

Quiz 5

INSTRUCTIONS

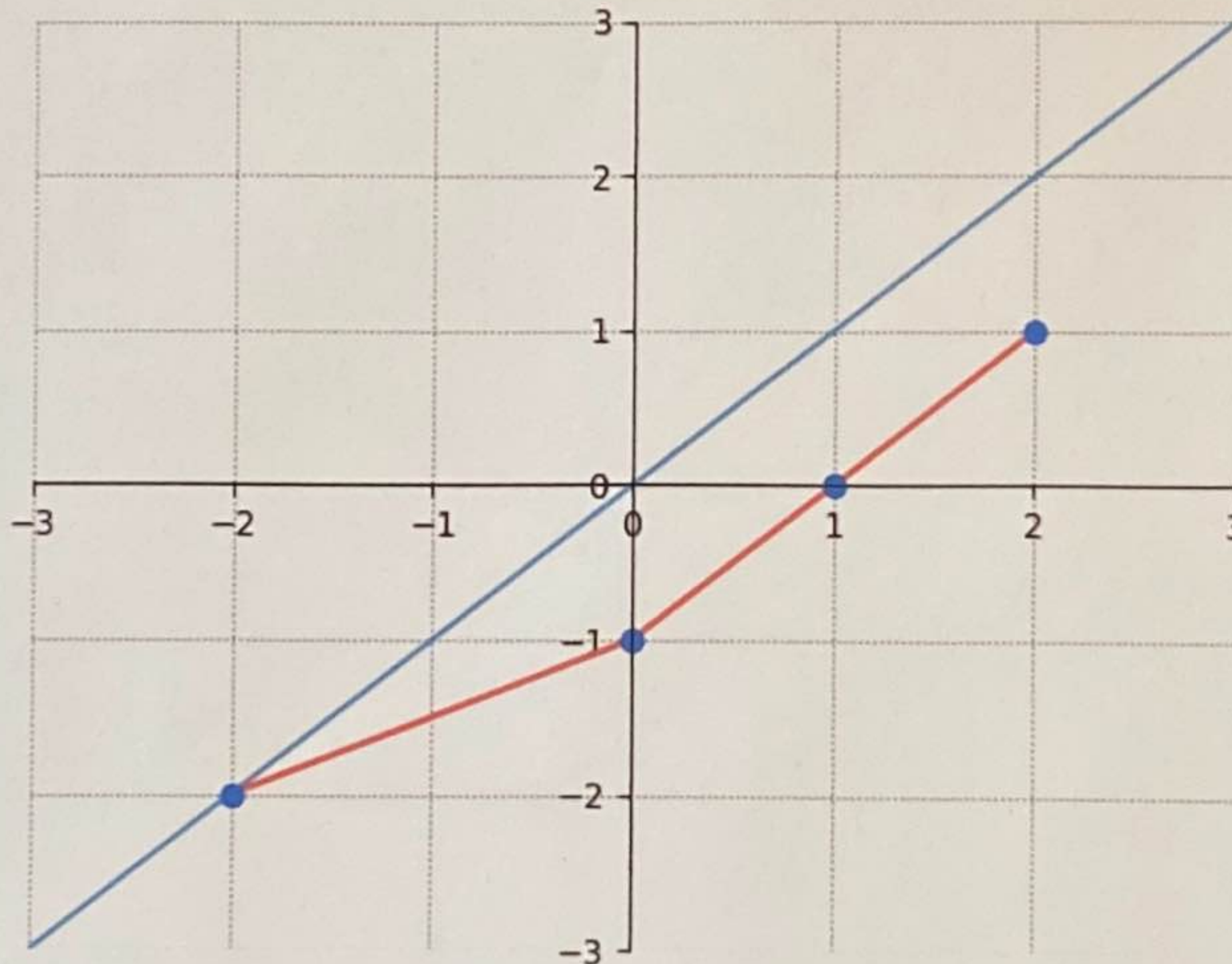
- This quiz covers Sections 5.1-5.3, 0.9, 6.1 and 6.5
- Please only use the Answer Sheet either to type your work or if you prefer to write your work and scan it. Be sure to include your name in the document.
- Consult the **Additional Information** portion of the online Syllabus for options regarding the submission of your quiz. If you have any questions, please contact me by e-mail (Jules.Kouatchou@faculty.umgc.edu) with MATH 107 in the subject heading.

Problem 1: Find the exact value of: $\log_8 16 - \log_8 32$

Problem 2: Solve the equation: $3 + \sqrt{3x + 1} = x$

Problem 3: Find the inverse of the function: $f(x) = \frac{2x+1}{x-1}$

A function $f(x)$ is represented by the graph (red lines) below:



Use the graph to do Problems 4-6:

Problem 4: Determine the domain and the range of $f(x)$.

Problem 5: Determine if the function $f(x)$ is one-to-one.

Problem 6: Evaluate the following:

a) $f^{-1}(0)$

b) $f^{-1}(-1)$

Problem 7: Solve the equation: $\sqrt[3]{5x - 2} - 2 = 0$

Use the following for Problems 8-9:

Given that $f(x) = x^2 + 3x - 1$ and $g(x) = 2x + 3$,

Problem 8: Find $(f \circ g)(x)$

Problem 9: Compute: $(g \circ f)(-3)$

Problem 10: Find the domain of the function: $f(x) = \log(5x^2 - 4x^3)$