

Quiz #1, 8/29  
Math 156 (Calculus I), Fall 2023

Problem 1 is worth 5 points and Problem 2 is worth 5 points, for a total of 10 points. Remember to *show your work* on all problems!

1. In this problem, let  $f(x) = \sqrt{x+1}$ .
  - (a) Sketch the graph of  $y = f(x)$ .
  - (b) State the domain and range of  $f(x)$ .
  - (c) Let  $g(x)$  be the function whose graph is obtained from the graph of  $f(x)$  by reflecting across the  $x$ -axis. Write the formula for  $g(x)$ .
  
2. In this problem, let  $f(x) = 2\cos(x)$ .
  - (a) Sketch the graph of  $y = f(x)$ .
  - (b) State the domain and range of  $f(x)$ .
  - (c) Is  $f(x)$  an even function, odd function, both, or neither? Explain what this means both algebraically (in terms of formulas) and geometrically (in terms of graphs).