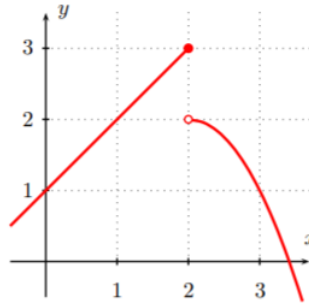


MA 137 Worksheet #8

Sections 3.1 and 3.2

9/10/20

1. For the following graph of f , determine the value of $\lim_{x \rightarrow 2^-} f(x)$, $\lim_{x \rightarrow 2^+} f(x)$, $\lim_{x \rightarrow 2} f(x)$, and $f(2)$ or say if it doesn't exist. Is f continuous? Why or why not?



2. Compute the following limits:

• $\lim_{x \rightarrow 0} \frac{2e^x - \sin(x)}{7x + 3}$

• $\lim_{x \rightarrow 0} \frac{\tan(x) - x}{x^3}$

3. Suppose $\lim_{x \rightarrow 0} f(x) = 4$ and $\lim_{x \rightarrow 0} g(x) = 7$. Find $\lim_{x \rightarrow 0} \frac{f(x)\sqrt{2+g(x)}}{[g(x)]^2 - f(x)}$.