Piecewise Functions

Sketch the following functions:

(a) $f(x) = 2 \quad for\ -5 \le x < 0$

$f(x) = 2 - x \quad for\ 0 \le x \le 3$

$f(x) = -1 \quad for\ 3 < x \le 5$

(b) $f(x) = x \quad for\ -4 \le x < 0$

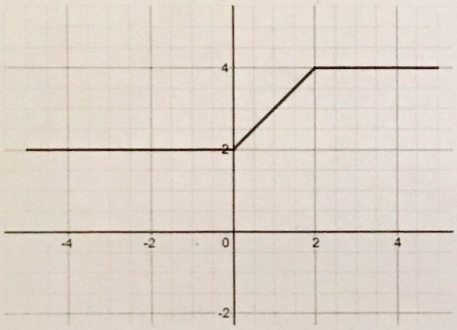
$f(x) = x^2 \quad for\ 0 \le x \le 4$

(c) $f(x) = x^2 + 1 \quad for\ -4 \le x < 0$

$f(x) = 1 \quad for\ 0 \le x \le 2$

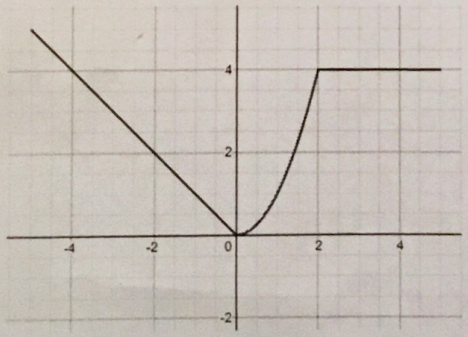
$f(x) = x - 1 \quad for\ 2 < x \le 4$

(a) Given the graph of $y = f(x)$, define the function, stating the domain of each part clearly.



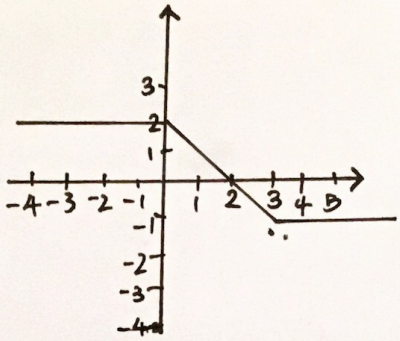
(b) Evaluate $f(1)$

(a) Given the graph of $y = f(x)$, define the function, stating the domain of each part clearly.

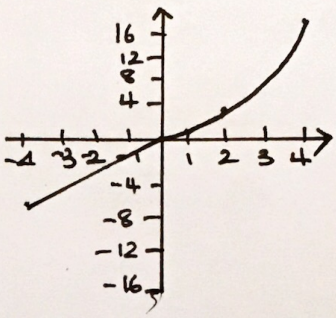


(b) Solve $f(x) = 1$

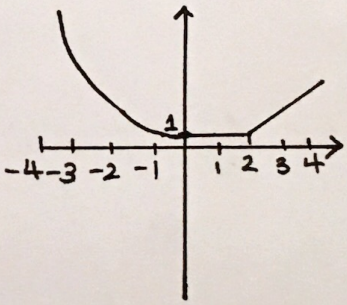
(a)



(b)



(c)



(a) $f(x) = 2 \quad -5 \le x < 0$

$f(x) = x + 2 \quad 0 \le x < 2$

$f(x) = 4 \quad 2 \le x < 5$

(b) $f(x) = -x \quad -5 \le x < 0$

$f(x) = x^2 \quad 0 \le x < 2$

$f(x) = 4 \quad 2 \le x < 5$