

## MATH 111 – QUIZ

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Name:

Complete the following sentences:

- We say that  $\lim_{x \rightarrow a} f(x) = c$  if
  
  
  
  
  
  
  
  
  
  
- A function  $f : (a, b) \rightarrow \mathbb{R}$  is continuous at  $c \in (a, b)$  if
  
  
  
  
  
  
  
  
  
  
- A function  $f : (a, b) \rightarrow \mathbb{R}$  has a derivative at  $c \in (a, b)$  if

(1) Show, using  $\varepsilon$ - $\delta$ , that  $\lim_{x \rightarrow 1} (3x - 2) = 1$ .

(2) Show that  $f(x) = \frac{1}{x}$  has a derivative at  $x = 2$ , and compute it.