MATH19501 Quiz 5 - Winter 25

Name: _____ EMPLID: _____ Answer all 4 questions.

You must show all of your work as neatly and clearly as possible and indicate the final answer in the provided region for each non-graph question. For all graph questions, you should sketch your graph on the grid provided.

1. Assume that the function $f(x)$ is a one-to-one function.

(a) If $f(6) = 7$, find $f^{-1}(7)$.

Write your answer in the box below:

$f^{-1}(7) =$

(b) If $f^{-1}(-4) = -8$. find $f(-8)$. Write your answer in the box below:

$f(-8) =$

2. Find $f^{-1}(x)$ for the function $f(x) = 8x + 5$.

Write your answer in the box below:

$f^{-1}(x) =$

3. Let $f(x) = (x + 7)^2$.

(a) What is the domain of f? Write your answer in interval notation.

Write your answer in the box below:

(b) Restrict the domain of f such that f is one-to-one. Write your answer in interval notation. Write your answer in the box below:

4. Let $f(x) = -3x + 5$ and $g(x) = \frac{x-5}{3}$. Find $f(g(x))$. Write your answer in the box below:

$f(g(x)) =$