

Quiz4, MAT 1375 Professor Chiu

ID: _____

Name: _____

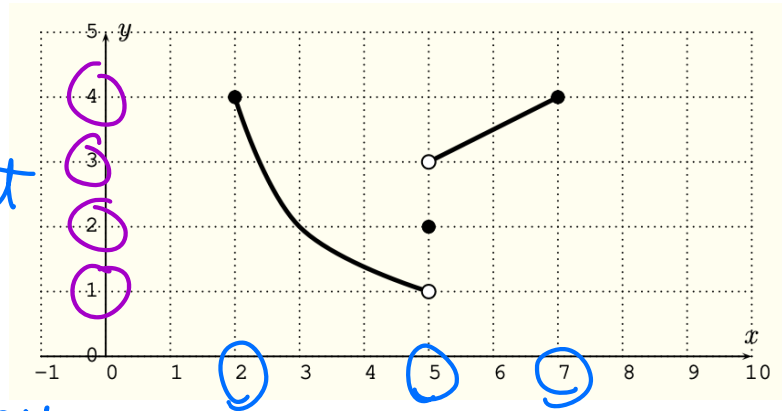
- This quiz consists of 1 question for a total of 10 points.
- You have 10 minutes to complete the quiz.
- Show all work and justify your answers.
- Scientific calculators are allowed.
- Wishing you success.

1. Consider the following graph of a function f .

Find (a) the domain of f .

(b) the range of f .

(c) $f(5)$. (d) $f(3)$. (e) $f(9)$.



(a) ① special points from input

$$x = 2, x = 5, x = 7$$

↑
min

↑
max

② excluding the special input x from ① which has no output: all 3 special pts have an output. so no one is excluded.

③



$\text{Domain } x \in [2, 7]$

(b) ① special points from output: $y = 1, y = 2, y = 3, y = 4$

↑
min

↑
max

② excluding the special output y from ① which has no input:

$$y = 1 \text{ (has no input)}$$

($y=2$ has an input as $x=5$.
 $y=3$ has an input as $x=2, \dots$ (between 2 & 3)
 $y=4$ has an input as $x=2$)

③ Range : $y \in (1, 4]$
↑ excluding "1"



(c) $f(5) = 2$
(as $x=5$, what is y ?)

(d) $f(3) = 2$

(e) $f(9) = \text{undefined}$