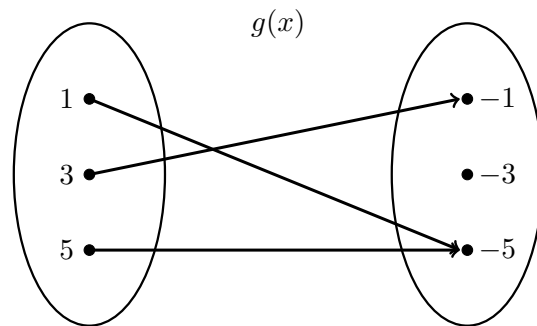
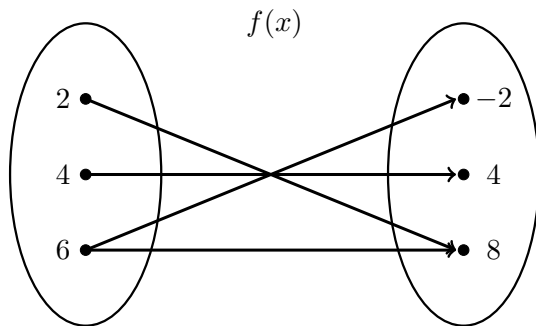


Name: _____
MATH 101
Fall 2022
HW 6: Due 10/12

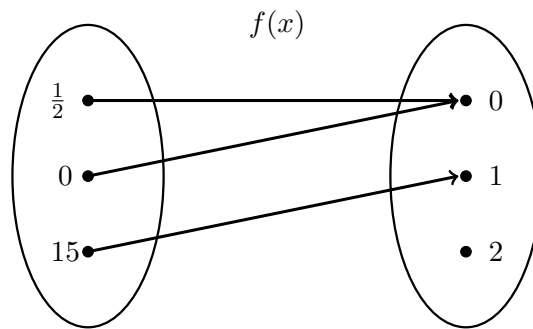
*“Good judgement comes from experience,
and a lot of that comes from bad
judgement.”*

– Will Rogers

Problem 1. (10pt) Determine if the relations $f(x)$ and $g(x)$ shown below are functions. Explain why or why not.



Problem 2. (10pt) Suppose $f(x)$ is the function given below.



- (a) Explain why $f(x)$ is a function.
- (b) Find the value of $f(x)$ on each value in its domain.
- (c) What is the domain of $f(x)$?
- (d) What is the codomain of $f(x)$?
- (e) What is the range of $f(x)$?

Problem 3. (10pt) Explain why $f(x, y) = 2x^2 - y^3 + 6$ is a function. Then find $f(0, 0)$, $f(3, -1)$, $f(-3, 2)$, and $f(1, 1)$.

Problem 4. (10pt) Give an example of a ‘real world’ relationship between two variables which does represent a functional relationship. Also, give an example of a ‘real world’ relationship between two variables which *does not* represent a functional relationship. Be sure to fully explain your responses.