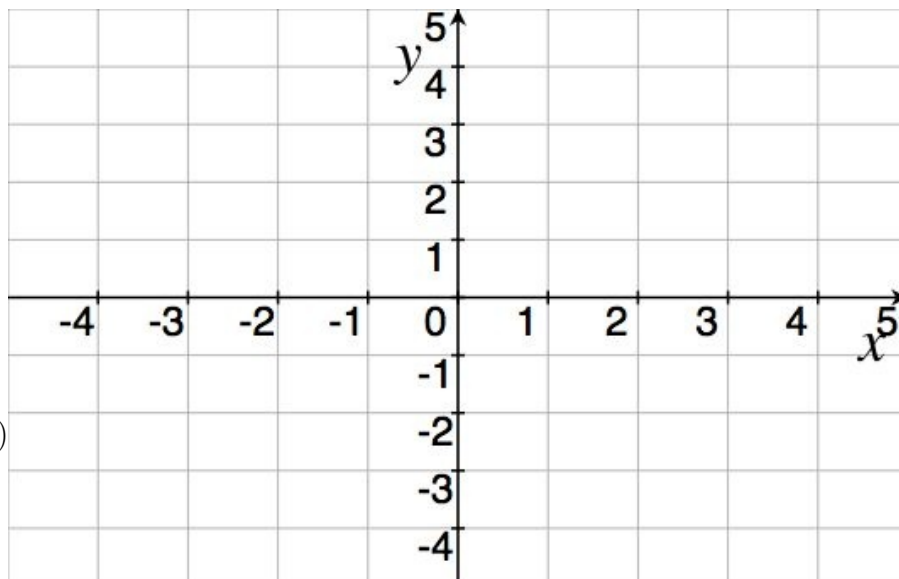


TMATH 124 Quiz 4

Show *all* your work (numerically, algebraically, or geometrically) for each and simplify. No credit is given without supporting work.

1. [3] (extreme wks #1) Draw graphs of two functions f so that:

- (a) f is continuous on $[-3, 4)$
- (b) f has a local min when $x = -2$
- (c) $f'(-2) = 0$
- (d) f has a global max when $x = 1$
- (e) $f'(1)$ is not defined.
- (f) $\lim_{x \rightarrow 4} f(x) \neq f(4)$



2. Consider the function $g(x) = \ln(x^2 + x + 1)$ for the following questions.

(a) [1] Find $g'(x)$.

(b) [2] (WebHW12 #7) Find the equation of the line tangent to g when $x = 1$.

(c) [4] (§4.1 #67) Use calculus to find the local minimum value(s) of g .