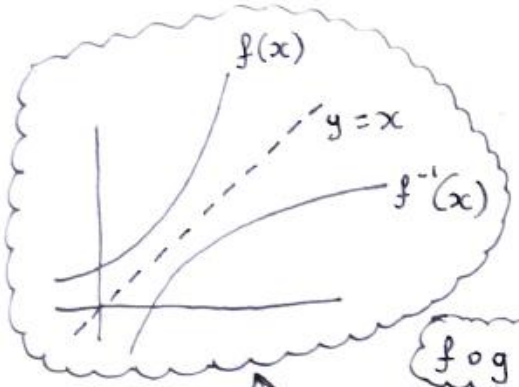
FUNCTIONS



INVERSE FUNCTIONS

1) $y = f(x)$
2) Get x on its own
3) Swap x and y

$f \circ g = g \circ f$

TRANSFORMATIONS

LINEAR
e.g. $f(x) = ax + b$
a = slope b = vertical shift

QUADRATIC
e.g. $f(x) = ax^2 + bx + c$
a = widens/narrows
c = vertical shift

EXPONENTIAL
e.g. $f(x) = ak^x + b$
a = rises faster
b = vertical shift

COMPOSITE FUNCTIONS

e.g. $g \circ f(x)$

TERMINOLOGY

DOMAIN = INPUTS
RANGE = OUTPUTS
CODOMAIN = WHAT COULD COME OUT?

INJECTIVE, SURJECTIVE BIJECTIVE

INJECTIVE

"ALL HORIZ LINES CUT AT MOST ONCE"

YES

SURJECTIVE

"ALL HORIZ LINES CUT AT LEAST ONCE"

YES

BIJECTIVE

COMPLETED SQUARE FORM

$f(x) = a(x-h)^2 + k$
Max/Min Pt = (h, k)
Axis of Sym: $x = h$