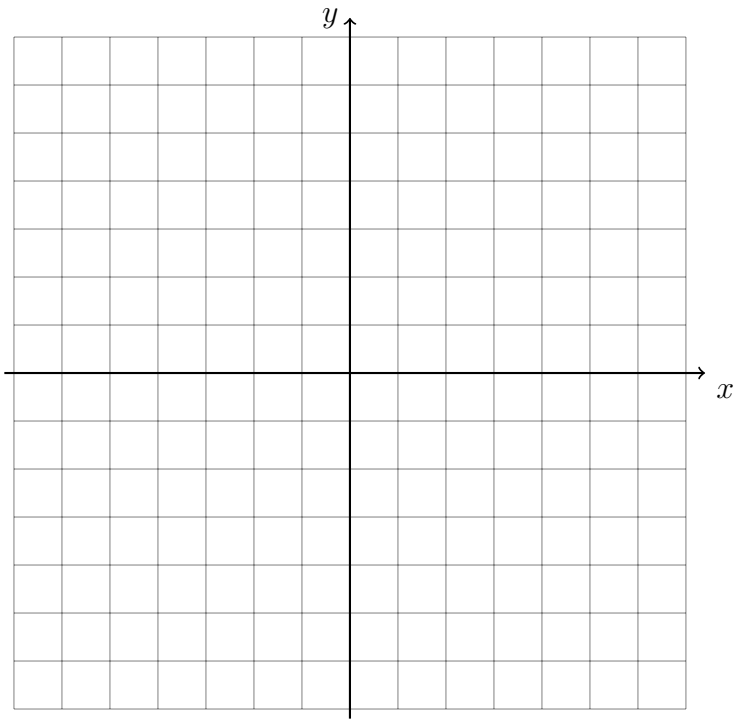
Do Now: Graphing inequalities

Show your work. For graphs, use a pencil and straight edge. Graph the inequality after filling in the values in the blanks and circling the correct types.

1. $y \leq \frac{3}{2}x - 2$

   y-intercept = _____ Line: Solid (=) Dashed ($\neq$)

   Slope = _____ Shading: Above ($y >$) Below ($y <$)



2. Solve for y, then complete. $\frac{2}{3}x + y > -2$

   y-intercept = _____ Line: Solid (=) Dashed ($\neq$)

   Slope = _____ Shading: Above ($y >$) Below ($y <$)

Rate of change

3. Find the slope of the function from the ratio of the line differences.

(a)

x	$f(x)$
-2	-2
-1	0
0	2
1	4
2	6

Change in $y =$ _____

Change in $x =$ _____

Slope = _____

(b)

x	$f(x)$
-4	9
-2	6
0	3
2	0
4	-3

Change in $y =$ _____

Change in $x =$ _____

Slope = _____

4. Find the slope of the function. If the rate of change is not constant, write, "Non-linear. The rate of change is not constant."

(a)

x	$f(x)$
-3	0
-1	-2
0	-3
1	-4
3	-6

Slope = _____

(b)

x	$f(x)$
-4	7
-2	5
0	3
2	5
4	7

Slope = _____

Graphing quadratic functions

5. Given the quadratic function $f(x) = x^2 - 2$, find the row differences.

x	$f(x)$
-3	7
-2	2
-1	-1
0	-2
1	-1
2	2
3	7

Graph the function as a line over the domain $-3 \leq x \leq 3$.