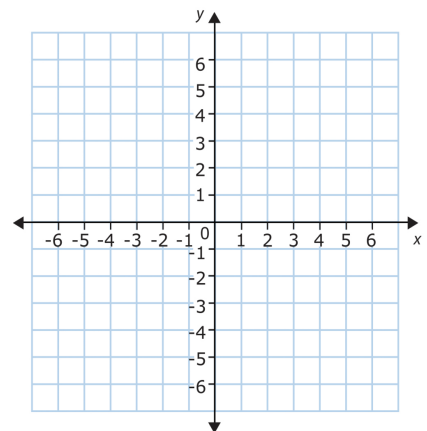| x	-2	-1	0	1	2
y					
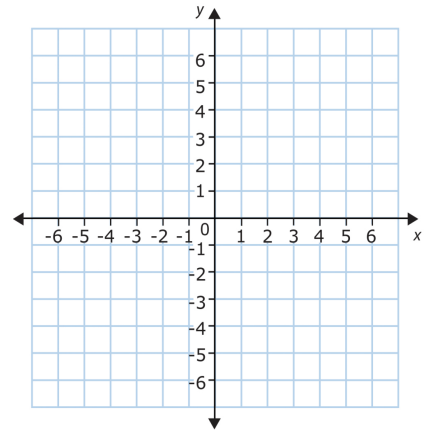
5) On the axes on the right, plot the graphs of
$y = -\frac{1}{2}x$ and
$y = -2x$

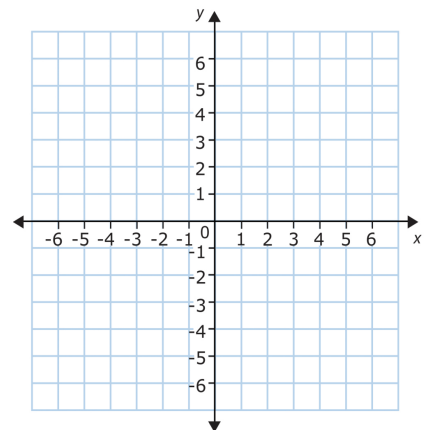*You need to draw your own tables of values form now on.*

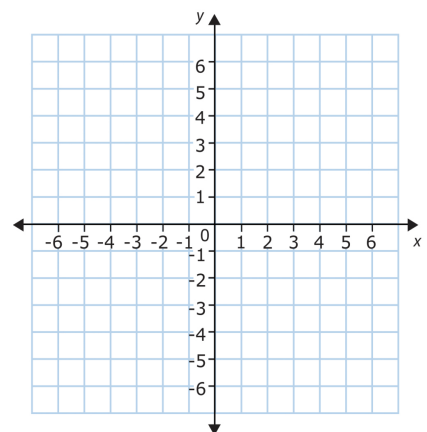6) On the axes on the right, plot the graphs of
$y = \frac{1}{2}x + 1$ and
$y = -2x + 3$

7) On the axes on the right, plot the graphs of
$y = \frac{3}{4}x + 1$ and
$y = -\frac{4}{3}x + 3$

EXTENSION:
Generalise the conclusions you have made from the questions above. What do you notice? Can you give another pair of equations that follow the same rule?