

- Which of these is a definition of a^x for all positive numbers a and all real numbers x ?
(2017-01-11, 1.1, practice)
 - A. $\ln(x \cdot e^a)$
 - B. a multiplied by itself x times
 - C. the unique function for which $\frac{d}{dx}[a^x] = a^x$
 - D. $\exp(x \ln a)$
- Which of these statements is false? (2017-01-11, 1.1, practice)
 - A. $\ln(abc) = \ln(a) + \ln(b) + \ln(c)$
 - B. $\frac{d}{dx}[\ln x] = \frac{1}{|x|}$ for all nonzero numbers x
 - C. $y = \exp(x)$ if and only if $x = \ln(y)$
 - D. $e^x = \exp(x)$

1. The Substitution Rule is the opposite of which derivative rule? (2017-01-19, 2.1)
 - A. Chain Rule
 - B. Product Rule
 - C. Quotient Rule
 - D. Power Rule
2. What is incorrect about the following attempt at using the Substitution Rule?

$$\int_0^1 (3 - 2x)^5 dx = \int_0^1 u^5 \left(-\frac{1}{2} du \right)$$

(2017-01-19, 2.1)

- A. dx should have been replaced with $+\frac{1}{2} du$.
- B. u shouldn't be raised to the 5th power.
- C. dx should have been replaced with $-2 du$.
- D. The bounds are incorrect.