Calculus
F 19 October 2012

RESET THE SESSION

SET THE PARTICIPANT LIST

PLUG IN THE RECEIVER

Boxed answers agree with TurningPoint answers

Points agree with TurningPoint points

Points total to 100

Topics covered are in bounds

QUIZ
FOLLOWS

$$f(g(x)) = x$$
$$[f'(g(x))][g'(x)] = 1$$
$$[f'(g(7))][g'(7)] = 1$$

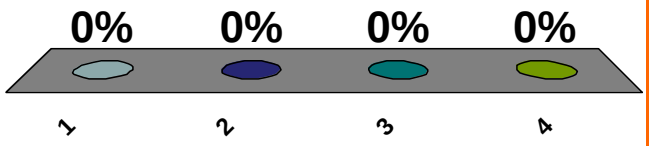
$$g = f^{-1}$$
$$f(4) = 7,\ g(7) = 4$$
$$f'(4) = 2,\ g'(7) = ??$$

(a) 1/2

(b) 4

(c) not enough information

(d) none of the above



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

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

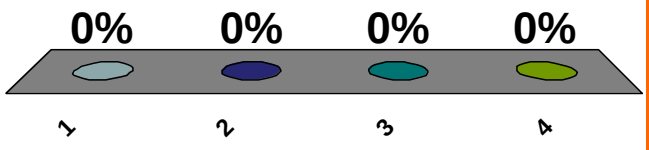
$$g'(9) = ??$$

(a) 1/2

(b) 4

(c) not enough information

(d) none of the above



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

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

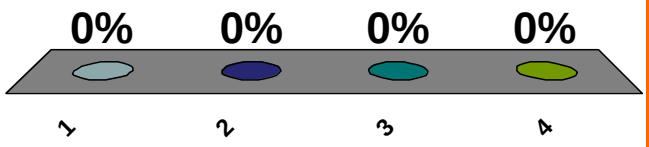
$$g'(6) = ??$$

(a) 1/2

(b) 4

(c) not enough information

(d) none of the above



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$$f(8) = 7, \quad f'(8) = -4$$

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

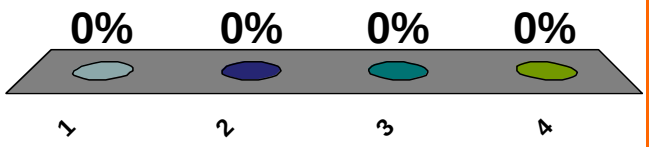
$$g(7) = ??, \quad g'(7) = ??$$

(a) $1/7, \quad -1/4$

(b) $8, \quad 1/8$

(c) $8, \quad -1/4$

(d) none of the above



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$$f(4) = -6, \quad f'(4) = 8$$

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

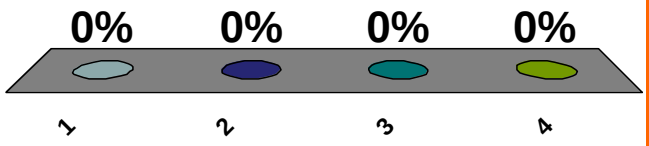
$$g(-6) = ??, \quad g'(-6) = ??$$

(a) 4, 1/8

(b) 1/4, 1/8

(c) not enough information

(d) none of the above



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$$[d/dx][(\cos y) + 2y^3] = \text{??}$$

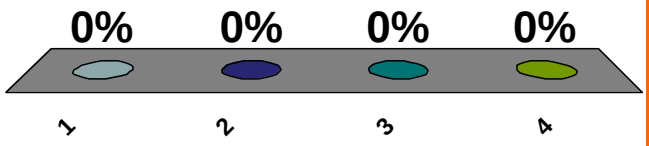
(a) $-(\sin y) + 6y^2$

(b) $-(\sin y') + 6(y')^2$

(c) $-(\sin y)y' + 6y^2$

(d) none of the above

Correct answer: $-(\sin y)y' + 6y^2y'$



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

$$xe^y + y = 1$$

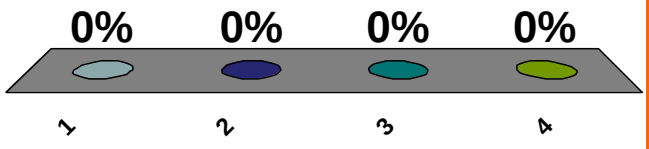
$$y' = ??$$

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

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

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

(d) none of the above



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Topic 0430

10 pts

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

$xe^y + y = 1$

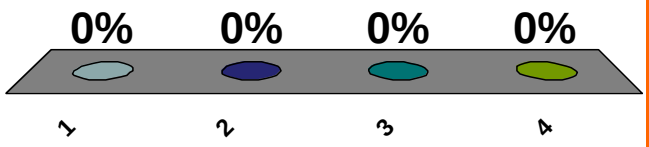
slope at $(0, 1)$?

(a) $-e$

(b) -1

(c) 0

(d) none of the above



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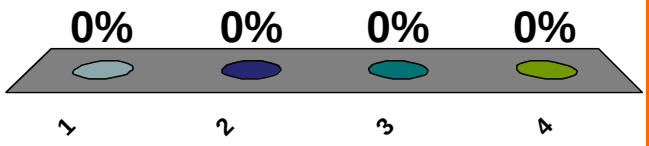
$$\lim_{x \to 0^+} (\sin x + \cos x)^{1/x} = \exp\left(\lim_{x \to 0^+} \; ?? \right)$$

(a) $(1/x)(\ln(\sin x) + \ln(\cos x))$

(b) $(\ln(\sin x) + \ln(\cos x))^{1/x}$

(c) $(1/x)\,[\ln(\sin x + \cos x)]$

(d) none of the above



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Topic 0420

10 pts

$\ln(1 + [f(x)]) \underset{x \to a}{\sim}$??

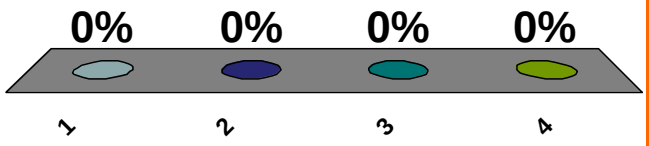
provided $f(x) \underset{x \to a}{\to} 0$

(a) 0

(b) $f(x)$

(c) $1 + [f(x)]$

(d) none of the above



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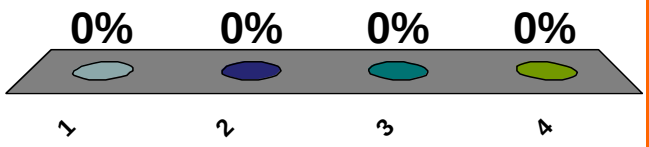
$$\lim_{n\to\infty} n[\ln(1+(3/n))] = \text{??}$$

(a) 0

(b) 1/3

(c) 3

(d) none of the above



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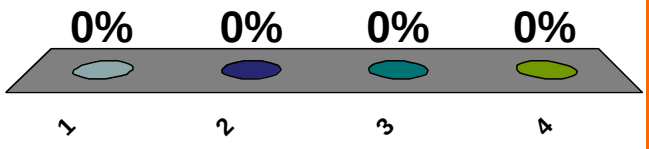
$$\frac{d}{dx}\left[(1+x^2)^x\right]$$

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

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

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

(d) none of the above



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SAVE THE SESSION DATA

RETURN TO PRESENTATION