

$|a|$ modulus (non-negative value)

$$|-5| = 5$$

- FUNCTIONS (NOTATION)

$$f(x) = 2|x| + 3$$

OR

$$f: x \mapsto 2|x| + 3$$

- FUNCTIONS (SUBSTITUTION)

$$f(x) = 2|x| + 3$$

$$f(-3) = 2|-3| + 3 = 6 + 3 = 9$$

$$f(x) = |2x + 3|$$

$$f(-3) = |2(-3) + 3| = |-3| = 3$$

- FUNCTIONS (INVERSE)

$$f(x) \longrightarrow f^{-1}(x)$$

$$\sqrt{2x-2} \longrightarrow x^2 + 2$$

make x subject

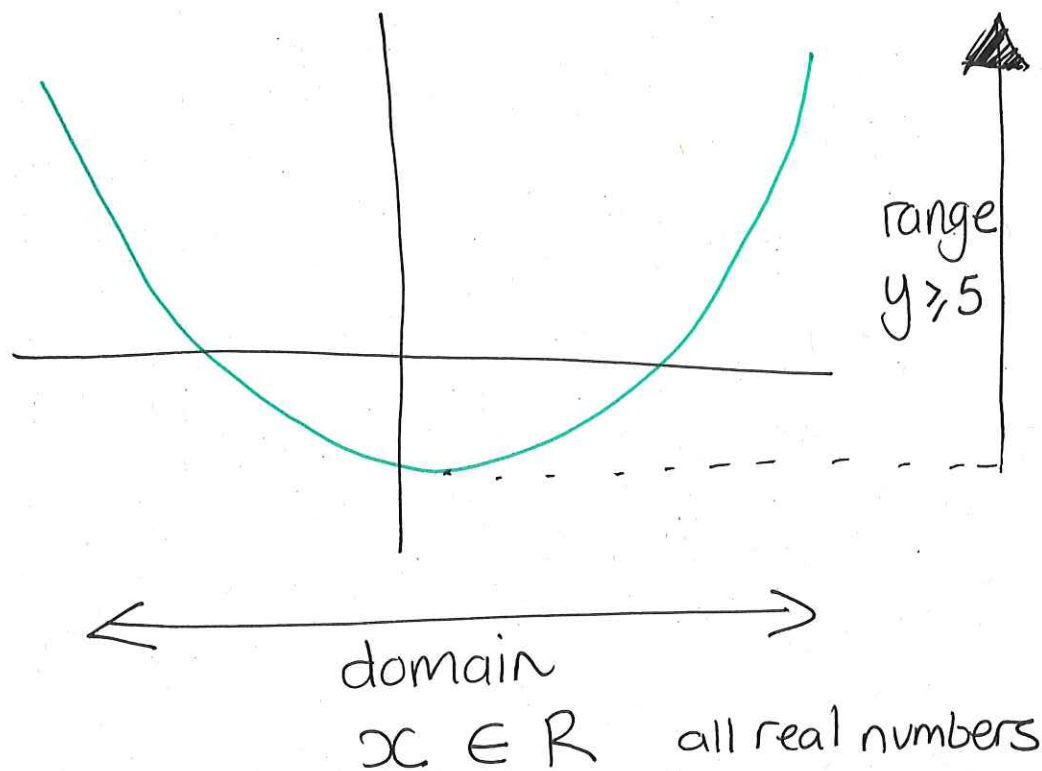
$$y = \sqrt{2x-2}$$

$$y^2 + 2 = 2x$$

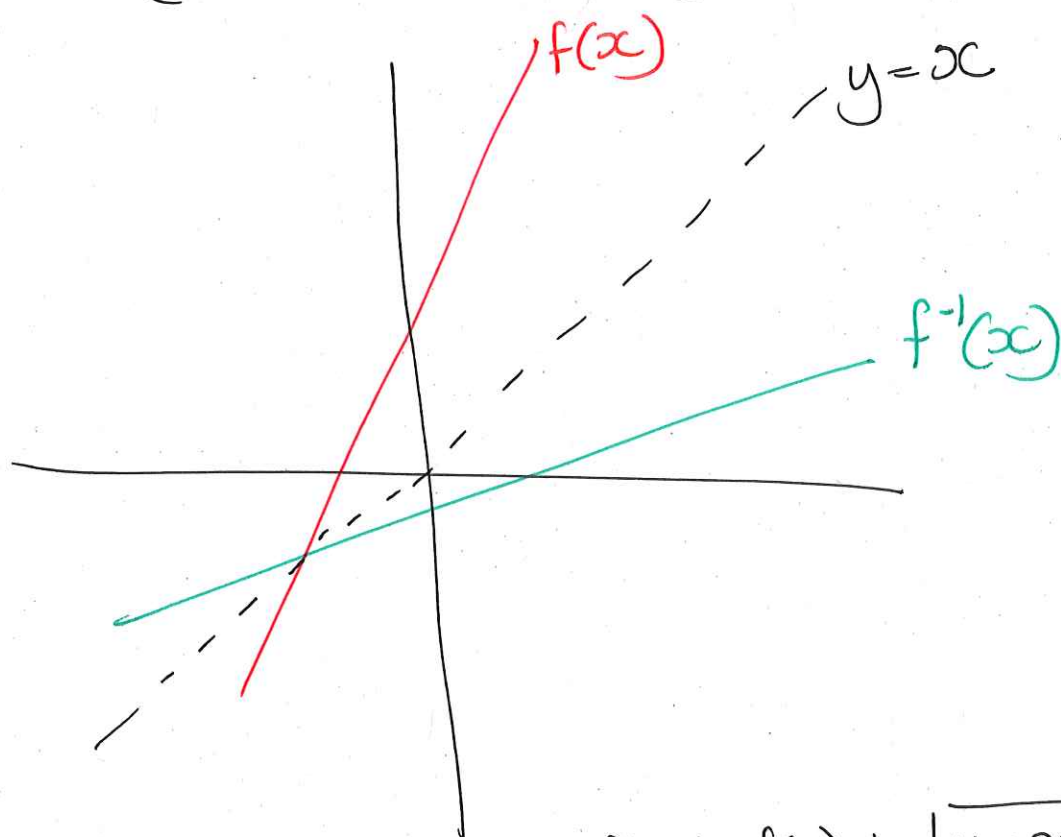
switch letters

$$y = x^2 + 2$$

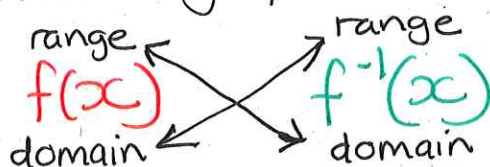
- FUNCTIONS (GRAPHING)



- FUNCTIONS (INVERSE GRAPHING)

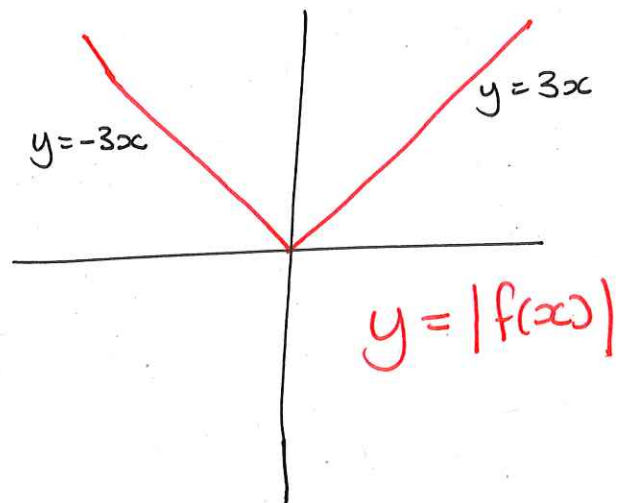
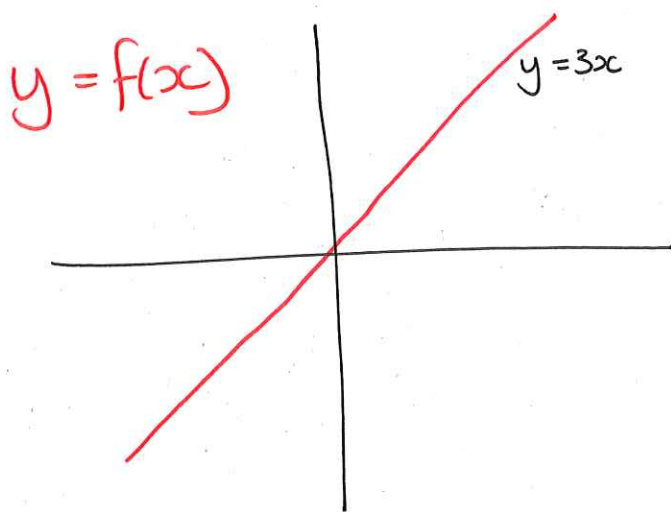


To get an inverse graph reflect $f(x)$ in $\boxed{y=x}$



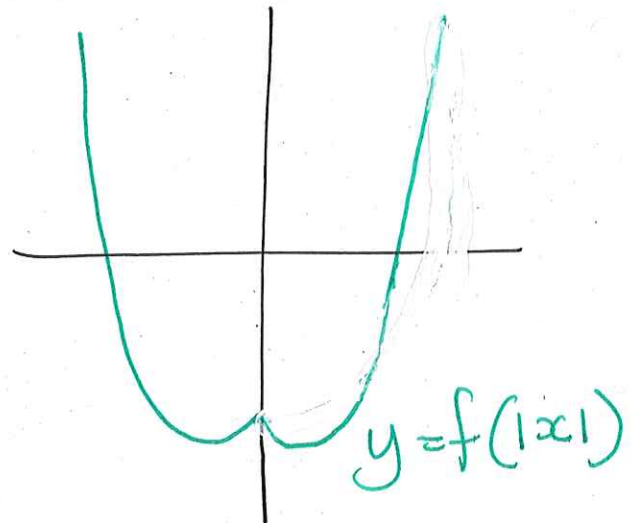
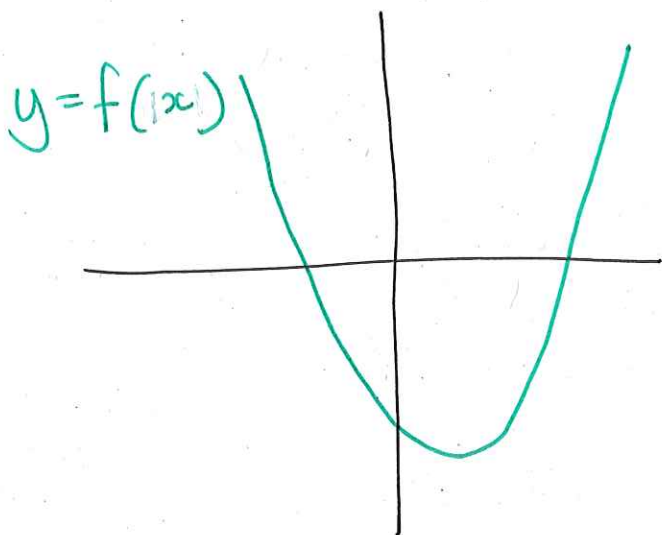
- MODULUS (GRAPHING)

- modulus of the whole equation $y = |f(x)|$



Reflect everything below x axis

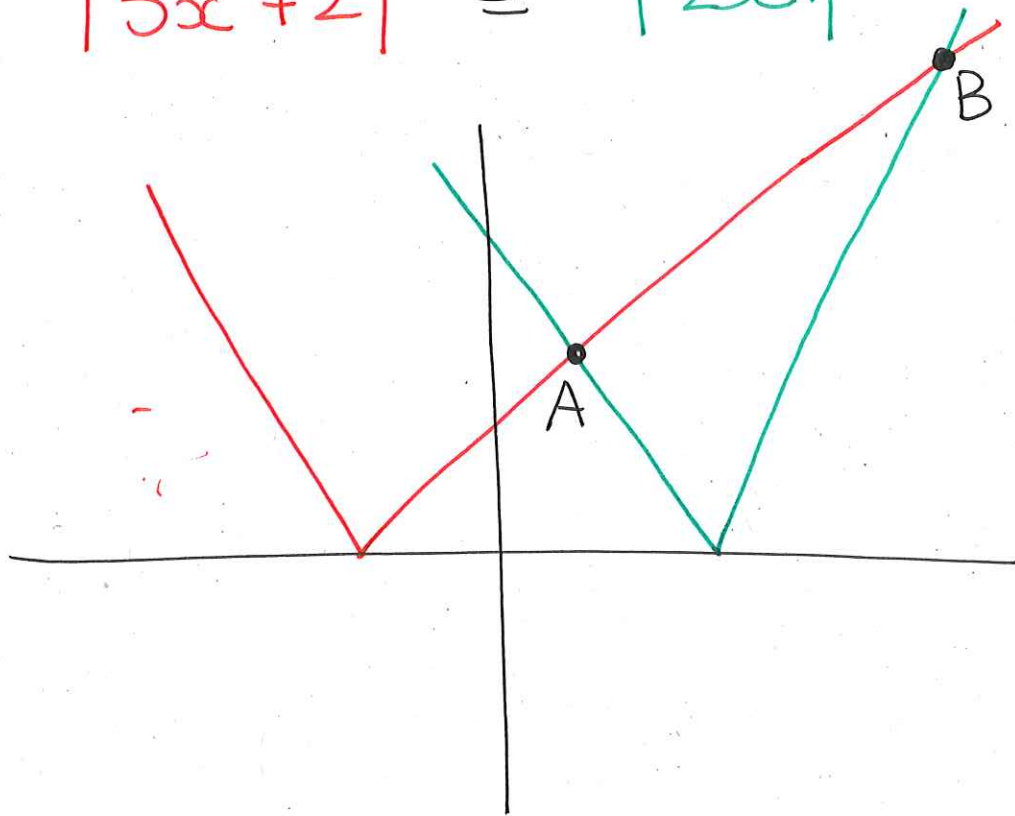
- modulus of the x term only $y = f(|x|)$



Reflect everything right of the axis

- MODULUS EQUATIONS (SOLVING)

$$|5x+2| = |2x-1|$$



Solution A Graph and Graph

$$5x - 2 = -2x + 1$$

$$7x = 3$$

$$x = 3/7$$

Solution B Graph and Graph

$$5x - 2 = 2x - 1$$

$$3x = 1$$

$$x = 1/3$$