

NAME:

BRONX COMMUNITY COLLEGE
of the City University of New York
DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

MTH30

Quiz 2 Sample

Instructions

Solve all problems and mark your answers clearly. The points for each problem are as indicated. Perform any graphing on the graph paper provided. Show all work, using additional paper if needed.

1. (20) Graph the function $f(x) = \frac{x}{x-1}$. Show any x -intercepts or y -intercepts. Show any horizontal or vertical asymptotes. Plot at least two points on each side of any asymptotes you find.
2. (20) Solve the rational inequality $\frac{x+4}{x} < 1$.
3. (10) Write in exponential form: $\log_5(x) = 4$, $\log_a(25) = 2$.
4. (10) Solve: $4^x = 32$, $\log_3(x+5) = 2$.
5. (20) Graph the function $f(x) = 3^{x+1}$ by giving a table of values with at least 5 pairs of values. Give any horizontal or vertical asymptotes and any x -intercepts and y -intercepts. Give the domain and range of this function.
6. (20) Define the inverse function for the function in problem 5. Graph this inverse function with the same details you gave for question 5.