

TMATH 124: Quiz 2

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

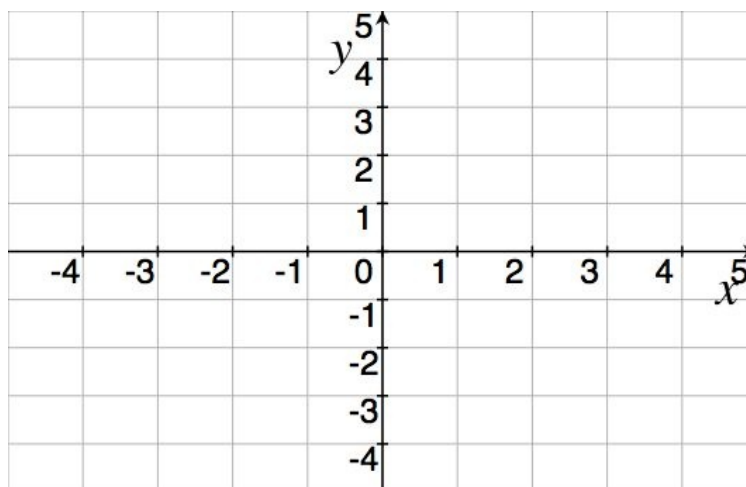
1. [2] (WebHW4 #10) Find $\lim_{x \rightarrow \infty} \frac{1 - 9x}{2x + 7}$

2. [3] (Con't wks #6) Draw a function g such that both conditions are met:

(a) $\lim_{x \rightarrow -3} g(x) = \infty$

(b) $\lim_{x \rightarrow \infty} g(x) = 2$

(c) g is continuous
 $-1 < x \leq 2$



3. (§2.7 #8) Let $f(x) = \frac{3x + 1}{x + 1}$.

(a) [3] Find $f'(x)$.

(b) [2] Find the equation of the line tangent to f when $x = 1$