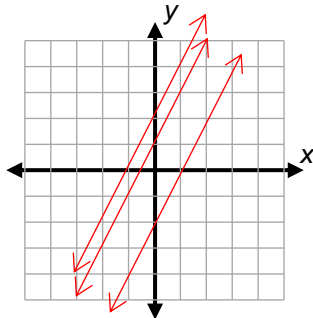Name _____   Period _____   Date _____

GRAPHING EXPLORATION 1

Go to desmos.com and click "start graphing" to access the graphing calculator. Graph each set of functions, sketch the graphs, and answer the questions. Explanations may vary.

Set 1	Set 2
$y = 2x$ $y = 2x + 1$ $y = 2x - 3$	$y = -3x$ $y = -3x + 2$ $y = -3x - 1$

How are Set 1 lines the same?
They are parallel (same "steepness" or slope).
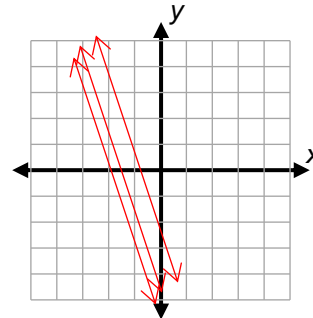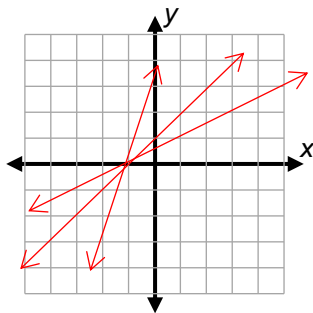
Different?
They cross axes at different places; different y-intercepts.

How are Set 2 lines the same?
They are parallel (same "steepness" or slope).

Different?
They cross axes at different places; different y-intercepts.

Set 3	Set 4
$y = 3x + 1$ $y = x + 1$ $y = \frac{1}{2}x + 1$	$y = -3x - 1$ $y = -x - 1$ $y = -\frac{1}{3}x - 1$

How are Set 3 lines the same?
They have the same y-intercept.
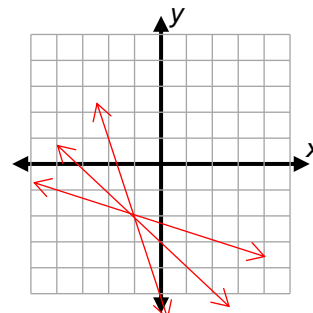
Different?
They have different "steepness" or slope.

How are Set 4 lines the same?
They have the same y-intercept.

Different?
They have different "steepness" or slope.