

Calculus

F 7 March 2014

RECEIVER
PARTICIPANT LIST
RESET SESSION

QUIZ
FOLLOWS

Principle of log diff:

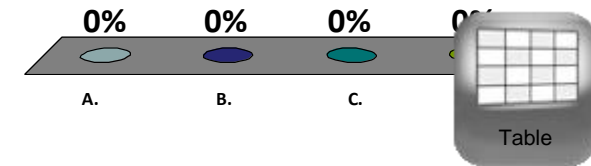
$$f'(x) = ??$$

(a) $(d/dx)(\ln |f(x)|)$

(b) $[f'(x)]/[f(x)]$

(c) $[f(x)][(d/dx)(\ln |f(x)|)]$

(d) none of the above



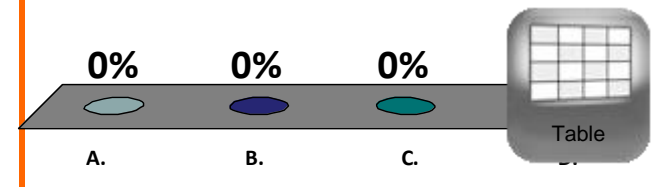
(a) $x(1 + x^2)^{x-1} \left[\frac{d}{dx}(1 + x^2) \right]$

$$\frac{d}{dx} \left[(1 + x^2)^x \right]$$

(b) $x(2x)^{x-1}$

(c) $\left[(1 + x^2)^x \right] \left[\frac{d}{dx} (x \cdot \ln(1 + x^2)) \right]$

(d) none of the above



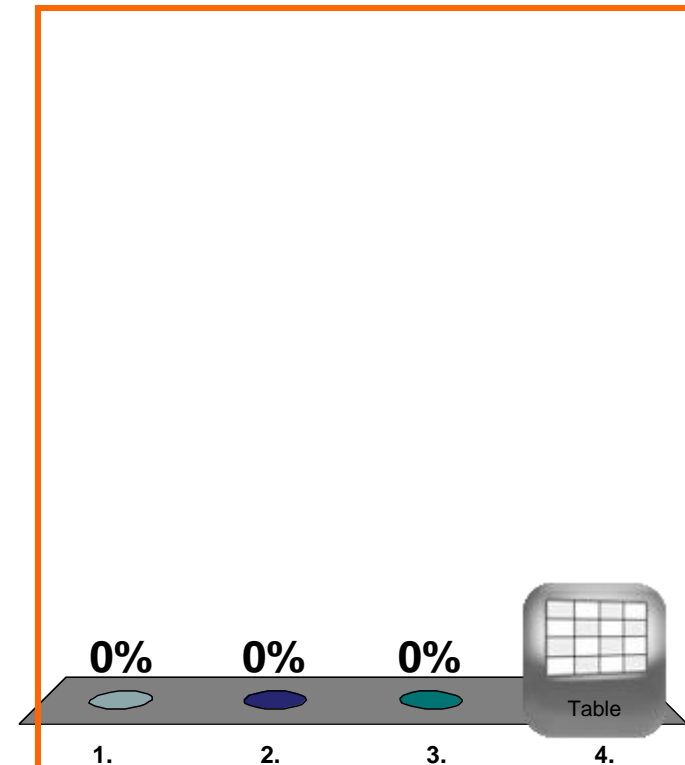
$$\left[\frac{d}{dx} \right] [xe^y + y] = ??$$

(a) $e^y + xe^y + 1$

(b) $e^y + xe^y y' + y'$

(c) $e^y + xe^y + y'$

(d) none of the above



$$\begin{aligned} [d/dx][xe^y + y] &= e^y + xe^y y' + y' \\ &= e^y + (xe^y + 1)y' \end{aligned}$$

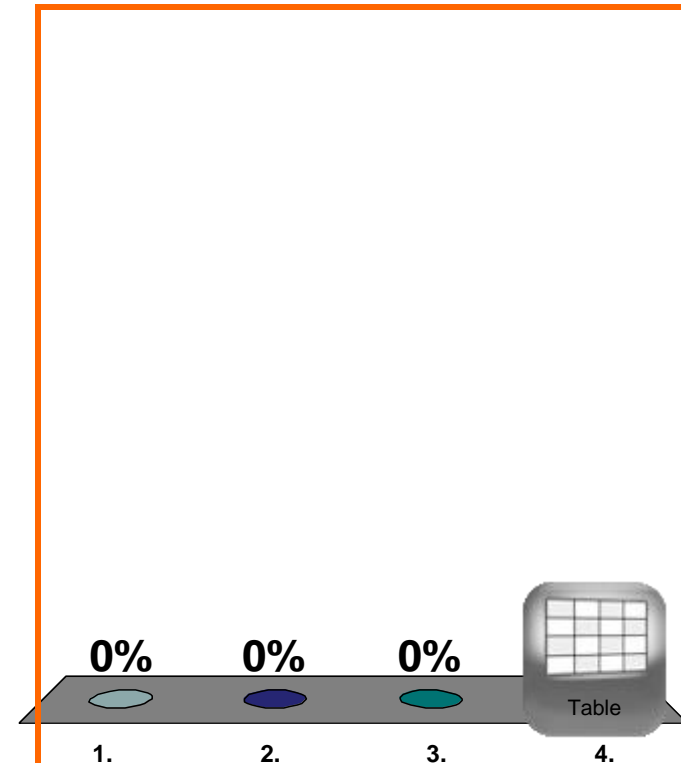
$$\begin{aligned} xe^y + y &= 1 \\ y' &= ?? \end{aligned}$$

(a) $e^y / (xe^y + 1)$

(b) $-e^y / (xe^y + 1)$

(c) $(1 - e^y) / (xe^y + 1)$

(d) none of the above



$$y' = -e^y / (xe^y + 1)$$

$$xe^y + y = 1$$

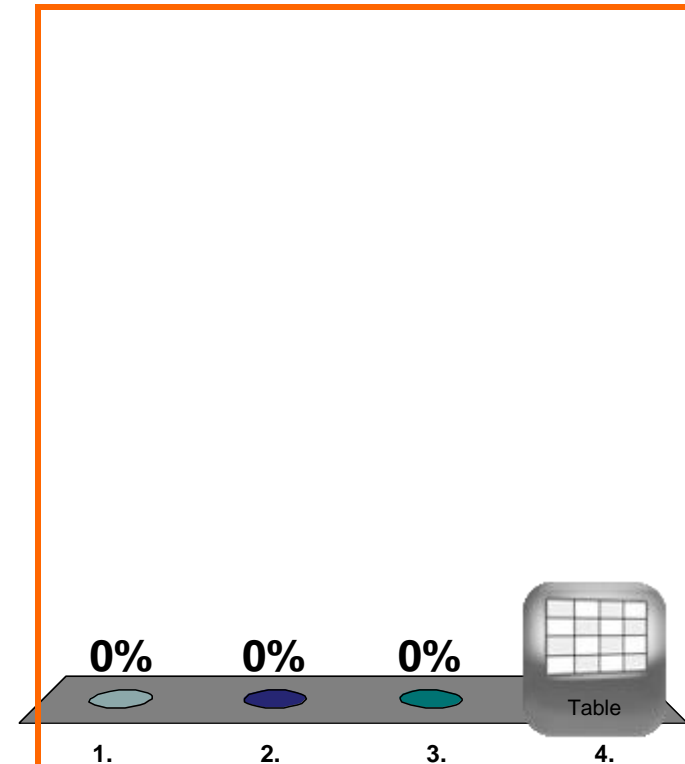
slope at (0, 1)?

(a) 0

(b) -1

(c) $-e$

(d) none of the above



END
QUIZ