Calculus
F 18 April 2014

RECEIVER
PARTICIPANT LIST
RESET SESSION

QUIZ
FOLLOWS

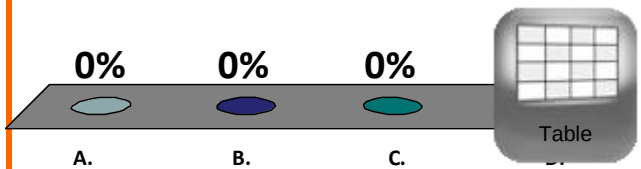
(a) $x(1+x^2)^{x-1}\left[\dfrac{d}{dx}(1+x^2)\right]$

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

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

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

(d) none of the above



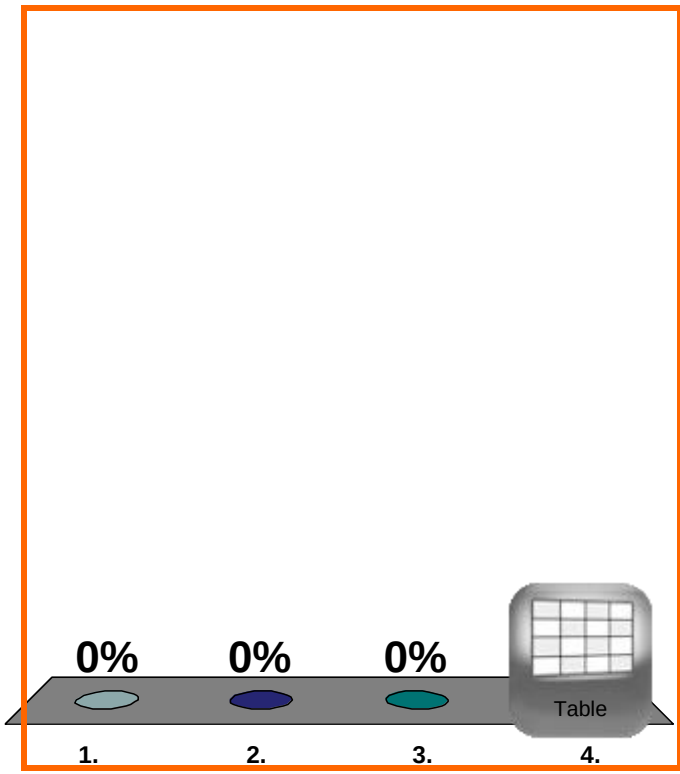
$$[d/dx][xe^y + y] = \text{??}$$

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

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

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

(d) none of the above



Topic 0430

20 pts

$$[d/dx][xe^y + y] = e^y + xe^y y' + y'$$
$$= e^y + (xe^y + 1)y'$$

$$xe^y + y = 1$$

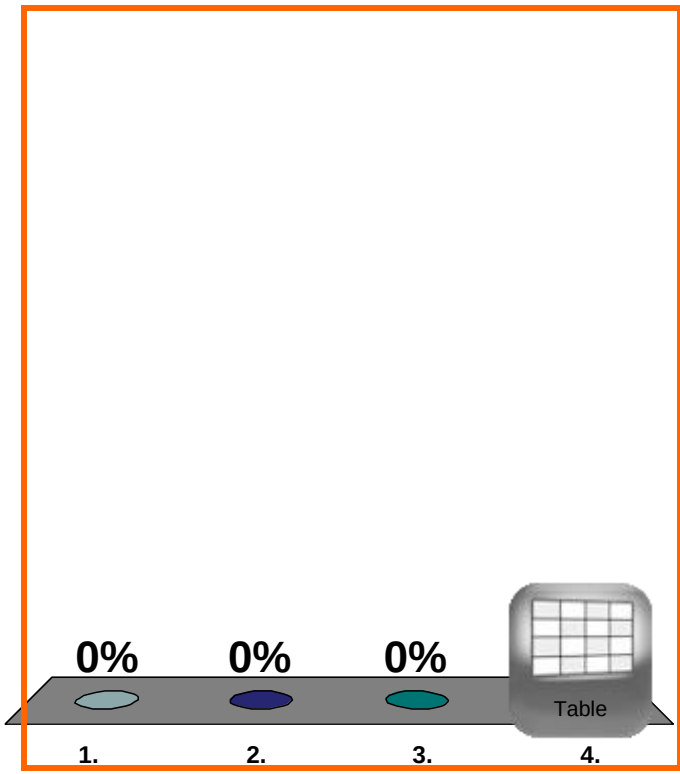
$$y' = ??$$

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

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

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

(d) none of the above



$$(d/dx)(\arctan x) = \frac{1}{1+x^2}$$

$$(d/dx)(\arctan e^x) = \text{??}$$

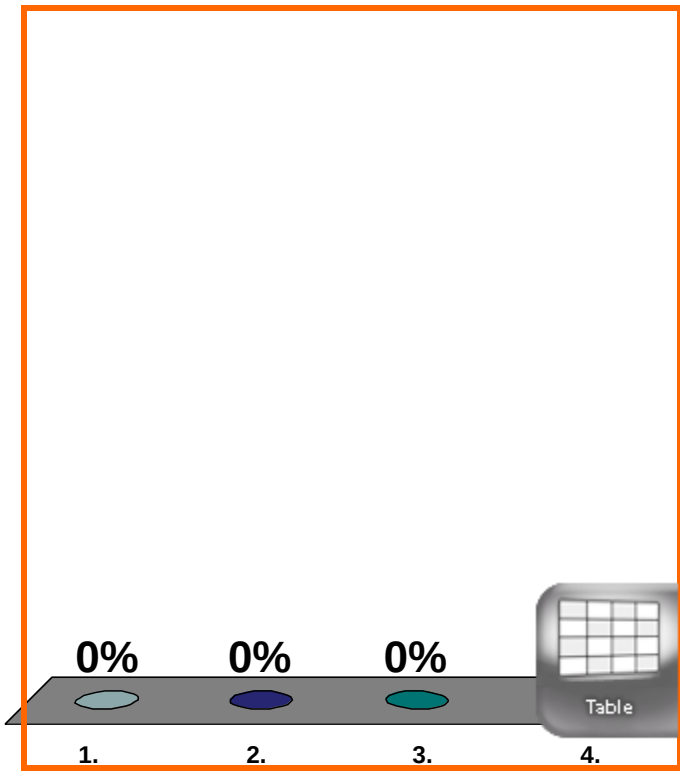
(a) $\dfrac{1}{1+(e^x)^2}$

(b) $(\operatorname{arcsec}^2 e^x)(e^x)$

(c) $\dfrac{1}{1-(e^x)^2}$

(d) none of the above

Correct answer: $\dfrac{e^x}{1+(e^x)^2}$



$$g = f^{-1}$$

$$f(6) = 9,\ f'(6) = 1/4$$

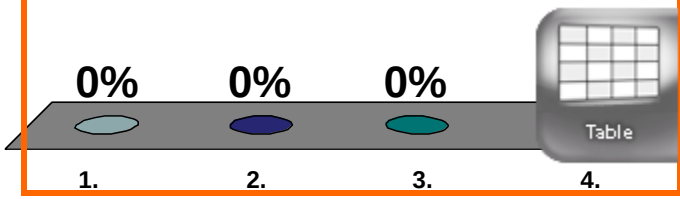
$$g'(9) = ??$$

(a) 1/2

(b) 4

(c) not enough information

(d) none of the above



END
QUIZ