

Lecture Questions V: 110.106 Calculus I (Bio & Soc Sci)

Professor Richard Brown

Mathematics Department

December 4, 2017

Question 1

Determine the truth of the following two statements:

- (1) For a function to be integrable, it must be continuous.
- (2) The antiderivative of a function, if it exists, is always continuous.

- A. Both are true.
- B. (1) is true and (2) is false.
- C. (1) is false and (2) is true.
- D. Both are false.

Question 2

The function $F(x) = \int_{1+x^2}^{x^2+1} e^{\sin t} \cos t \, dt$ is continuous on all of \mathbb{R} . The average value of $F(x)$ on the interval $[0, \frac{\pi}{2}]$ is ...

- A. e .
- B. 1 .
- C. 0 .
- D. -1 .
- E. wait ..., what?!

Question 3

The value of $\int_0^1 e^{|2x-1|} dx$ is ...

- A. $e - 1$.
- B. -1 .
- C. e .
- D. 0 .
- E. 1 .