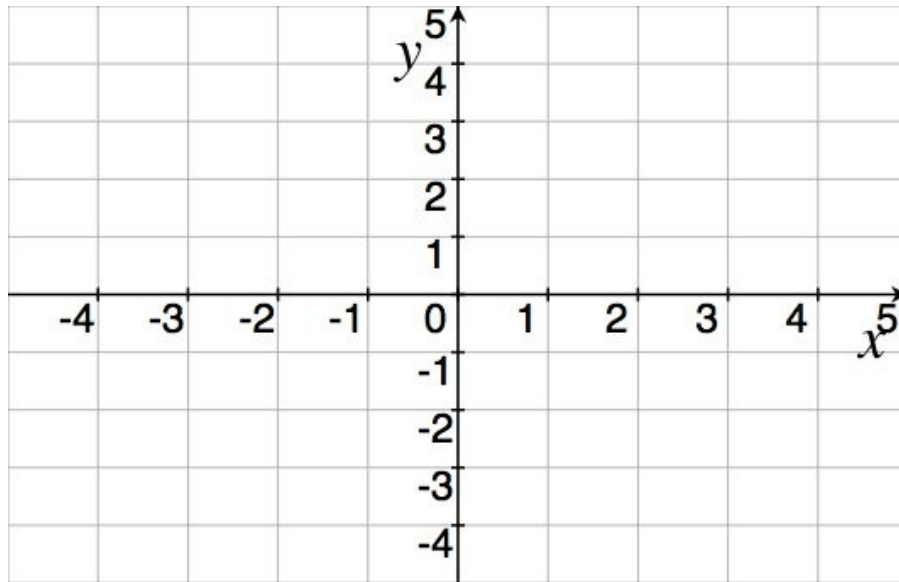


TMATH 124pm: Quiz 2

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

1. (§2.5 #21) Let $f(x) = \begin{cases} \cos(x) & \text{if } x < 0 \\ 0 & \text{if } x = 0 \\ 1 - x^2 & \text{if } 0 < x \end{cases}$

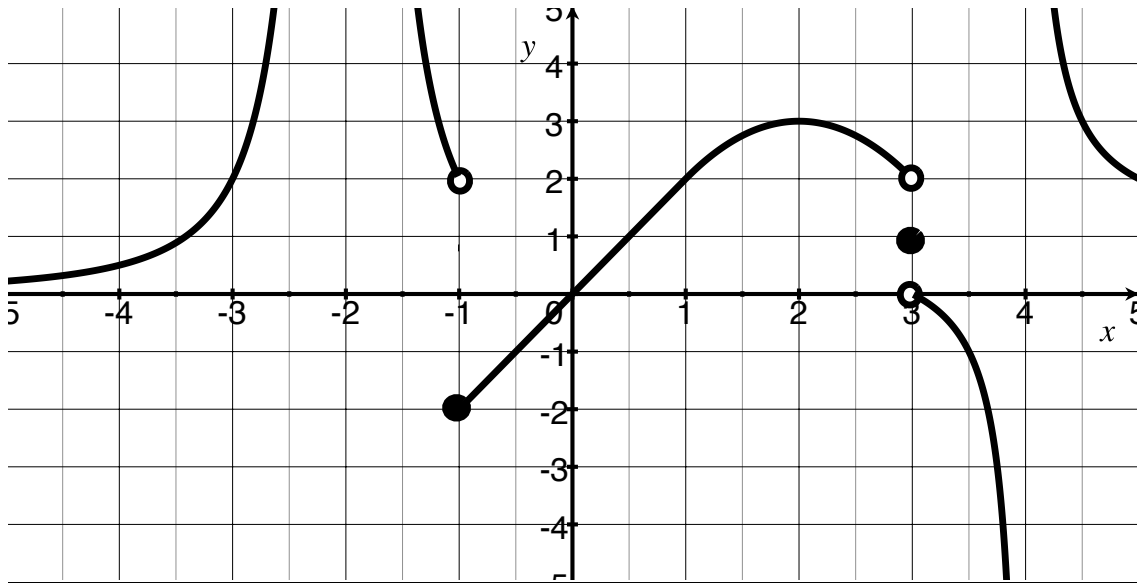
(a) [2] *Carefully* graph f on the axis provided



(b) [1] Explain why f is discontinuous at 0.

2. [2] (WebHW4 #3) Suppose f and g are continuous functions such that $g(5) = 4$, $\lim_{x \rightarrow 5} [3f(x) + f(x)g(x)] = 21$. Find $f(5)$.

3. The graph of a function R is given below:



(a) [3] (Con't wks) State the numbers at which R is discontinuous.

(b) [2] (§2.3 #2) Evaluate $\lim_{x \rightarrow 1} [2R(x) - 3]$