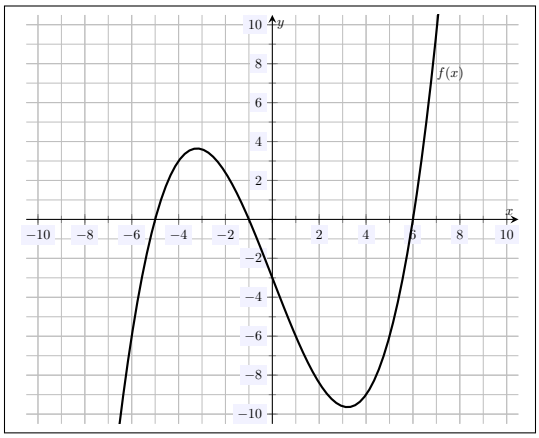
Name: *Caleb McWhorter — Solutions*
MATH 111-I
Spring 2025
Quiz 1

Problem 1: Consider the plot of the relation $f(x)$ shown below.



(a) Is the relation $f(x)$ a function? Explain.

Yes, $f(x)$ is a function because it passes the Vertical Line Test—every vertical line intersects the function at most once.

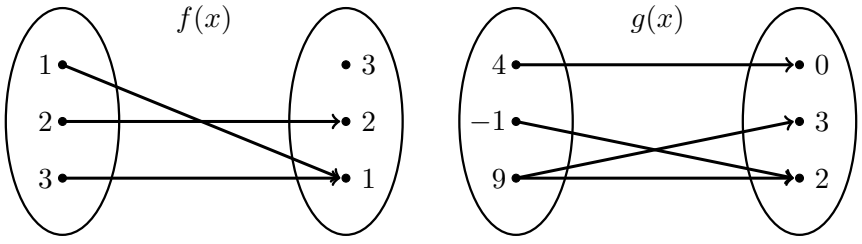
(b) Find the x-intercepts.

The x-intercepts are where $f(x)$ intersects the x-axis, which is at $-5, -1, 6$.

(c) Find the y-intercepts.

The y-intercepts are where $f(x)$ intersects the y-axis, which is at -3.

Problem 2: There are two relations, f and g, shown below. Only one of these relations is *not* a function. Identify which is *not* a function. Being as specific as possible, explain why that relation is not a function.



The relation $g(x)$ is not a function. This is because not every input goes to only one output. For example, $g(9)$ is not well defined because it has two possible outputs: 3 and 2.