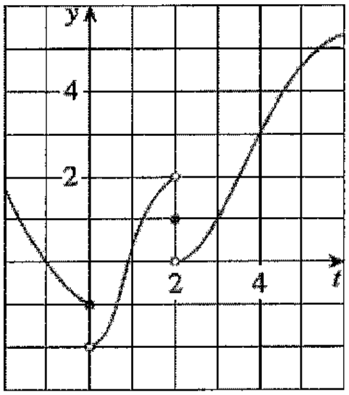
MATH 131-03, Fall, 2017 Quiz 2 Name : ____Solutions_____

1. 

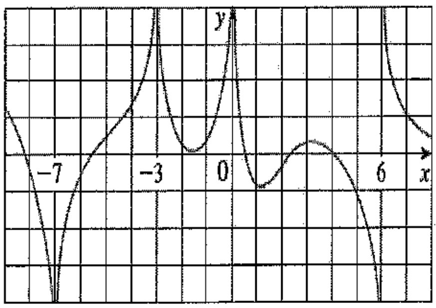
(2pts) From the graph of $f(x)$, compute:

(1) $\lim_{x\to 2^-} f(x) = 2$

(2) $\lim_{x\to 2^+} f(x) = 0$

(3) $\lim_{x\to 2} f(x) = DNE$

(4) $f(2) = 1$

2. 

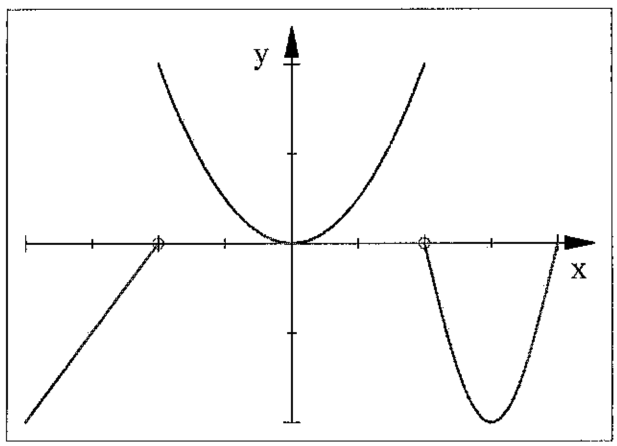
(1pts) From the graph of $f(x)$, compute:

(1) $\lim_{x\to 6^-} f(x) = -\infty$

(2) $\lim_{x\to 6^+} f(x) = +\infty$

(4pts) Let $f(x) = \begin{cases} 1+x \text{ if } x < -1 \\ x^2 \text{ if } -1 \le x \le 1 \\ \sin(\pi x) \text{ if } x > 1 \end{cases}$

3. (1) Sketch the graph of $f(x)$.
Label your scales.
(2) From the graph, determine the value a for which $\lim_{x\to a} f(x)$ exists.



4. (3pts) Let $f(t) = \dfrac{e^{2t}-1}{t}$.

(1) Set up a table to compute values of $f(t)$ for $t = \pm 0.1,\ \pm 0.01,\ \pm 0.001,\ \pm 0.0001$.

t	$\frac{e^{2t}-1}{t}$	t	$\frac{e^{2t}-1}{t}$
0.1	2.2140	−0.1	1.8127
0.01	2.0201	−0.01	1.9801
0.001	2.0020	−0.001	1.998001
0.0001	2.0002	−0.0001	1.9998

(2) From the results given in (1), estimate $\lim_{t\to 0} \dfrac{e^{2t}-1}{t} = 2$