

# TMATH 124pm: Quiz 1

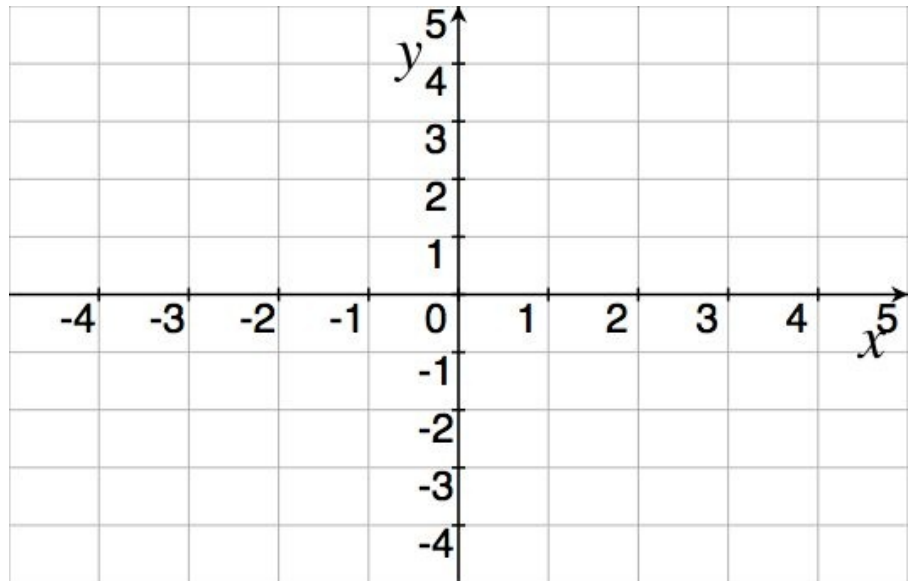
Show *all* your work (numerically, algebraically, or geometrically) for each and simplify. No credit is given without supporting work.

1. [3] (§2.2 #15) Sketch the graph of an example function  $f$  that satisfies the following conditions:

(a)  $\lim_{x \rightarrow 1} f(x) = 2$

(b)  $f(1) = 3$

(c)  $\lim_{x \rightarrow -2} f(x) = \infty$

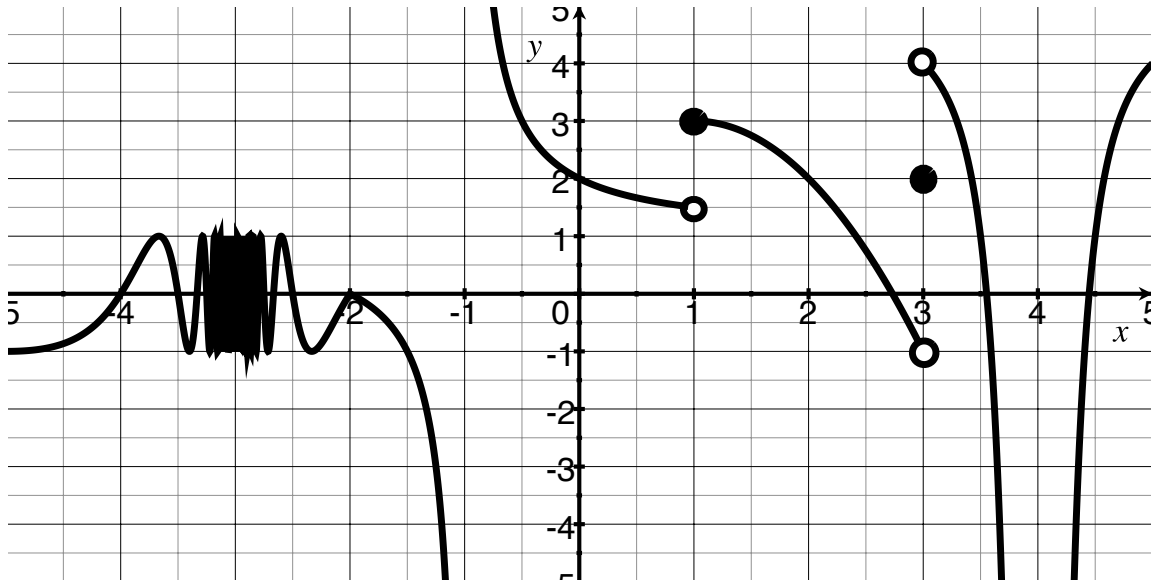


2. [2] (WebHW2 #9 & §2.2 #19 ) Determine the following, if they exist:

$$\lim_{x \rightarrow 6} \frac{7 - x}{(x - 6)^2}$$

$$\lim_{x \rightarrow 2^+} \frac{x \ln(x) - \ln(x)}{x^2 - 1}$$

3. [5] For the function  $R$  whose graph is given, state the value of each quantity, if it exists.



$$\lim_{x \rightarrow 0} R(x)$$

$$\lim_{x \rightarrow 1} R(x)$$

$$\lim_{x \rightarrow 1^-} R(x)$$

$$\lim_{x \rightarrow -3} R(x)$$

$$\lim_{x \rightarrow 4^+} R(x)$$