

# Quiz 1

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Use any method for finding limits discussed in class to complete the following problem.

**Problem 1.** Let

$$f(x) = \frac{x^2 - 2x - 3}{x^2 - 4x + 3}.$$

- (a) What is  $f(-1)$ ?
- (b) Find  $\lim_{x \rightarrow -1^+} f(x)$  and  $\lim_{x \rightarrow -1^-} f(x)$ .
- (c) Determine if  $\lim_{x \rightarrow -1} f(x)$  exists and if so what is it?
- (d) Is it true that  $f(-1) = \lim_{x \rightarrow -1} f(x)$ ? Justify.