Quiz 2 **Your name:**

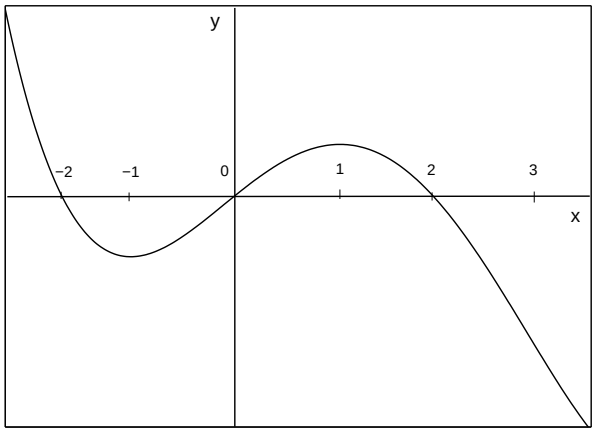
Your TA's name:

1. Find the limit, if it exists. If the limit does not exist explain why: $\lim_{x \to -2^-} \left(\frac{5x + 10}{2|x + 2|} + x \right)$.

2. Use the Intermediate Value Theorem to show that there is a root of the equation $x \sin x = 1$ in the interval $\left(0, \frac{\pi}{2}\right)$.

3. For the function $f(x)$ whose graph is given, arrange the following numbers in the increasing order and explain your reasoning

5, $f'(-2)$, $f'(0)$, $f'(1)$, $f'(1.5)$.



4. Differentiate the function $g(t) = \dfrac{t^3 + 2t - 5}{\sqrt{t}}$.

State the domain of the function and the domain of its derivative.