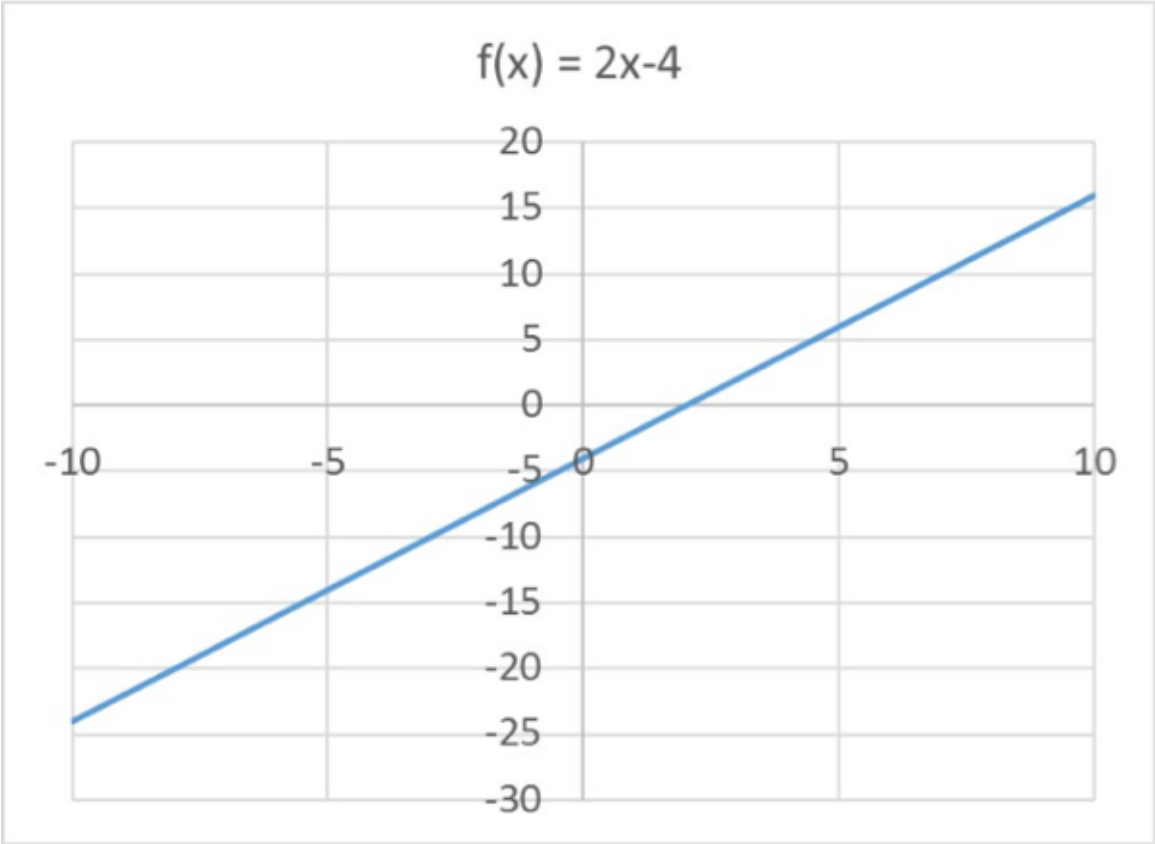
PART A

(3/3 points)

For each function and accompanying graph, determine whether the function is convex or not.



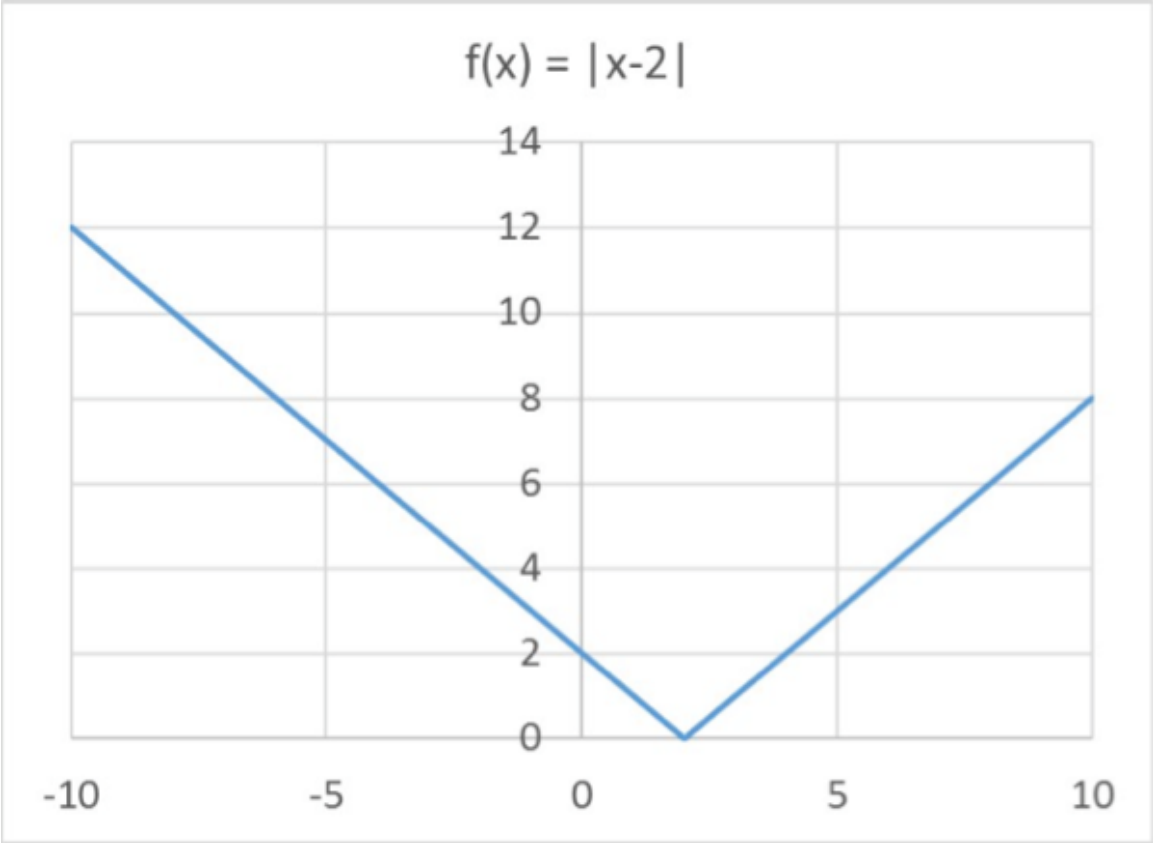
$f(x) = 2x - 4$

- Not Convex
- Convex ✔

You have used 1 of 3 submissions

PART B

(1/1 point)



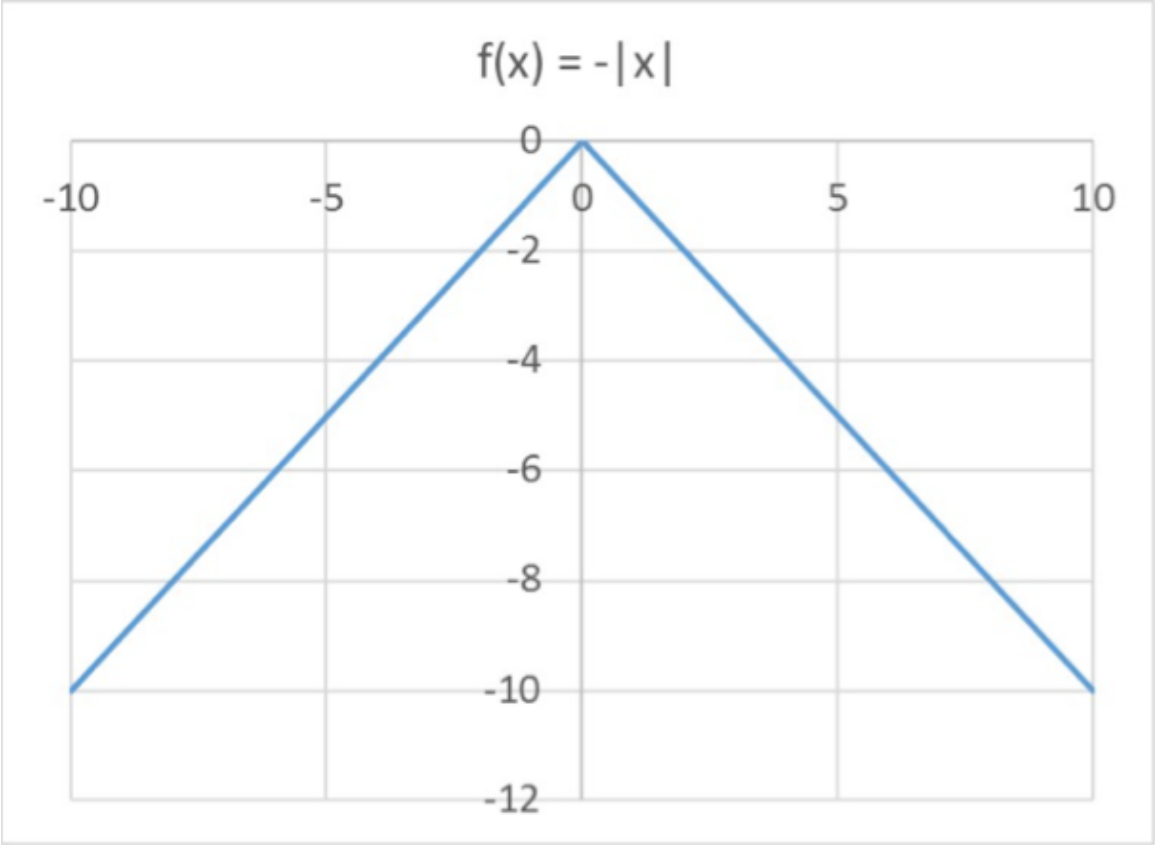
$f(x) = |x - 2|$

- Not Convex
- Convex ✔

You have used 1 of 1 submissions

PART C

(1/1 point)



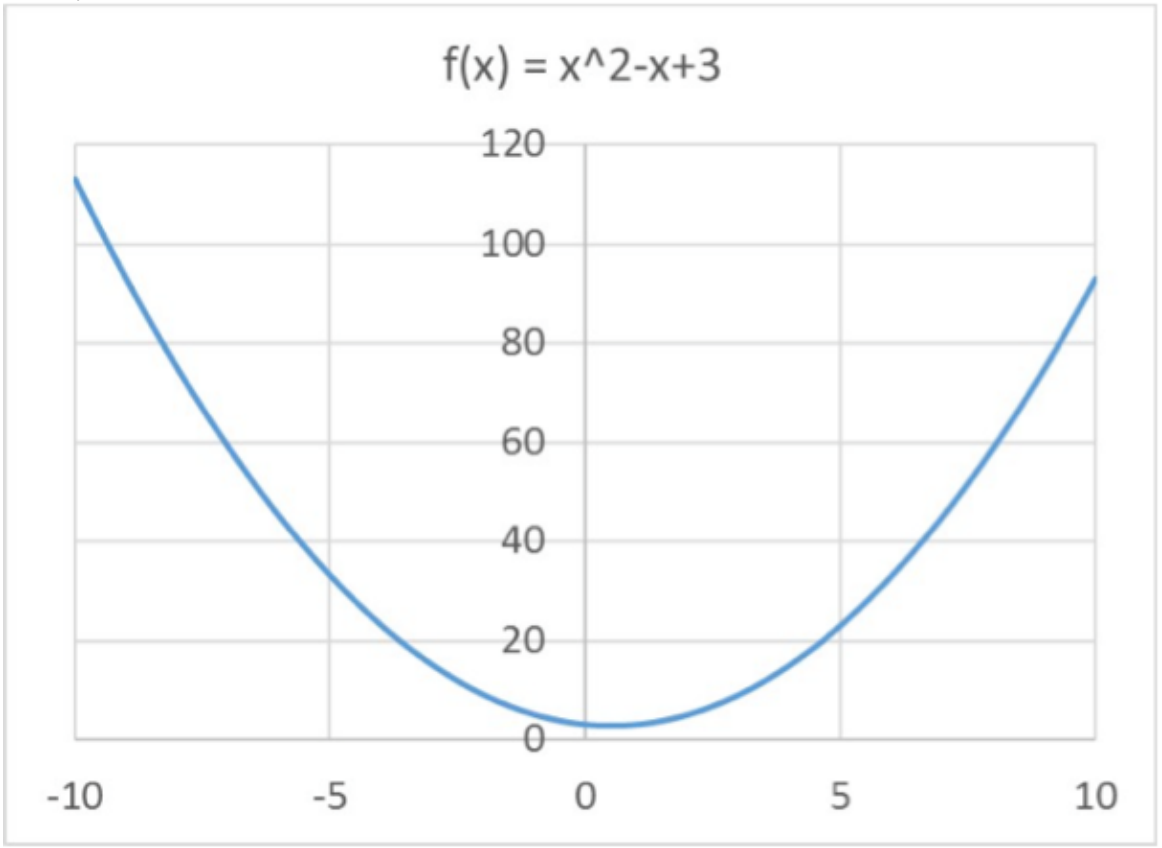
$f(x) = -|x|$

- (•) Not Convex ✔
- ( ) Convex

You have used 1 of 1 submissions

PART D

(1/1 point)



$f(x) = x^2 - x + 3$

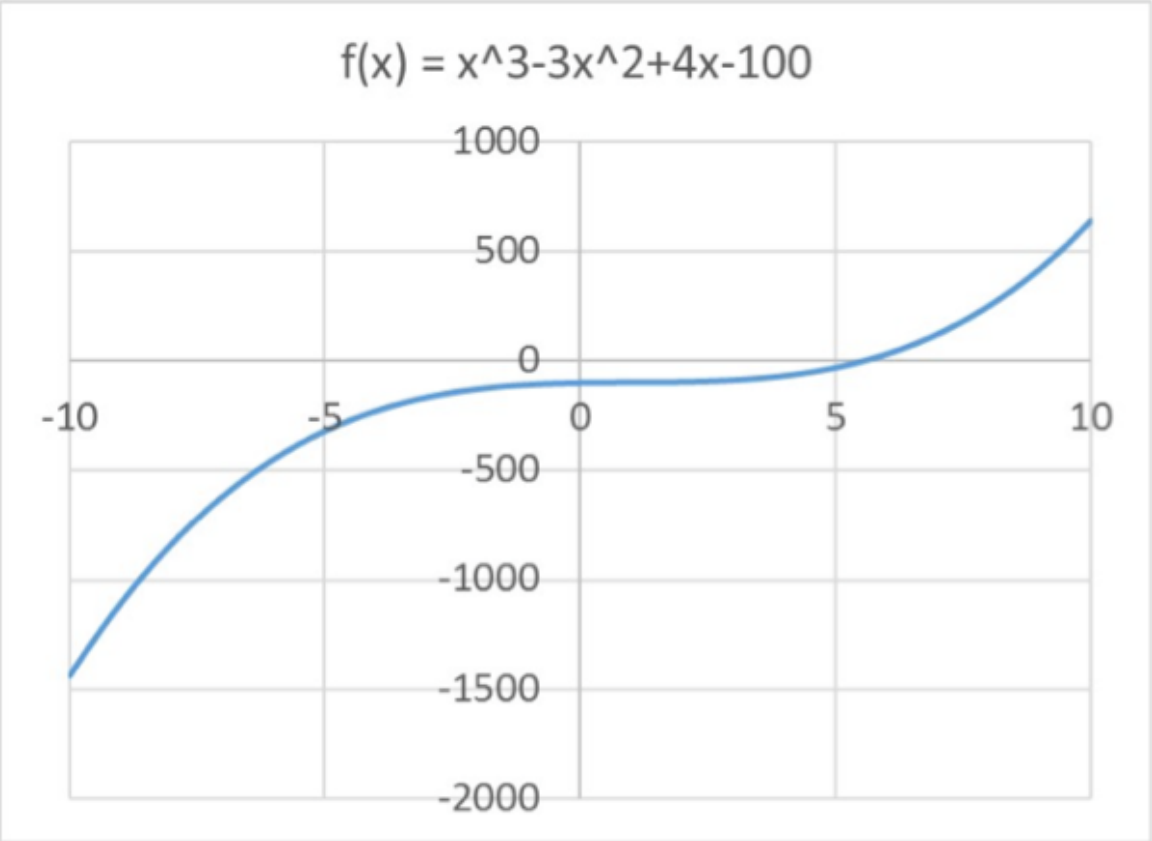
Not Convex

Convex ✔

You have used 1 of 1 submissions

PART E

(1/1 point)



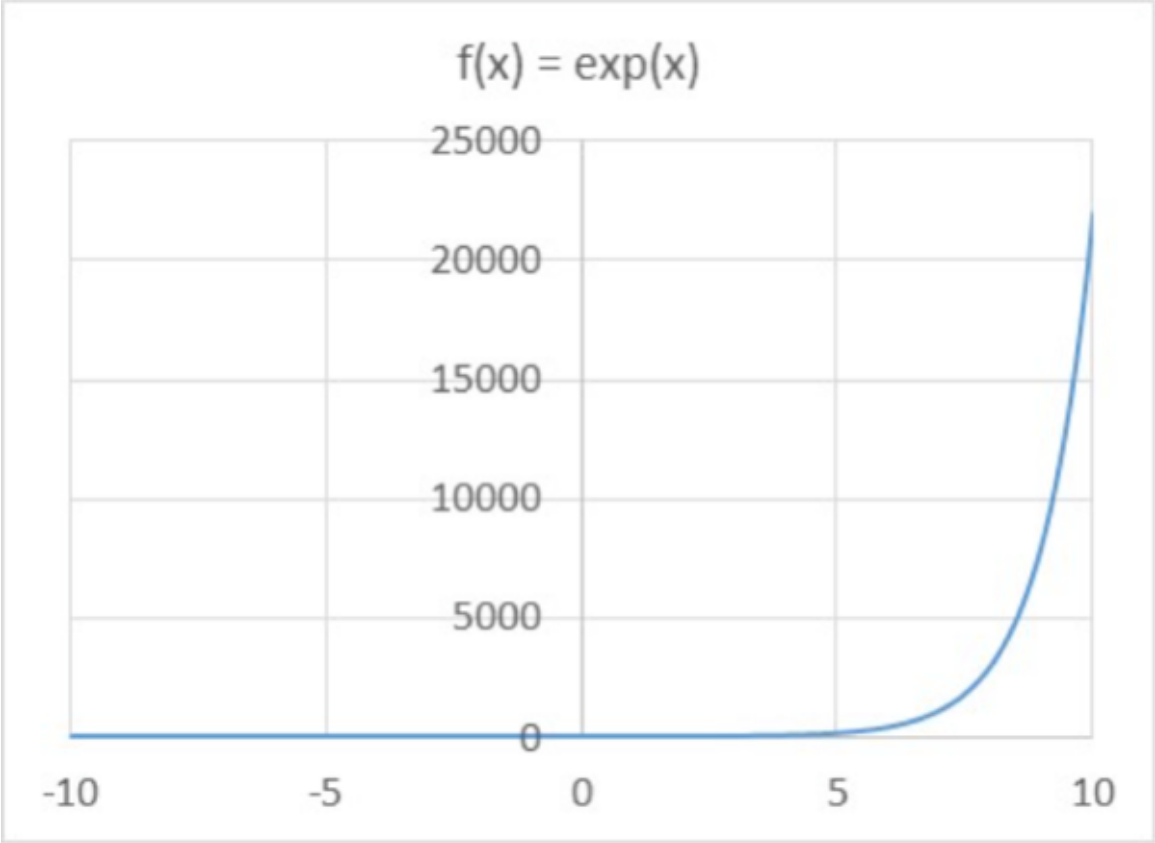
$f(x) = x^3 - 3x^2 + 4x - 100$

- (•) Not Convex ✔
- ( ) Convex

You have used 1 of 1 submissions

PART F

(1/1 point)



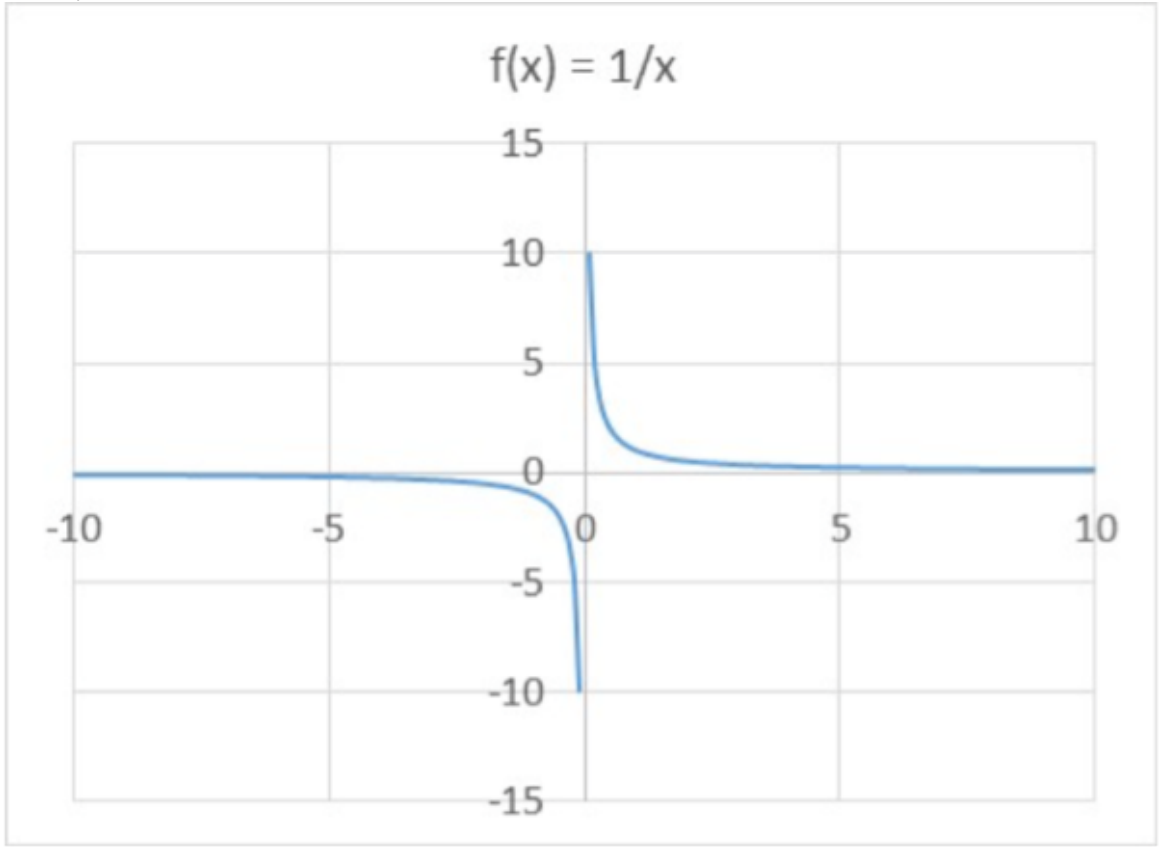
$f(x) = e^x$

- Not Convex
- Convex ✔

You have used 1 of 1 submissions

PART G

(1/1 point)



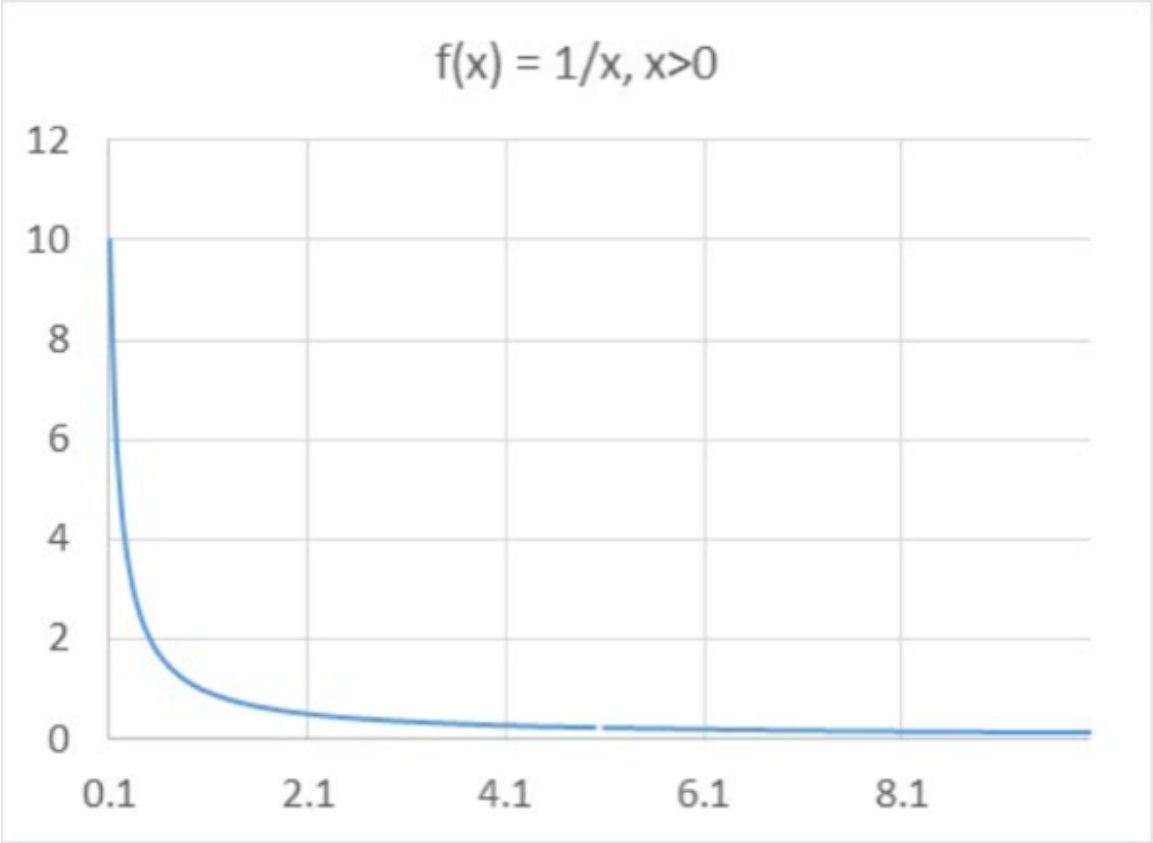
$f(x) = \frac{1}{x}$

- (•) Not Convex ✔
- ( ) Convex

You have used 1 of 1 submissions

PART H

(1/1 point)



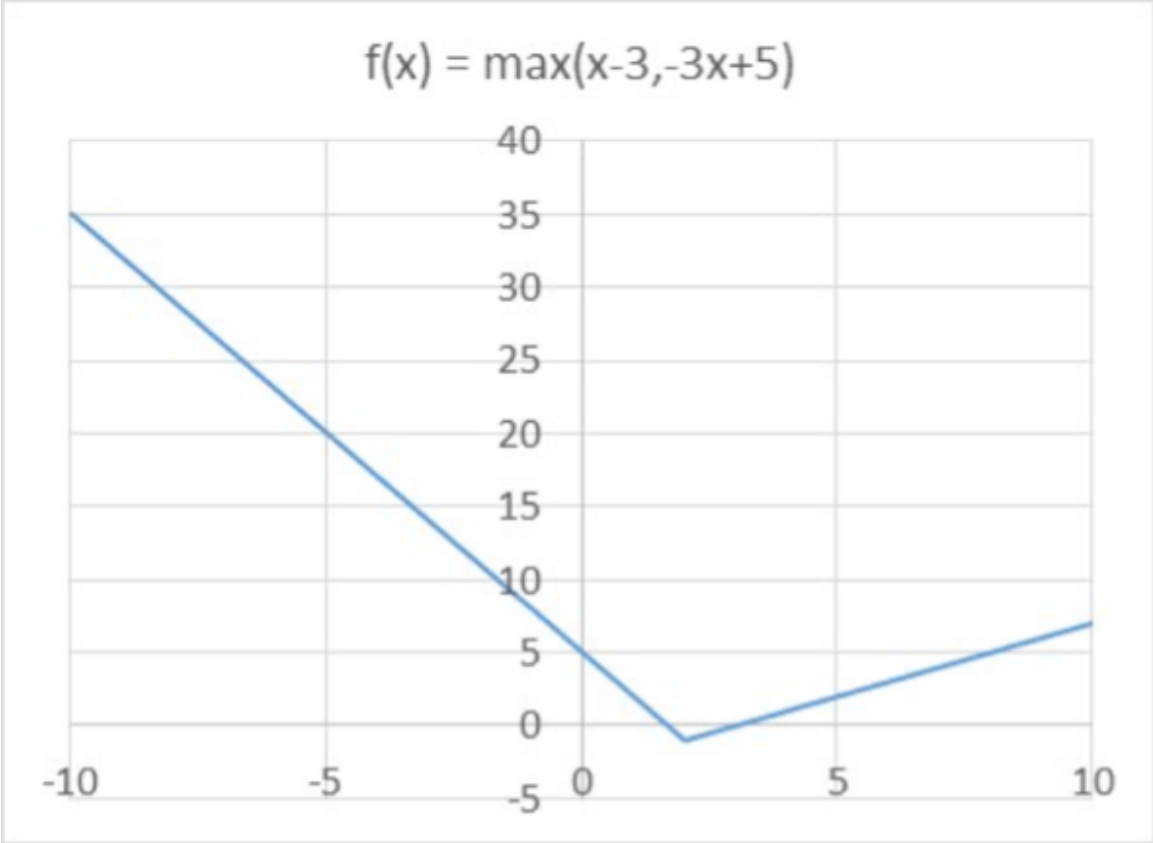
$f(x) = \frac{1}{x}$ for $x > 0$

- Not Convex
- Convex ✔

You have used 1 of 1 submissions

PART I

(1/1 point)



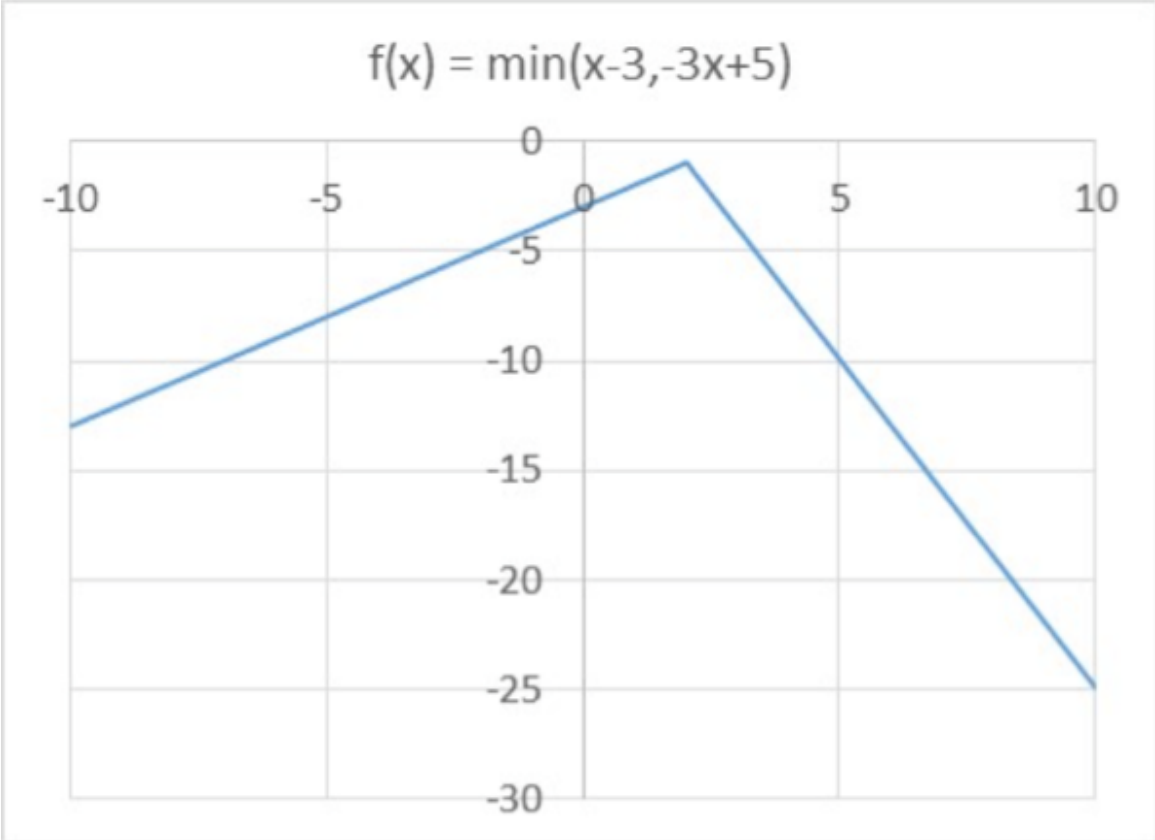
$f(x) = max\{x - 3, -3x + 5\}$

- Not Convex
- Convex ✔

You have used 1 of 1 submissions

PART J

(1/1 point)



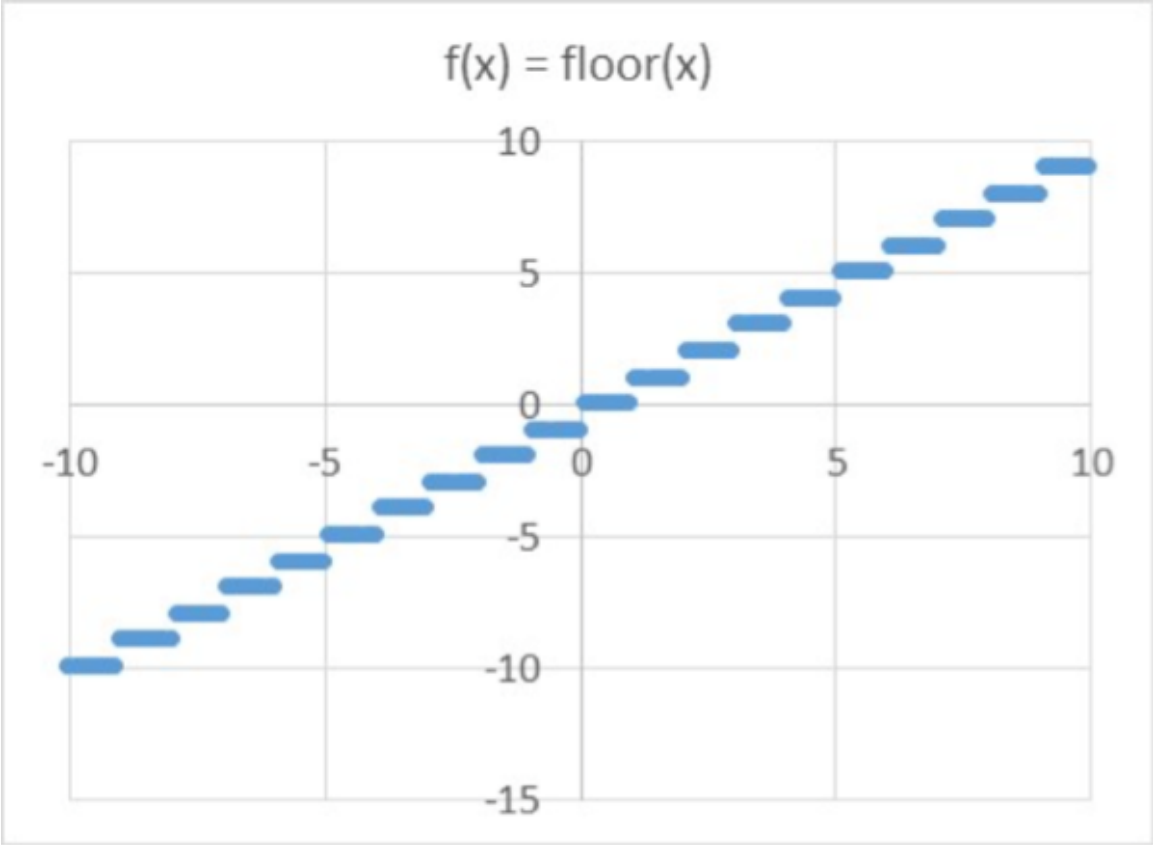
$f(x) = min\{x - 3, -3x + 5\}$

- (•) Not Convex ✔
- ( ) Convex

You have used 1 of 1 submissions

PART K

(1/1 point)



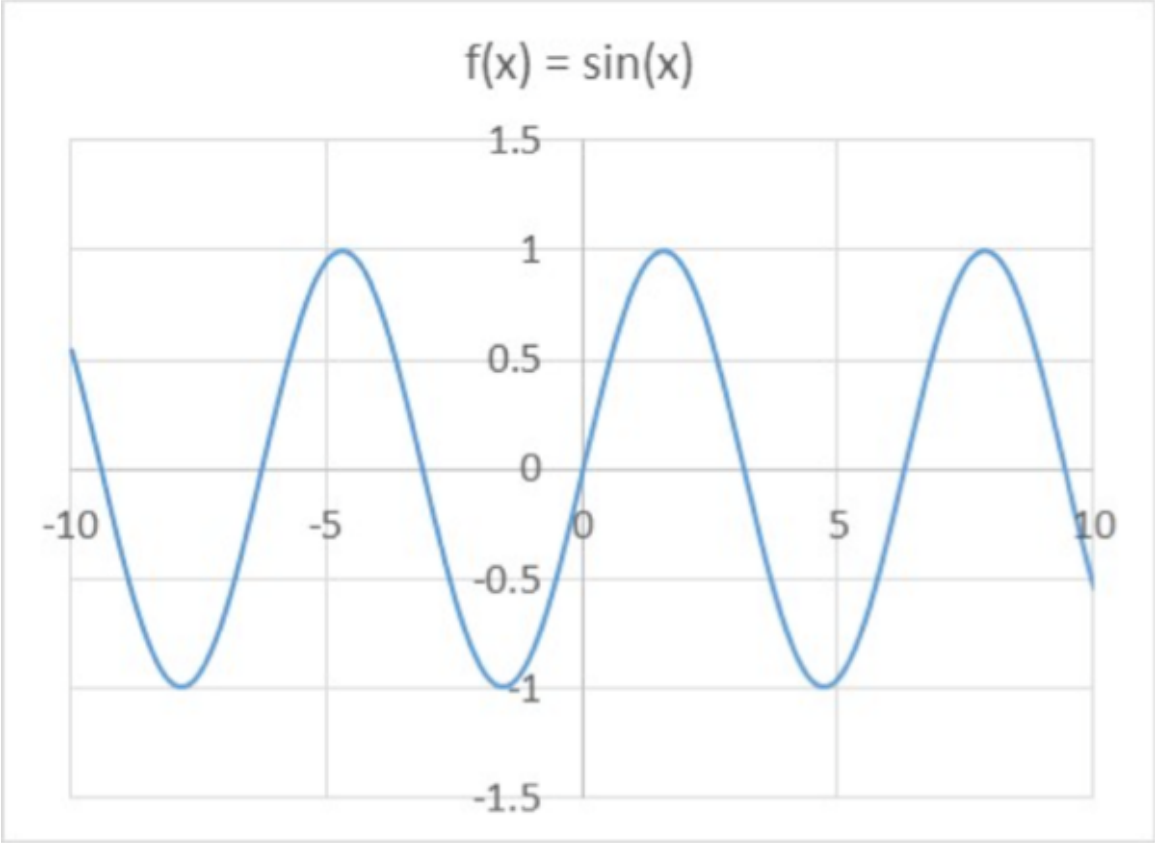
$f(x) = \lfloor x \rfloor$, **which is the largest integer not greater than x**

- (•) Not Convex ✔
- ( ) Convex

You have used 1 of 1 submissions

PART L

(1/1 point)



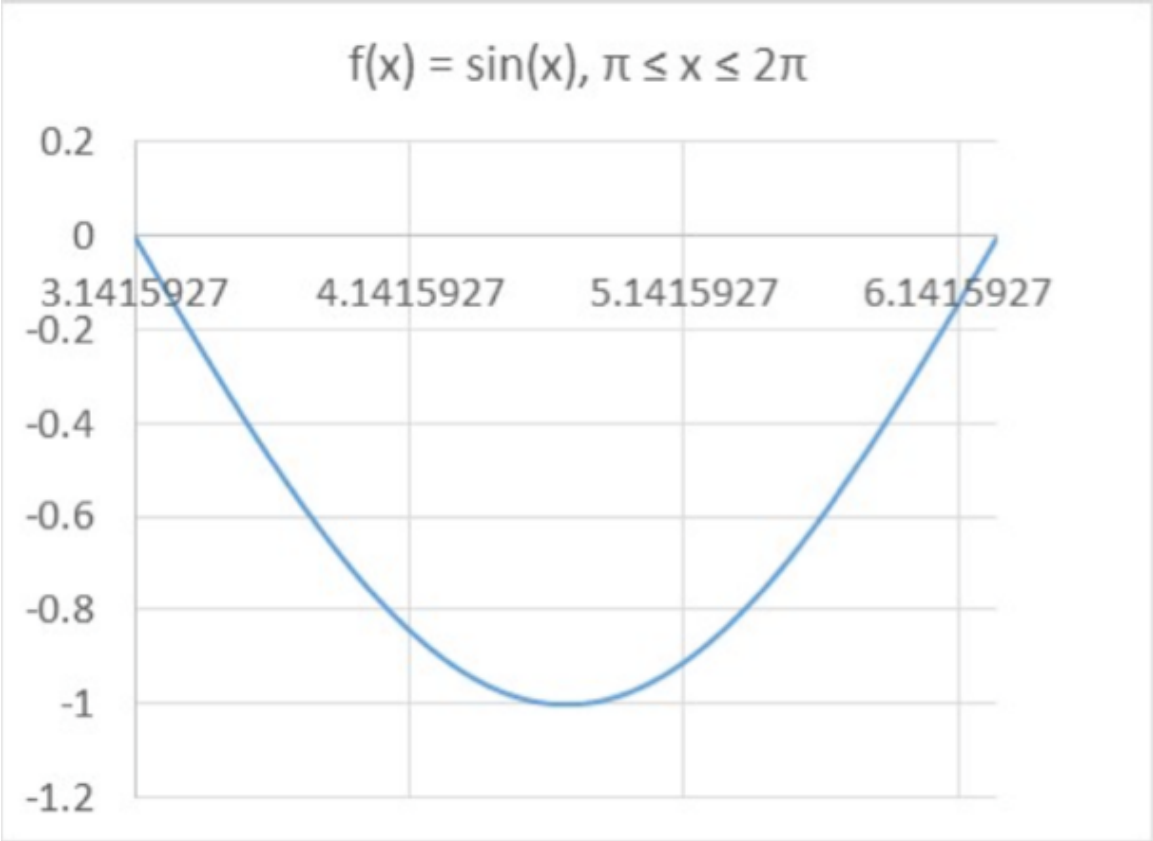
$f(x) = sin(x)$

- (•) Not Convex ✔
- ( ) Convex

You have used 1 of 1 submissions

PART M

(1/1 point)



$f(x) = sin(x), \pi \leq x \leq 2\pi$

Not Convex

Convex ✔

You have used 1 of 1 submissions