

Quiz9, MAT 1375 Professor Chiu

ID: _____

Name: _____

- This quiz consists of 2 sets of questions, each worth 5 points, for a total of 10 points.
- You have 10 minutes to complete the quiz.
- Scientific calculators are allowed.
- Wishing you success.

True or False questions:

1. _____ Let $f(x)$ be an invertible function. Then $f(f^{-1}(x)) = x$ and $f^{-1}(f(x)) = x$.
2. _____ The function $f(x) = x^2$ has an inverse function.
3. _____ The function $f(x) = x^3$ has an inverse function.
4. _____ Let f and g be two functions and $f(g(x)) = x$. Then $g = f^{-1}$.
5. _____ The graph of f^{-1} is the graph of f reflected about the line $y = x$.

Show all your work and justify your answer:

6. Use the 4-steps strategy to find the inverse of the function

$$f(x) = \frac{3x+1}{3x-2}.$$

Step 1 Replace $f(x)$ with y :

Step 2 Interchange x and y :

Step 3 Solve for y :

Step 4 Replace y with $f^{-1}(x)$: