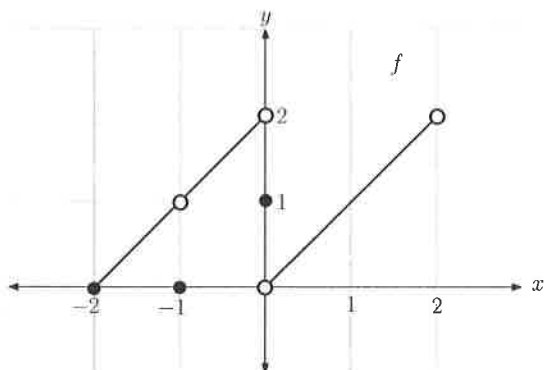Math 201 - Quiz #1   Name: _____ (Key) _____

1. Consider the graph of the given function $y = f(x)$ below.

(a) $f(-1) = \boxed{0}$

(b) $f(0) = \boxed{1}$

(c) $f(1) = \boxed{1}$

(d) Domain of f: $\boxed{[-2, 2)}$

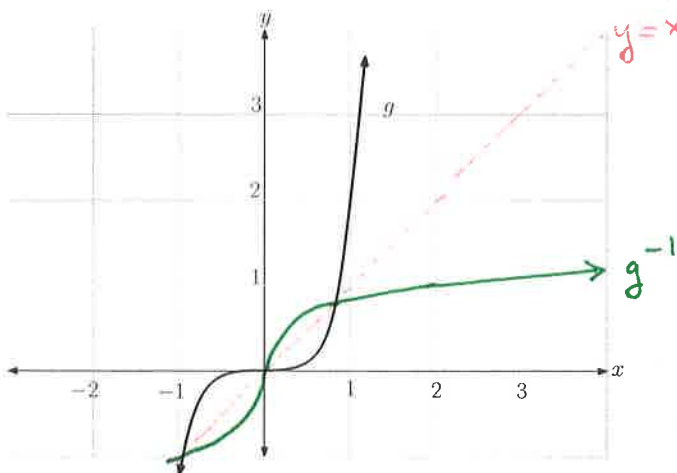(e) Range of f: $\boxed{[0, 2)}$

(f) Is f injective (one-to-one)? $\boxed{\text{NO}}$ (it does not pass the horizontal line test)

2. Consider the graph of the given bijective function $y = g(x)$ below.

(a) Using the graph, how can we tell g is injective (one-to-one)?

$\boxed{\text{the graph passes the horizontal line test.}}$

(b) $g^{-1}(2) = \boxed{1}$ since $g(1) = 2$

(c) Using the graph of $g(x)$ above sketch the graph of $g^{-1}(x)$. reflect along $y = x$

(d) Without using the graph, what is the value of $(g \circ g^{-1})(2015) = \boxed{2015}$

these two reduce to the identity function:

Recall: $f(f^{-1}(x)) = x$ AND $f^{-1}(f(x)) = x$