Quiz 6
TQS 211

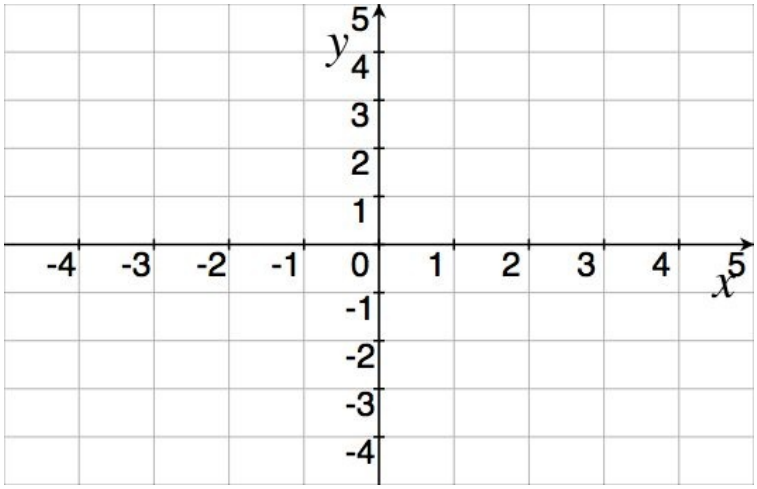
You are welcome to use any written homework from Chapter 4, worksheets you completed, and a calculator but no books or class notes. Show *all* your work (algebraically or geometrically) for each and simplify. No credit is given without supporting work.

1. [4] Draw a function α that satisfies all of the following:

   (a) $\alpha'(x) > 0$ when $x < 1$

   (b) $\alpha''(x) < 0$ when $x < 1$

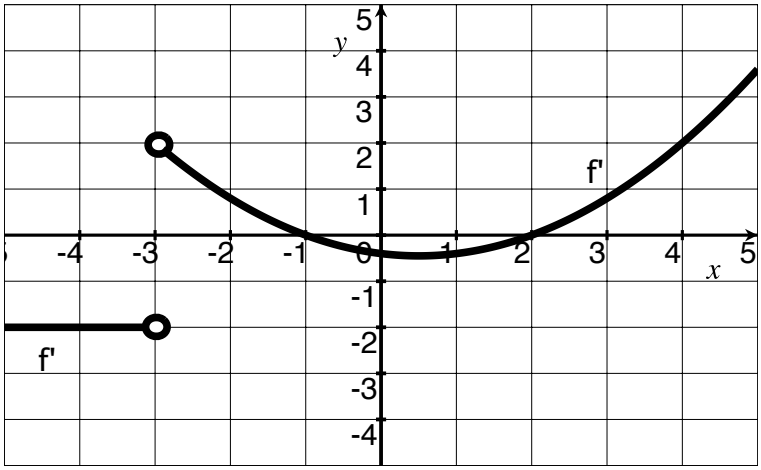
   (c) $(1, 2)$ is a point of inflection



2. Given that the graph below is the *derivative* of f, identify the x coordinate of any

   (a) [3] critical points of f

   (b) [3] classify each of the above points as local minimums, maximums, or neither.



3. Let $g(x) = 3x^4 - 4x^3 + 6$.

   (a) [3] Use calculus to find the x coordinates of the critical points of g

   (b) [3] For each of the above, use either Method A or Method B discussed in class to determine if the point is a local maximum, minimum, or neither.

   (c) [4] Find the x coordinate of any points of inflection in the graph of g.