

Written HW2 – MATH 2501 Fall 2020

Due by 23 August for timely completion credit

1. Draw a picture of a function $f: [0, 1] \rightarrow \mathbb{R}$ such that $\lim_{x \rightarrow \frac{1}{2}} f(x) = 2$.
2. Draw a picture of a function $f: [0, 1] \rightarrow \mathbb{R}$ such that $\lim_{x \rightarrow \frac{1}{2}} f(x) = 2$ and $f(\frac{1}{2}) = 3$.
3. Draw a picture of a function $f: [0, 1] \rightarrow \mathbb{R}$ such that $\lim_{x \rightarrow \frac{1}{2}^-} f(x) = 2$ and $\lim_{x \rightarrow \frac{1}{2}^+} f(x) = 3$ and $f(\frac{1}{2}) = 2$.
4. Draw a picture of a function $f: [0, 1] \rightarrow \mathbb{R}$ such that $\lim_{x \rightarrow \frac{1}{2}^-} f(x) = 4$ and $\lim_{x \rightarrow \frac{1}{2}^+} f(x) = 5$ and $f(\frac{1}{2}) = -1$.