Calculus

Part-2

NovoNex

Type-1

Simple / Nothing Complicated

$F(x) = x^2$

$F(x) = x^2 + 2$

$F(x) = (x + 2)^2$

$F(x) = (x - 2)^2$

$F(x) = x^2 - 2$

P → Variable

Function + P >>> Upper Shift (P)

Function – P >>> Down Shift (P)

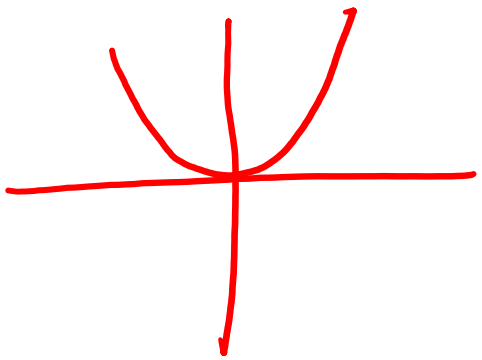
Variable + P >>> Left Shift (P)

Variable – P >>> Right Shift (P)

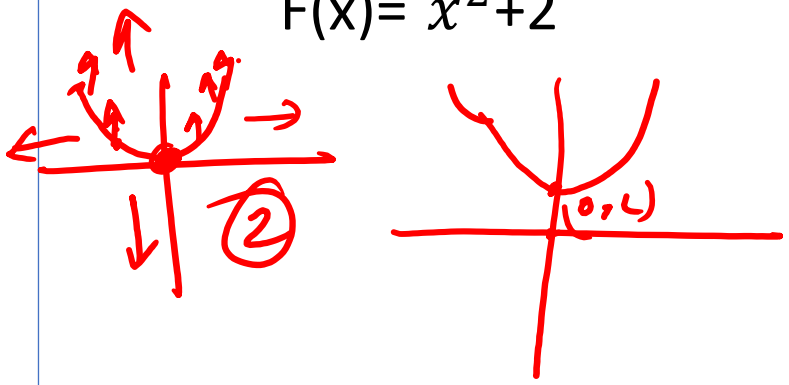
NovoNex

Draw Graph

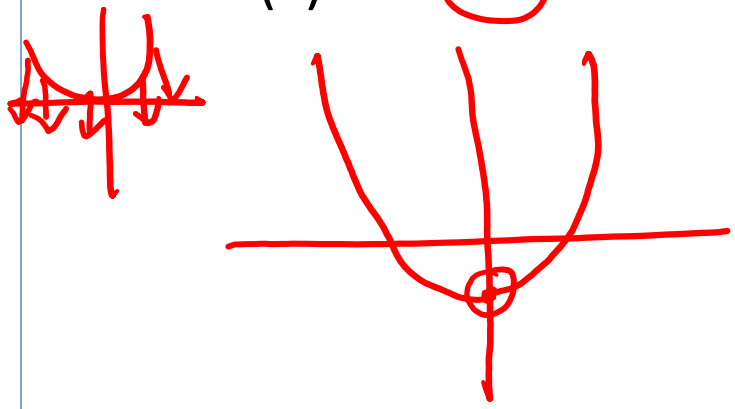
F(x)= x^2



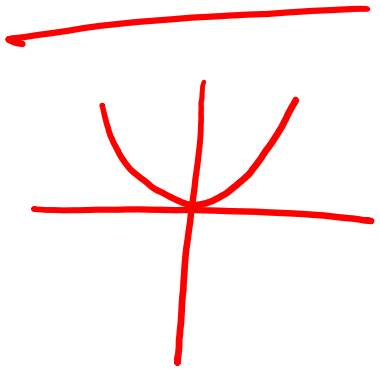
F(x)= x^2+2



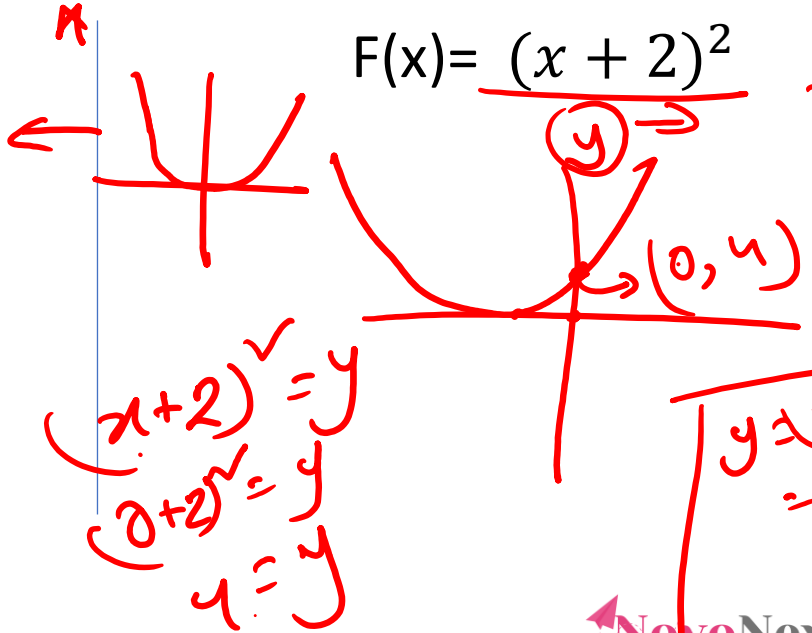
F(x)= x^2 −2



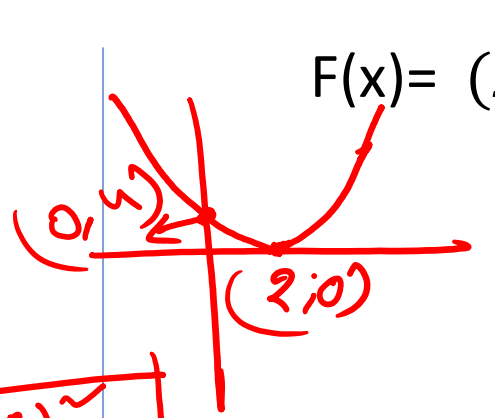
F(x)= x^2



F(x)= $(x+2)^2$



F(x)= $(x-2)^2$



NovoNex

Type-2

Negative Sign Before Function

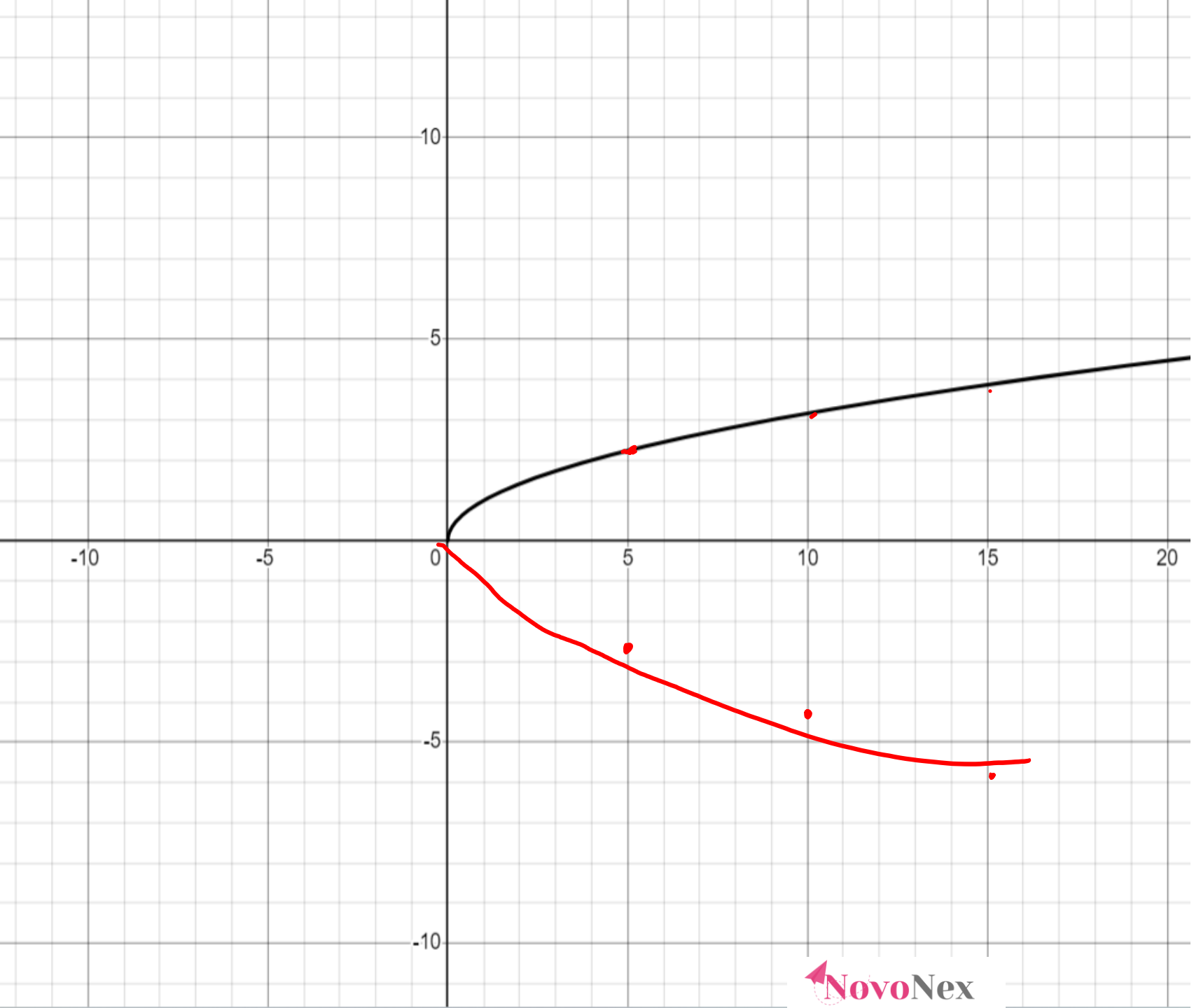
Negative sign Before Function >> up and down Change

Function + P >>> Upper Shift (P unit)

Function – P >>>Down Shift (P unit)

Variable + P >>> Left Shift (P unit)

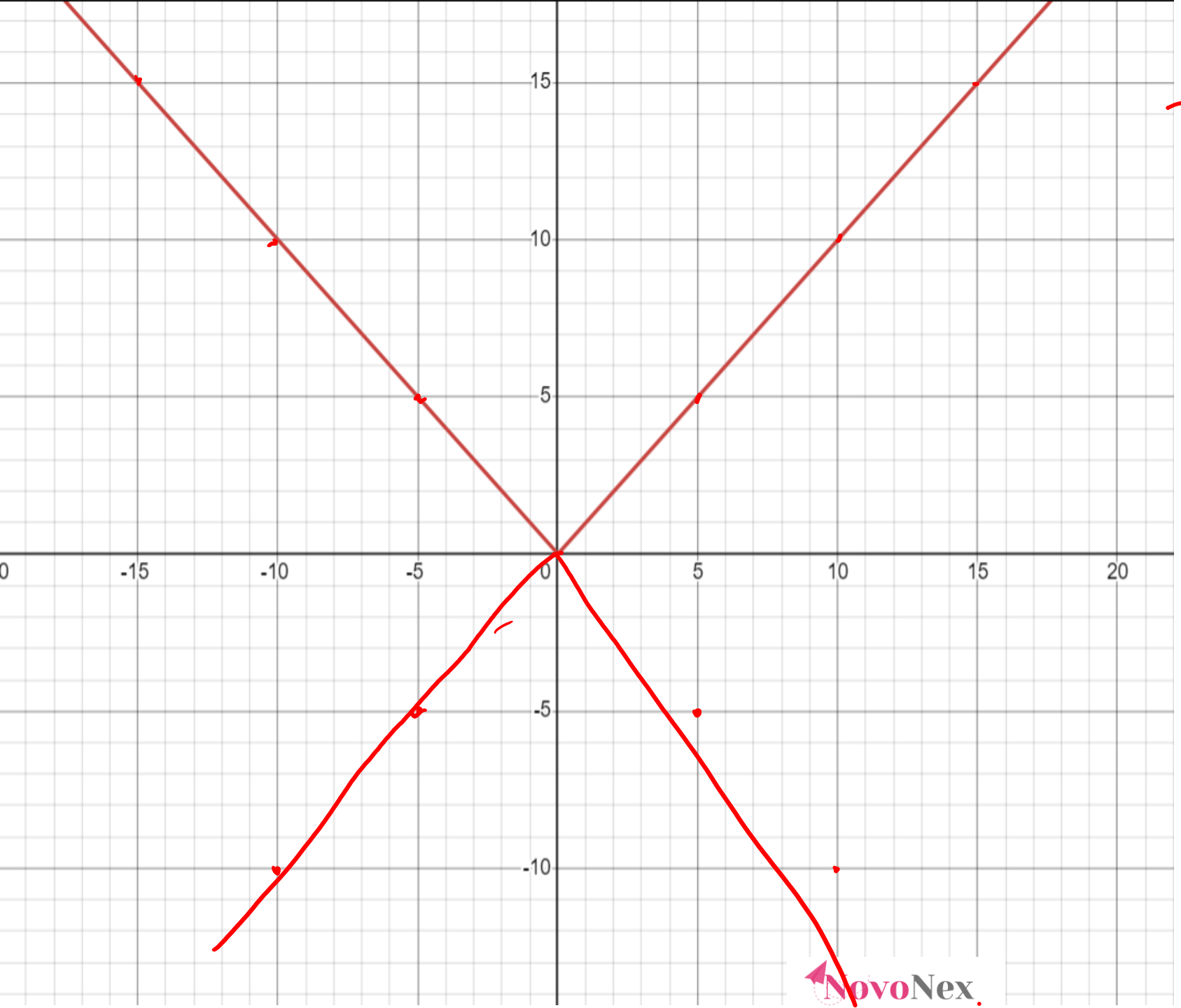
Variable –P >>>Right Shift(P unit)



$f(x) = \sqrt{x}$

$f(x) = -\sqrt{x}$

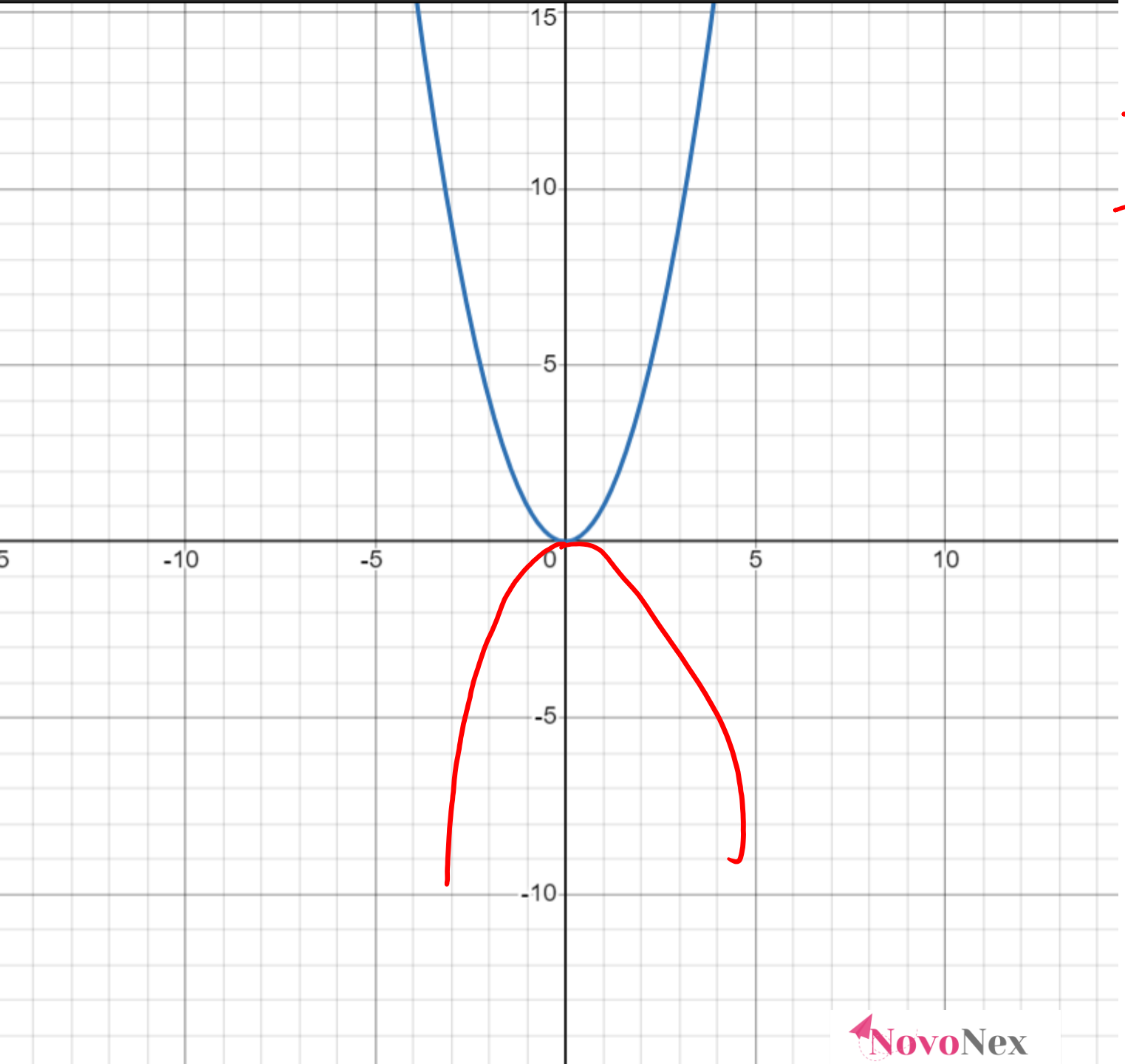
NovoNex



$f(x) = |x|$

$f(x) = -|x|$

NovoNex



$f(x) = x^2$

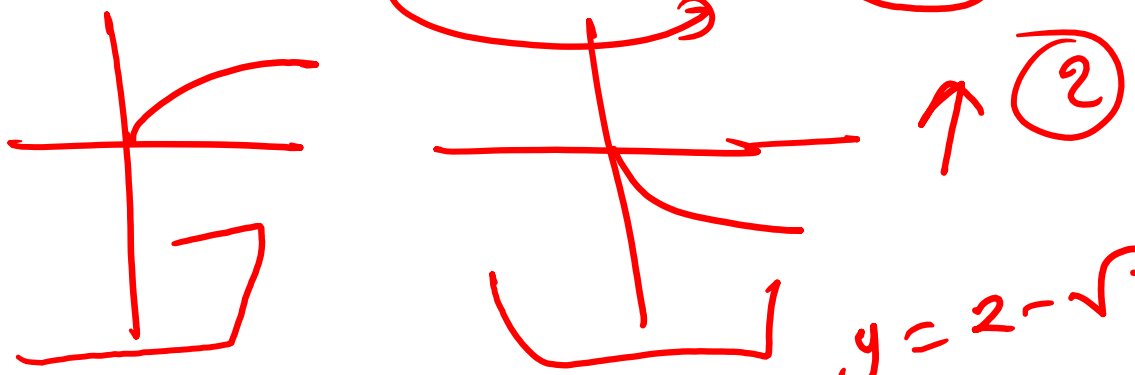
$f(x) = -x^2$

NovoNex

Draw Graph

Variable

F(x)= $2-\sqrt{x}$ → $-\sqrt{x}$ → $+2$

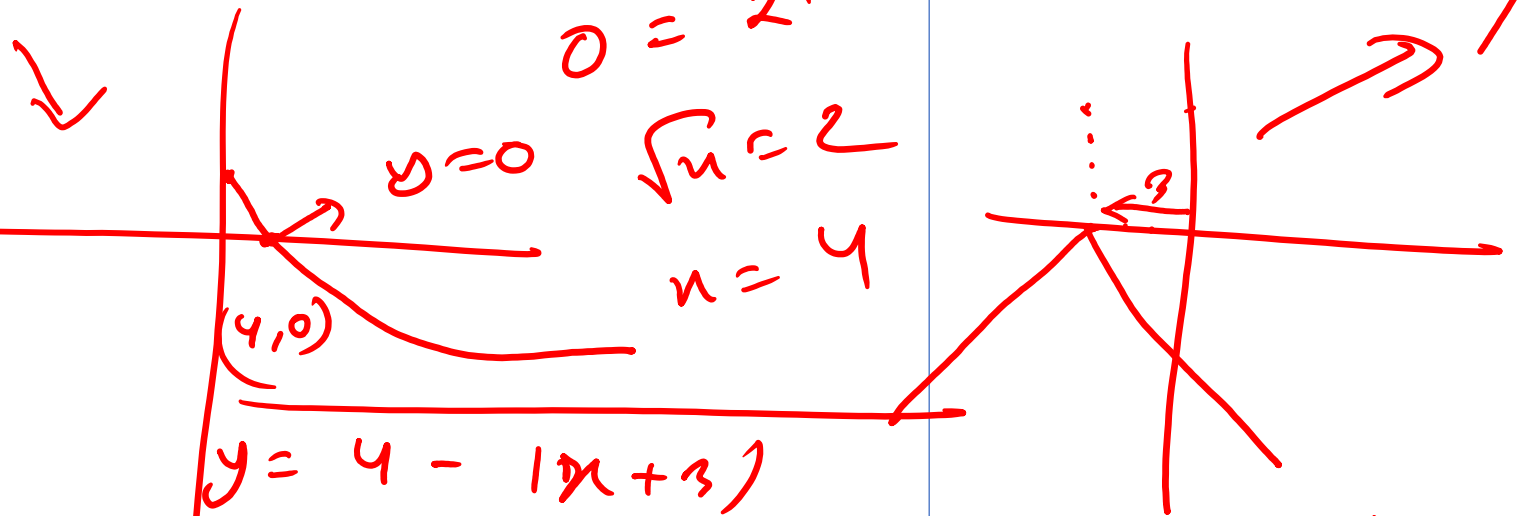


$y = 2-\sqrt{x}$

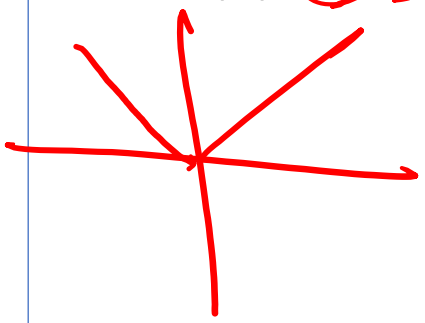
$0 = 2-\sqrt{x}$

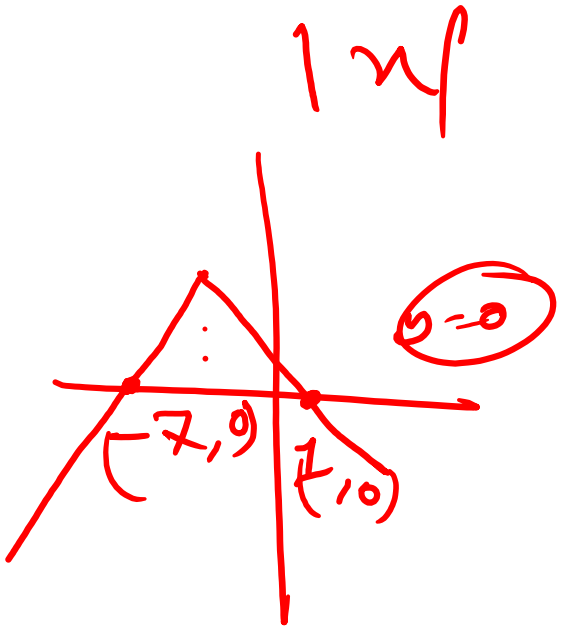
$\sqrt{x} = 2$

$x = 4$



F(x)= 4 − |x+3|





$y = 4 - |x+3|$

$0 = 4 - |x+3|$

$|x+3| = 4$ $\quad x = \pm 4 - 3$

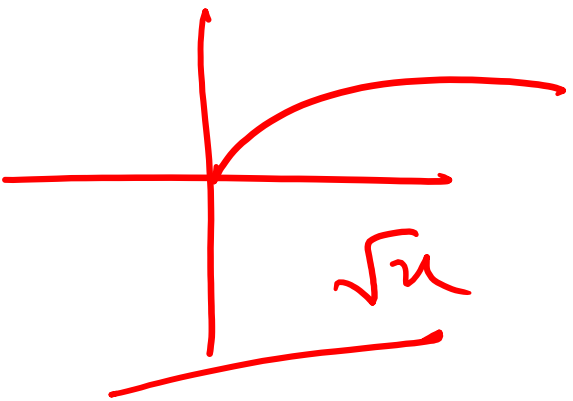
$4-3 = 1$

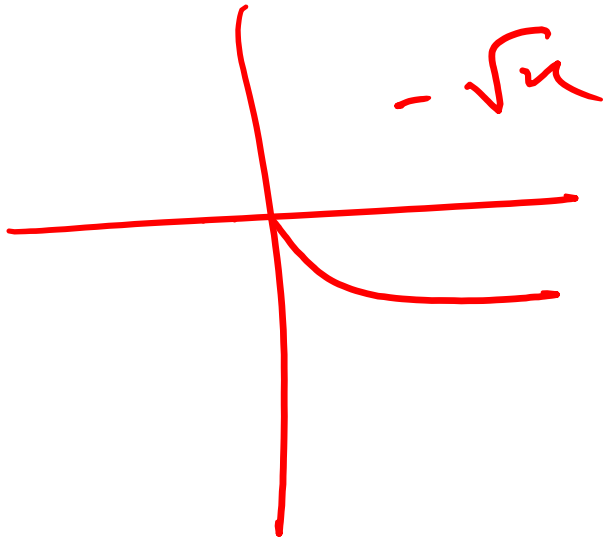
$-4-3 = -7$

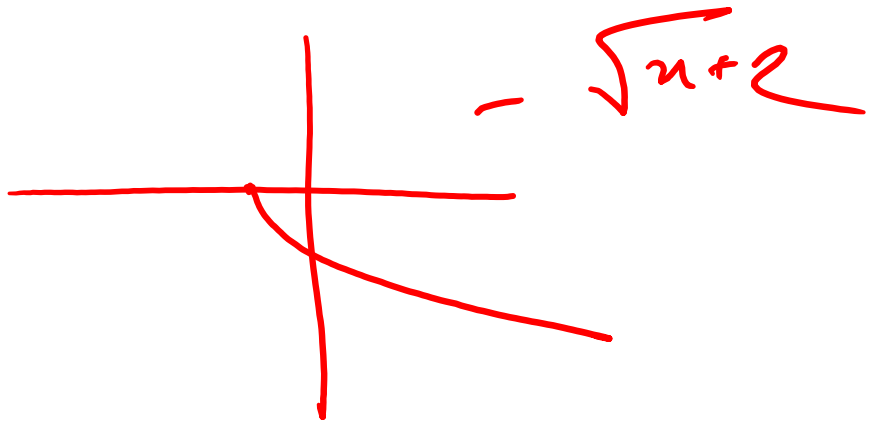
NovoNex

Draw Graph

$F(x) = 2 - \sqrt{x+2}$ → $\sqrt{x}$







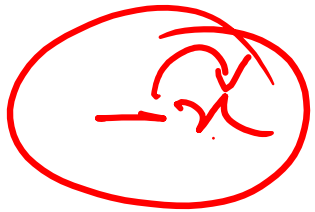
$2 - \sqrt{x+2}$

NovoNex

Type-3

Negative Sign Before Variable

Negative sign Before Variable >> left right Change

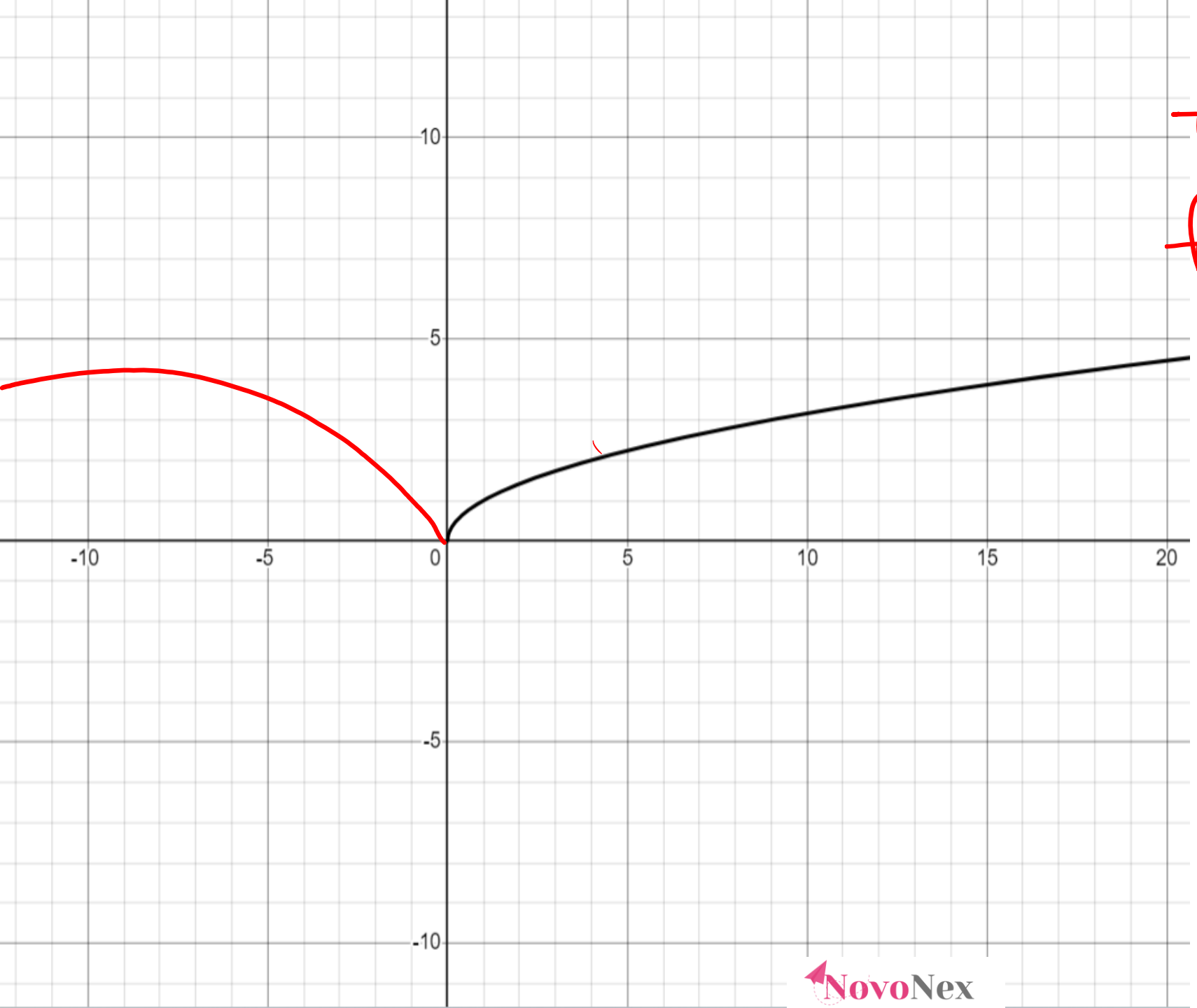


Function + (P) >>> Upper Shift (P)

Function − (P) >>>Down Shift (P)

Variable + (P) >>> Right Shift (P)

Variable − (P) >>> Left Shift(P)

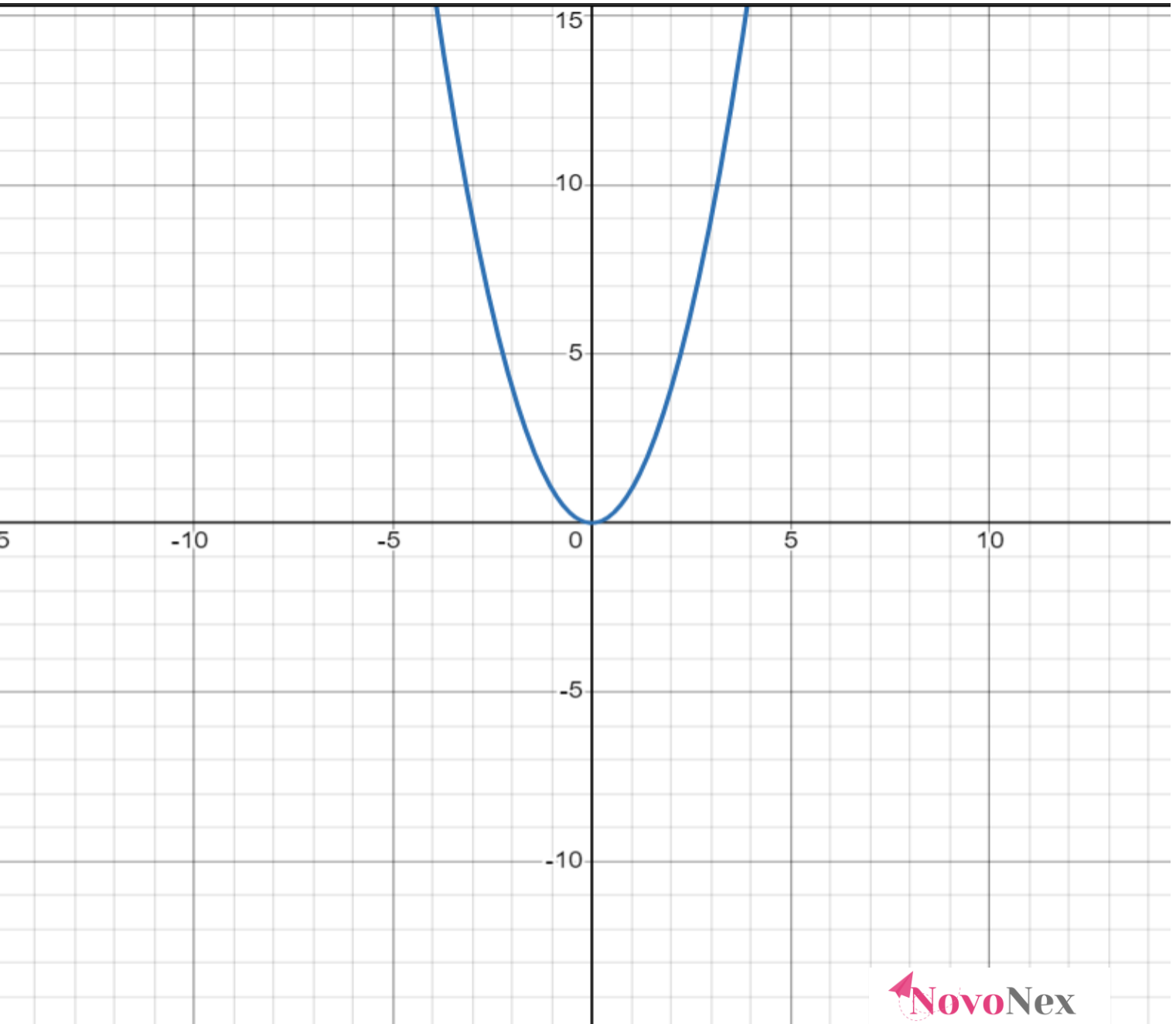


$$f(x) = \sqrt{x}$$

$$f(x) = \sqrt{-x}$$

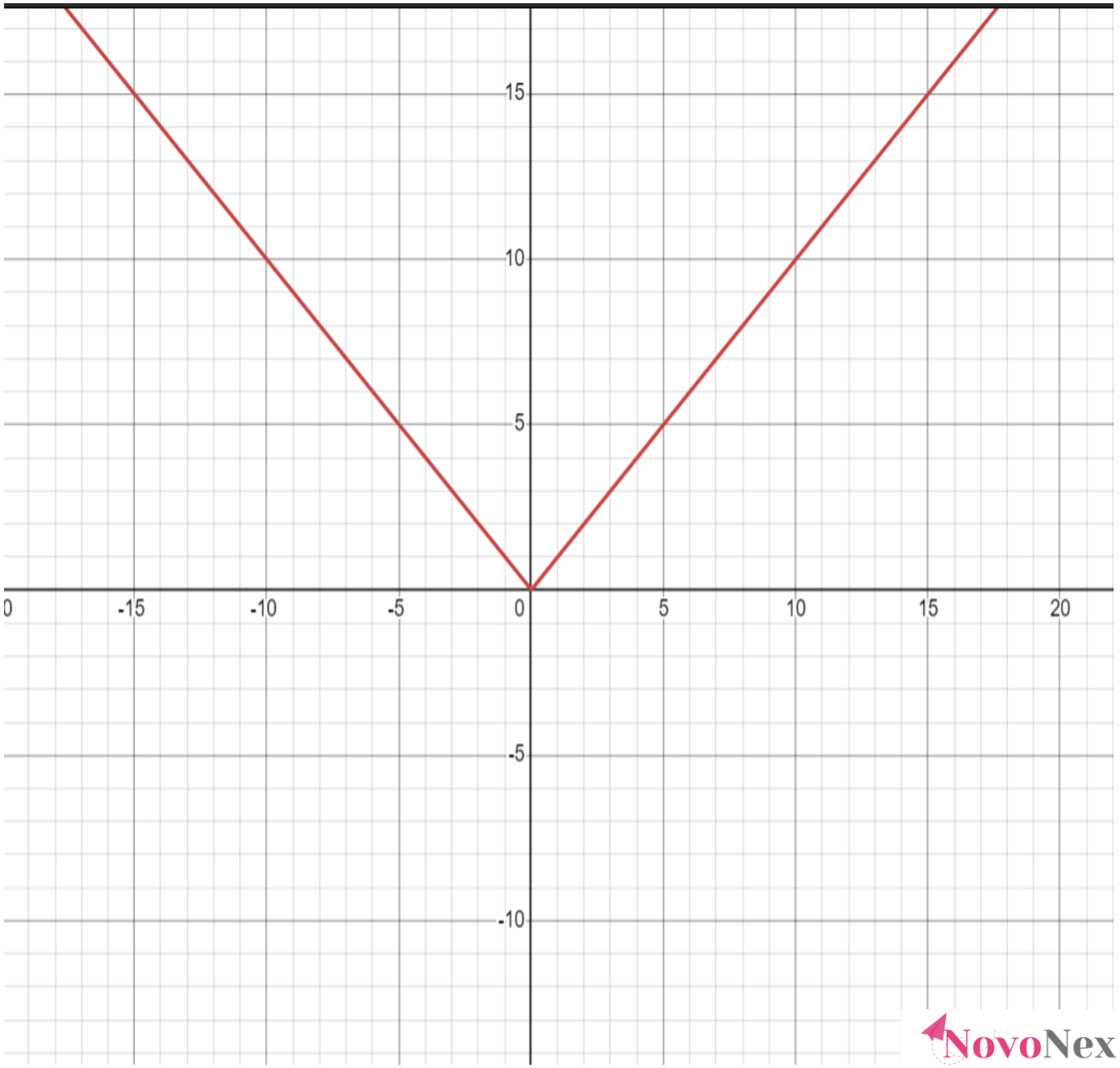
NovoNex

No Change



NovoNex

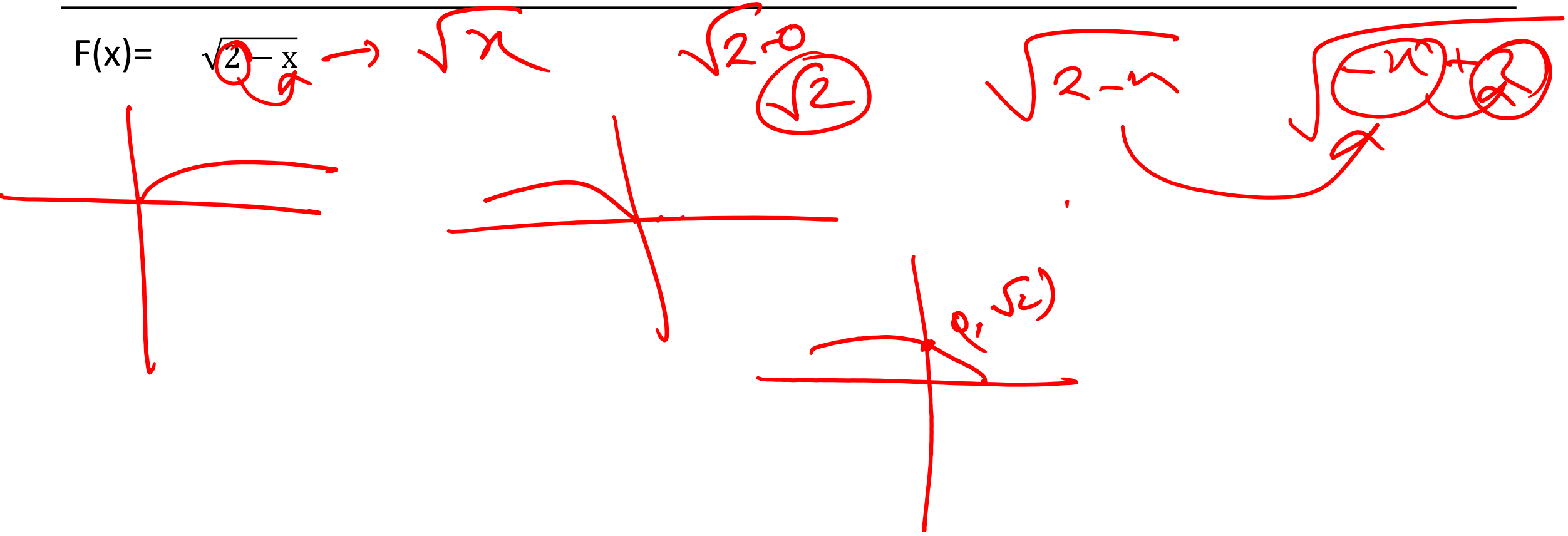
No Change



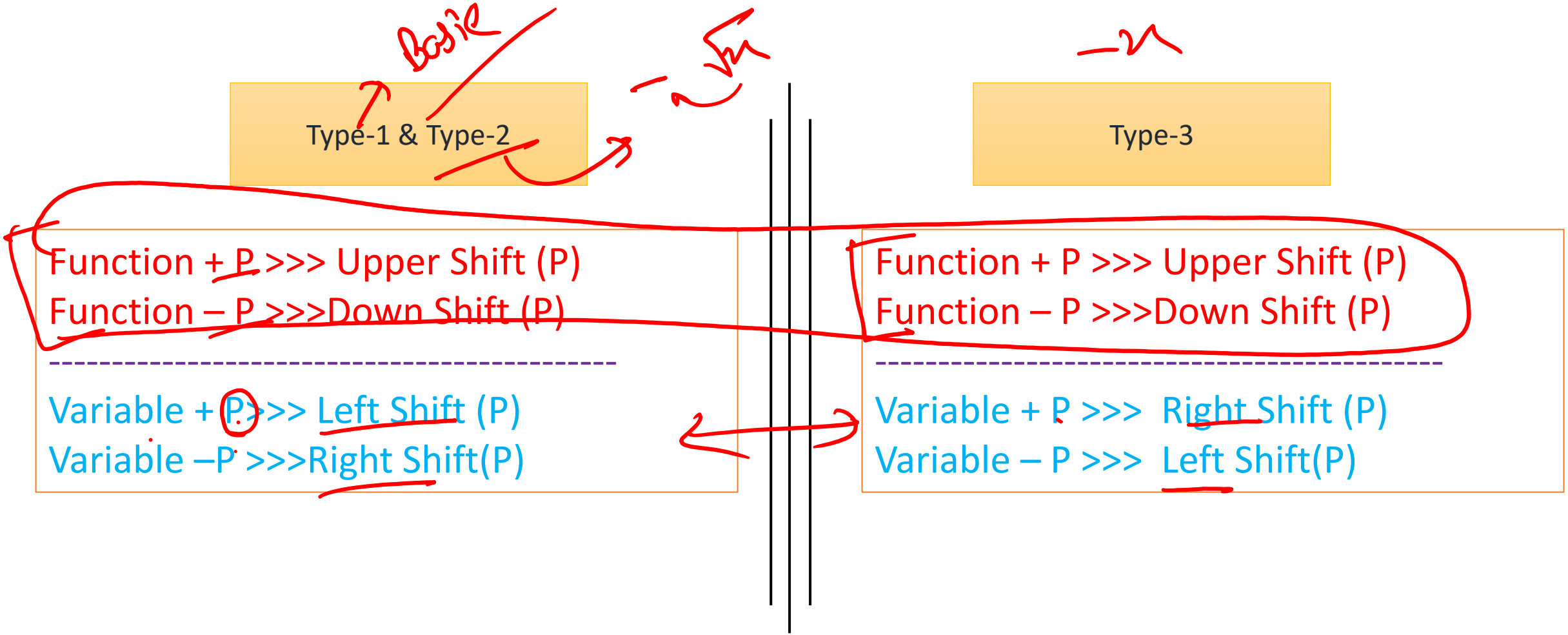
NovoNex

Draw Graph

F(x)= $\sqrt{2-x}$



NovoNex

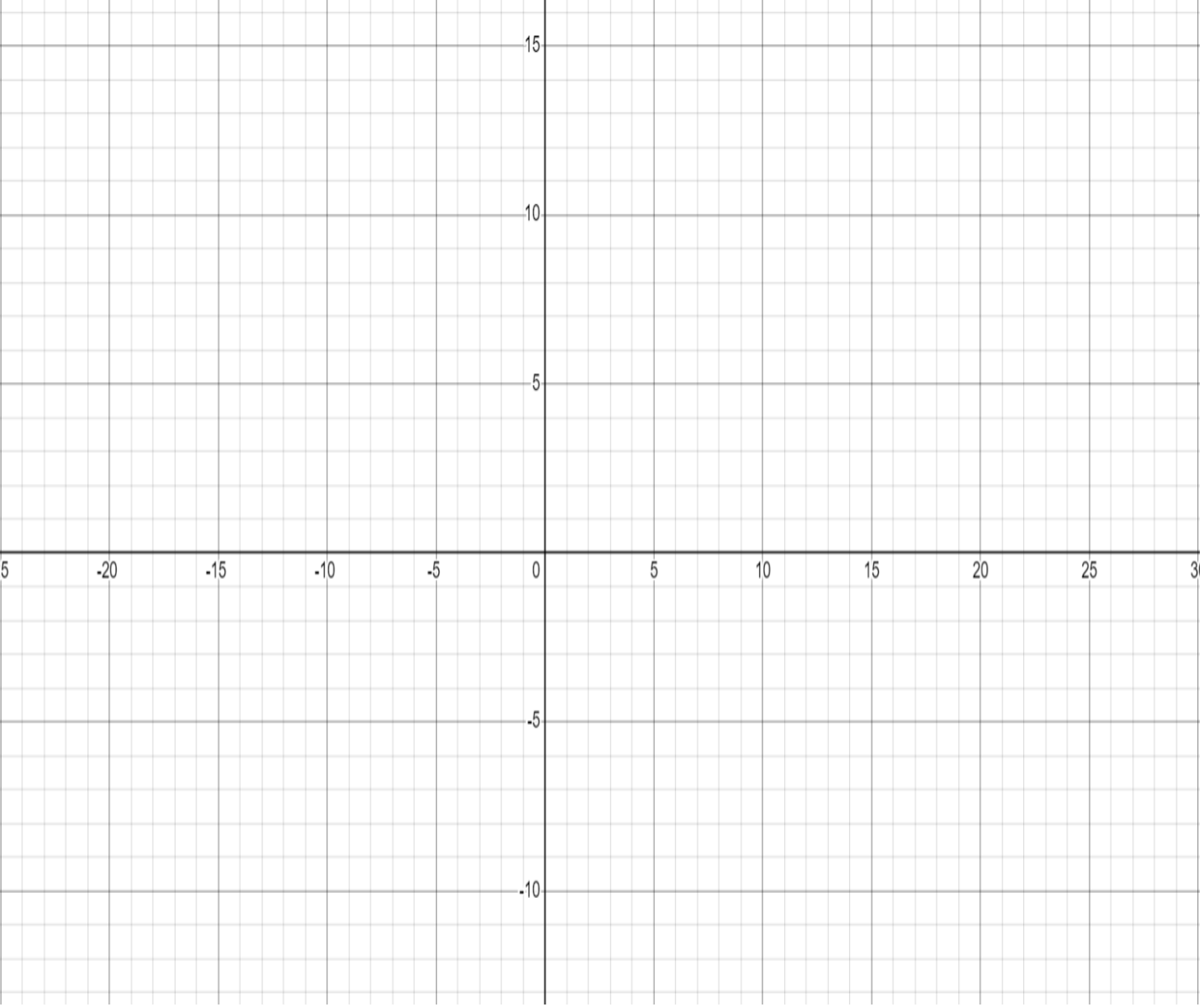

Type-1 & Type-2
Type-3
Function + P >>> Upper Shift (P)
Function – P >>>Down Shift (P)
Variable + P >>> Left Shift (P)
Variable –P >>>Right Shift(P)
Function + P >>> Upper Shift (P)
Function – P >>>Down Shift (P)
Variable + P >>> Right Shift (P)
Variable – P >>> Left Shift(P)

NovoNex

Type-4

F(x)= $2x^2$

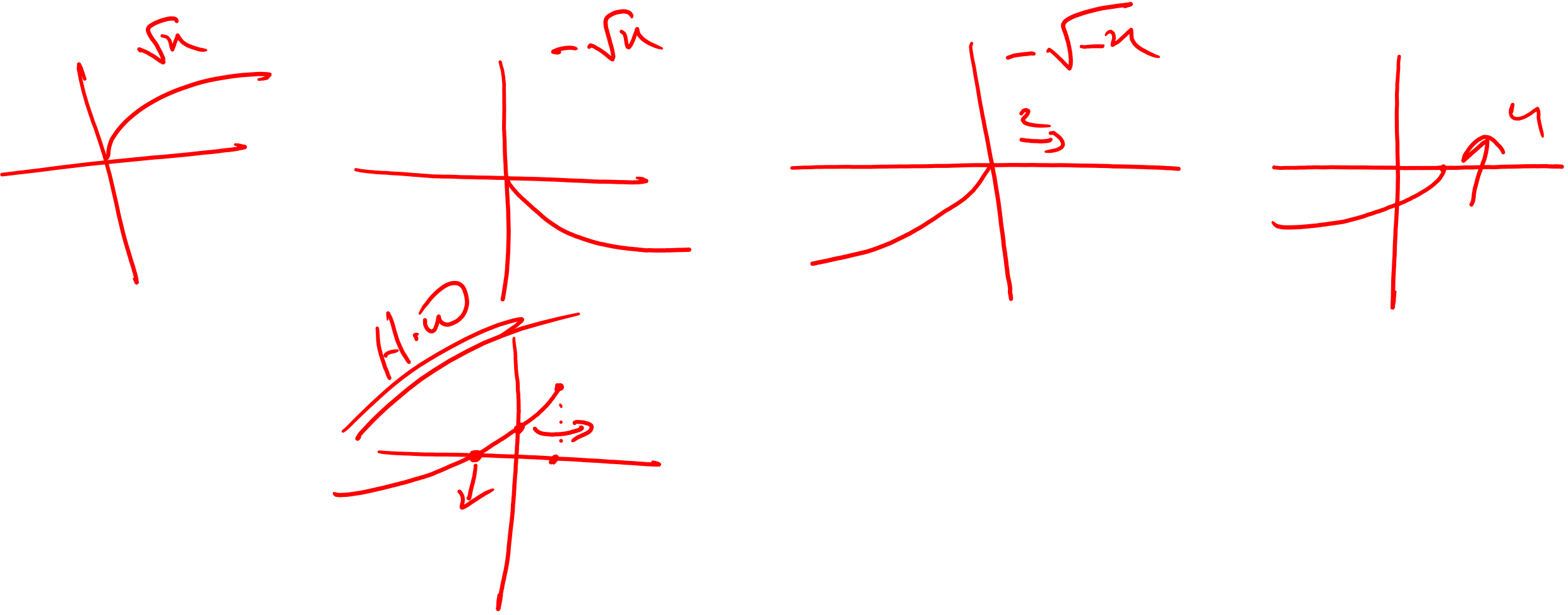
F(x)= $1/2\ (x^2)$



NovoNex

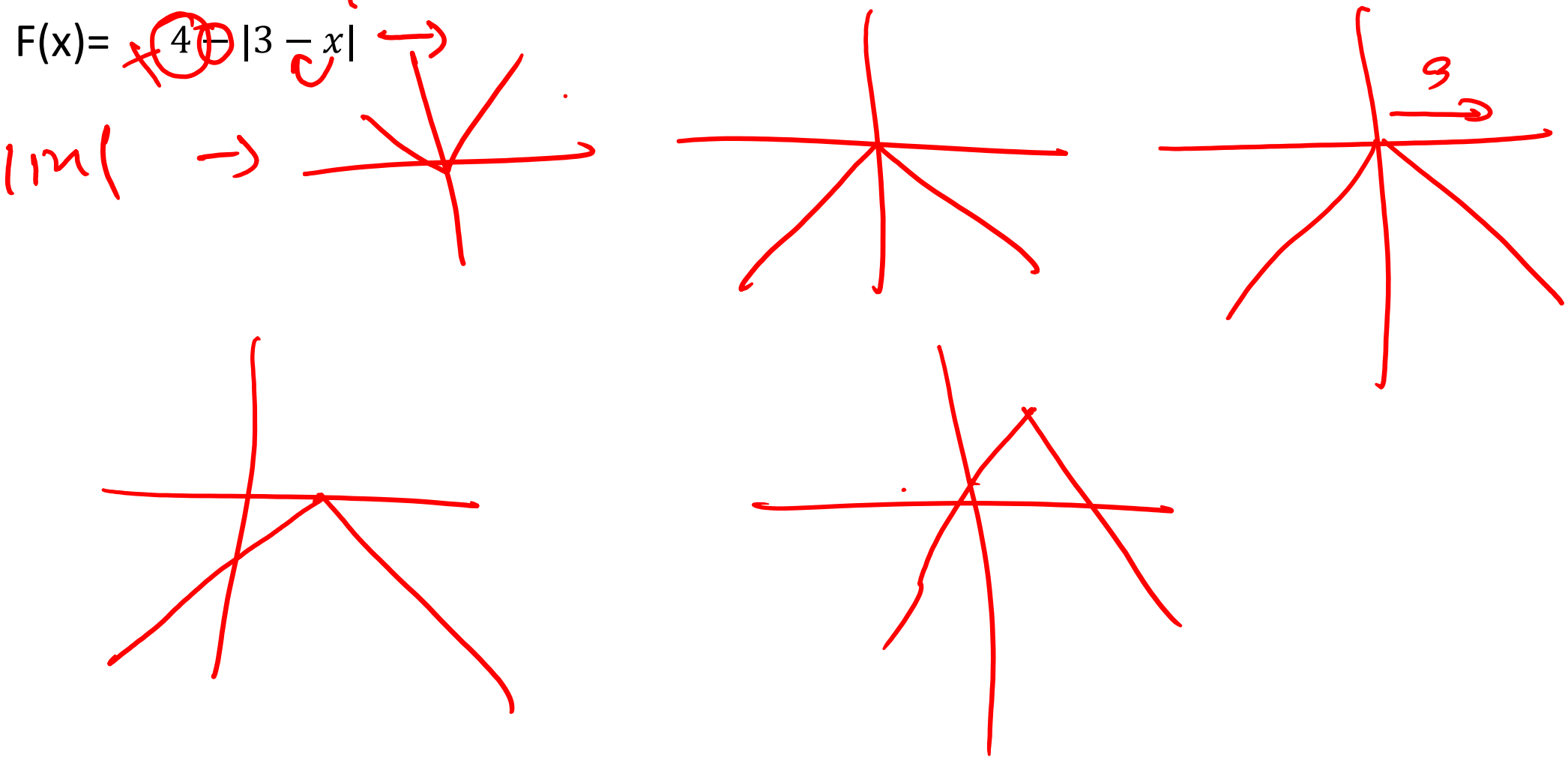
Combined

F(x)= $-4-\sqrt{2-x}$



Combined

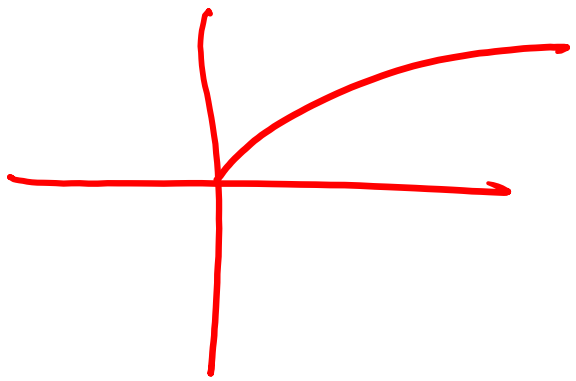
F(x)= $4+|3-x|$



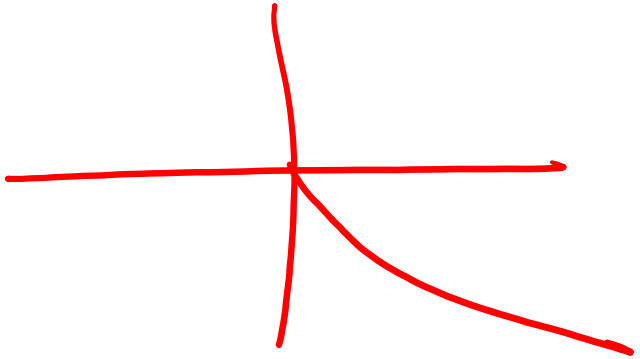
Draw Graph

RECAPE

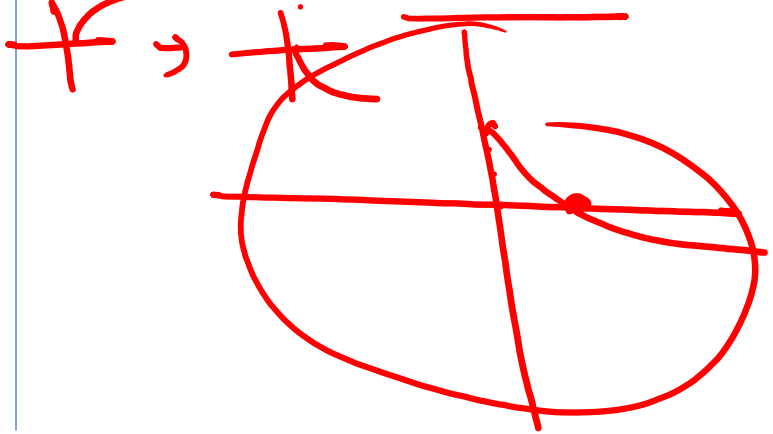
F(x)= $\sqrt{x}$



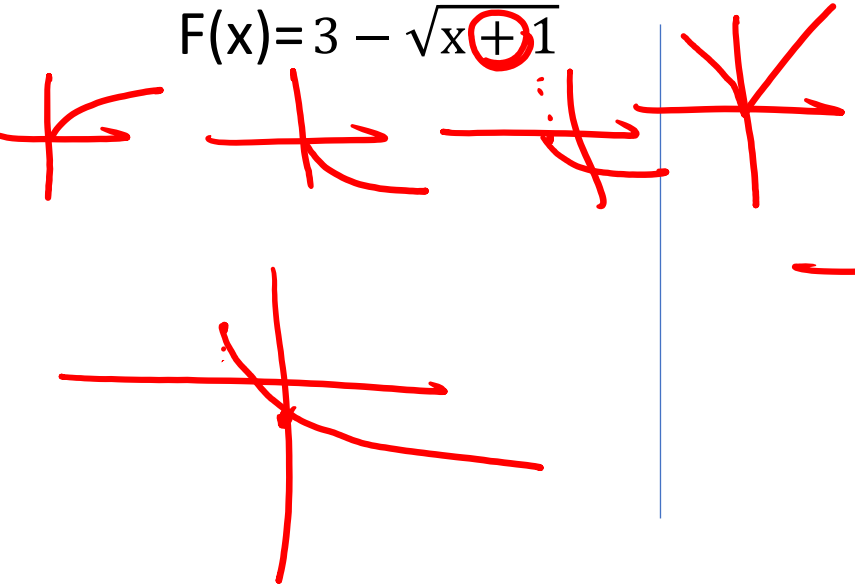
F(x)= $-\sqrt{x}$



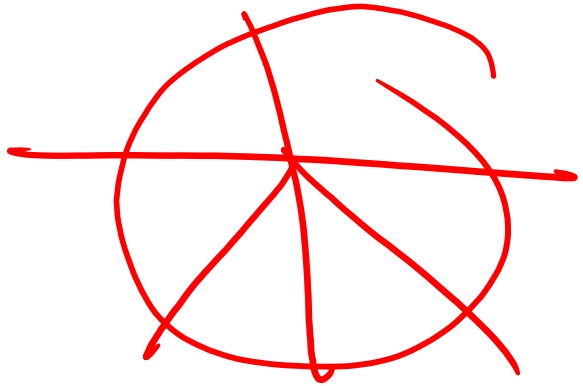
F(x)= $3-\sqrt{x}$



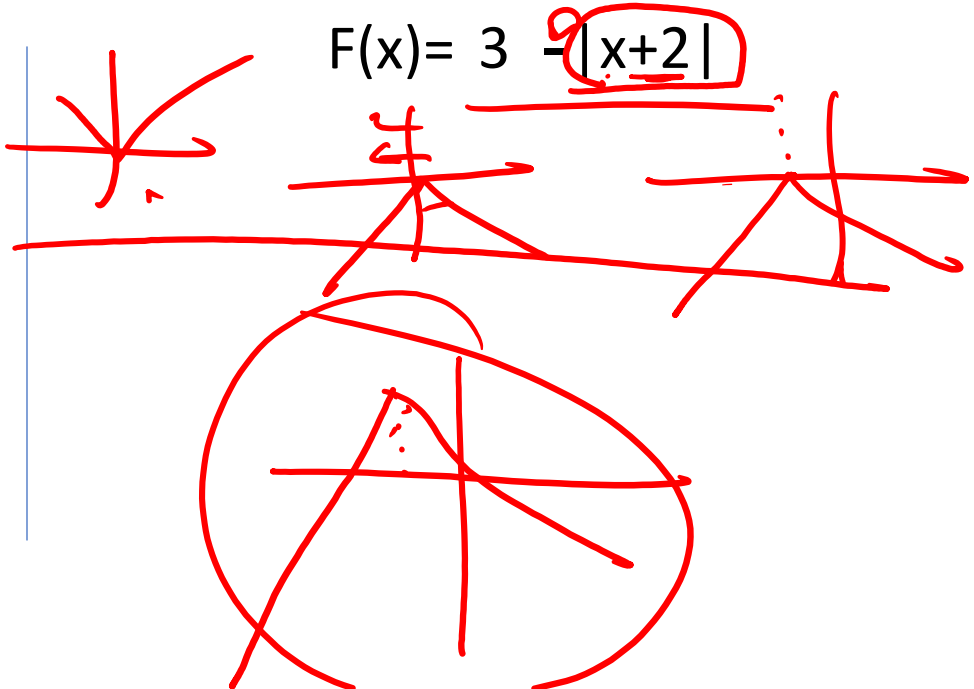
F(x)= $3-\sqrt{x+1}$



F(x)= $-|x|$



F(x)= $3-|x+2|$

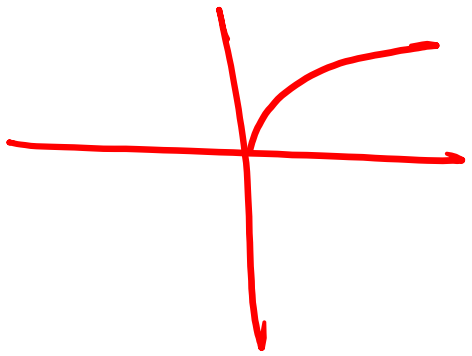


NovoNex

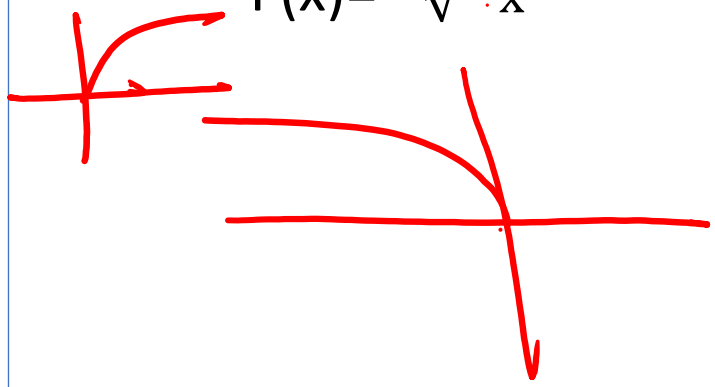
Draw Graph

RECAPE

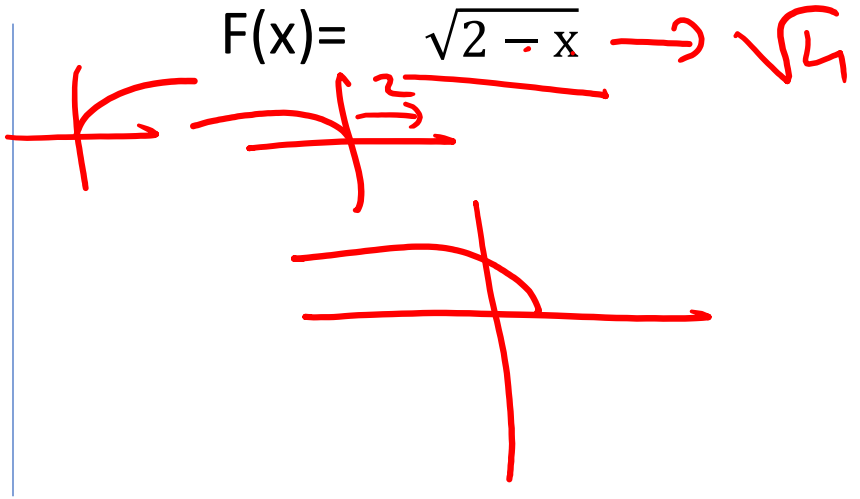
F(x)= $\sqrt{x}$



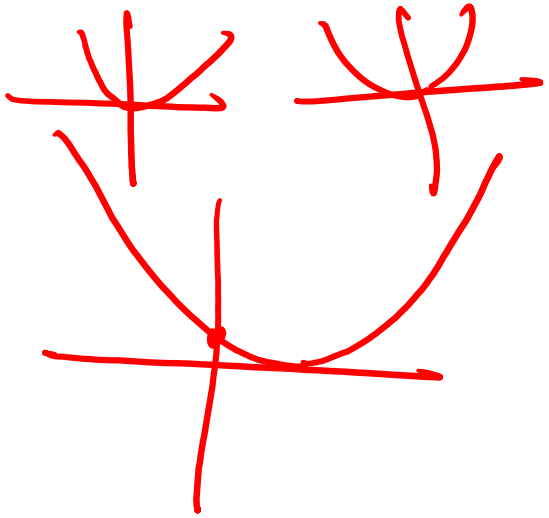
F(x)= $\sqrt{-x}$



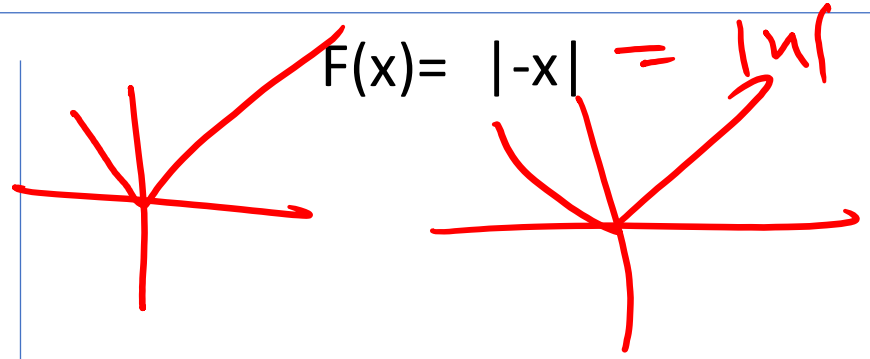
F(x)= $\sqrt{2-x}$



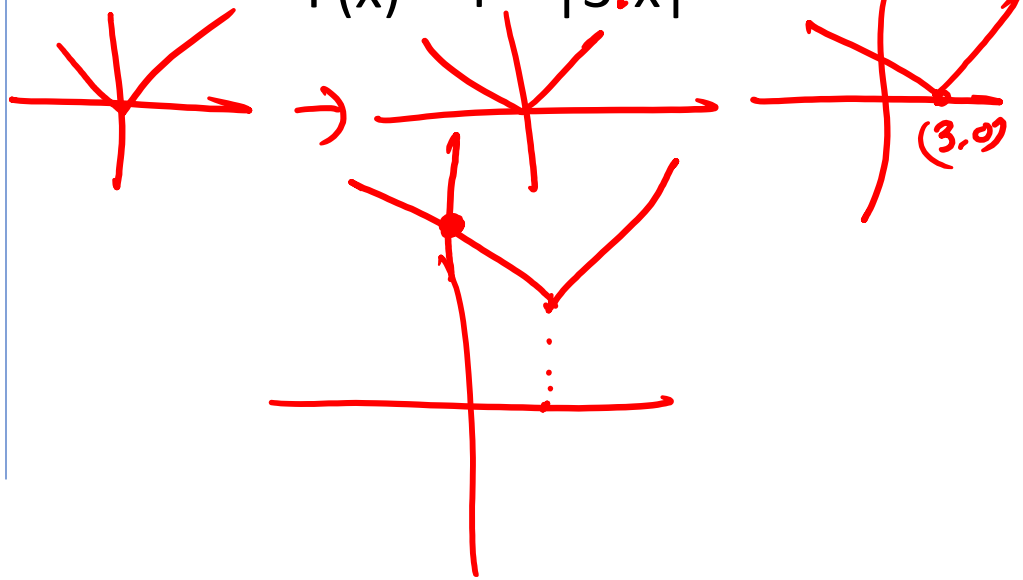
F(x)= $(2-x)^2$



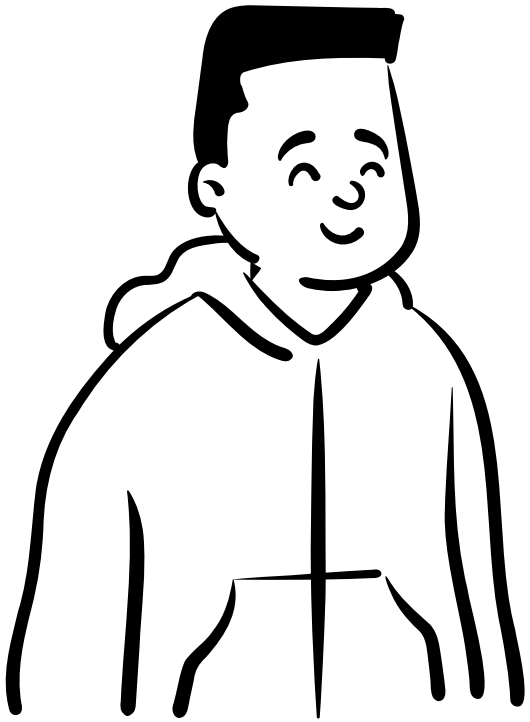
F(x)= |-x|



F(x)= 4 +|3-x|



NovoNex



THANK YOU