Name_____ Calculators OK. Present neatly. Score_____.

1. Sketch a possible graph for a function f with the specified properties.

(i) the domain of f is $(-\infty, 0]$
(ii) $f(-2) = f(0) = 1$
(iii) $\lim_{x \to -2} f(x) = +\infty$

2. Evaluate the given limit numerically, by observing at least six points. Write down the output in a two-column table.

$$\lim_{x \to 0} \frac{\sin(5x)}{\sin(2x)}$$

If the limit does not exist, please write so.

Your work:

Name_____ Calculators OK. Present neatly. Score_____.

1. Sketch a possible graph for a function f with the specified properties.

$$\text{(i)}\ f(-3) = f(0) = f(2) = 0$$
$$\text{(ii)}\ \lim_{x \to -2^-} f(x) = +\infty \text{ and } \lim_{x \to -2^+} f(x) = -\infty$$
$$\text{(iii)}\ \lim_{x \to 1} f(x) = +\infty$$

2. Evaluate the given limit numerically, by observing at least six points. Write down the output in a two-column table.

$$\lim_{x \to -1} \frac{\tan(x+1)}{x+1}$$

If the limit does not exist, please write so.

Your work: