1. (2 points each, no partial credit) For the following statements circle True or False. Circle True only if the statement is *always* true.

(a) If y is differentiable for all x, then the value of $y'(x)$ is a unique number for each x.

<u>True</u>   False

(b) The only antiderivative of $\cos(x)$ is $\sin(x)$.

True   <u>False</u>

(c) For a continuous function f on the interval $a \le x \le b$, if the left-hand sum and the right-hand sum are equal for a given number of subdivisions, then they are equal to $\int_a^b f(x)dx$.

True   <u>False</u>

(d) For the continuous function f, if the units of t are seconds and the units of $f(t)$ are meters, then the units of $\int_0^1 f(t)dt$ are meter seconds.

<u>True</u>   False

(e) For any function f, if $\lim_{x \to 3^-} f(x) = a$ and $\lim_{x \to 3^+} f(x) = a$, then $f(3) = a$.

True   <u>False</u>