Calculus
F 12 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

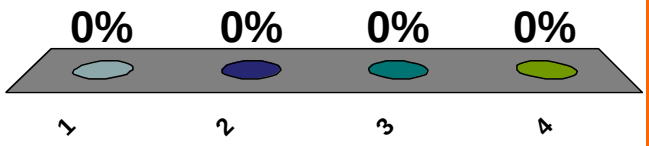
$$\lim_{x\to 0}\left[\frac{e^{2x}-1}{\ln(1+x)}\right] \overset{\text{l'H}}{=} \lim_{x\to 0}[??]$$

(a) $\dfrac{[\ln(1+x)][2e^{2x}]-[e^{2x}-1][1/(1+x)]}{[\ln(1+x)]^2}$

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

(c) l'Hôpital does not apply.

(d) none of the above



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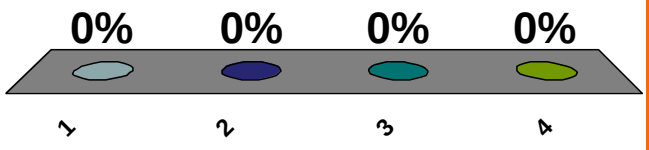
$$\lim_{x\to\infty}\left[\frac{\sin x}{x}\right] \overset{\text{l'H}}{=} \lim_{x\to\infty}[??]$$

(a) $\dfrac{-\cos x}{1}$

(b) $\dfrac{\cos x}{1}$

(c) l'Hôpital does not apply.

(d) none of the above



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$$\lim_{x\to\infty} \frac{x}{e^x} = ??$$

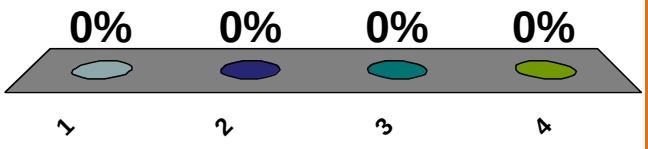
(a) $\lim_{x\to\infty} \dfrac{(e^x)(1)-(x)(e^x)}{e^{2x}}$

(b) $\lim_{x\to\infty} \dfrac{(x)(e^x)-(e^x)(1)}{e^{2x}}$

(c) $\lim_{x\to\infty} \dfrac{(e^x)(1)-(x)(xe^{x-1})}{e^{2x}}$

(d) none of the above

Correct answer: $\lim_{x\to\infty} \dfrac{1}{e^x}$



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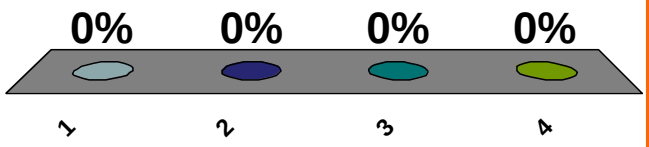
$$\lim_{x \to 0} \frac{e^x - 1 - x}{x^2} = ??$$

(a) ∞

(b) $\lim_{x \to 0} \frac{e^x - 1}{2x}$

(c) DNE

(d) none of the above



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Topic 0410

10 pts

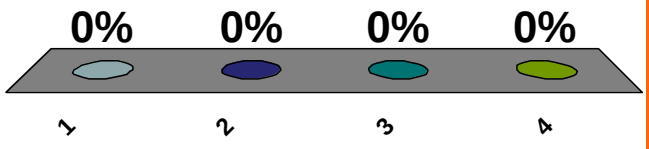
$$\lim_{x\to 0}\frac{e^x-1-x}{x^2}\underset{\text{l'H}}{=}\lim_{x\to 0}\frac{e^x-1}{2x}=\text{??}$$

(a) $\lim_{x\to 0}\frac{e^x}{2}$

(b) $\lim_{x\to 0}\frac{[2x][e^x]-[e^x-1][2]}{4x^2}$

(c) DNE

(d) none of the above



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Topic 0410

0 pts

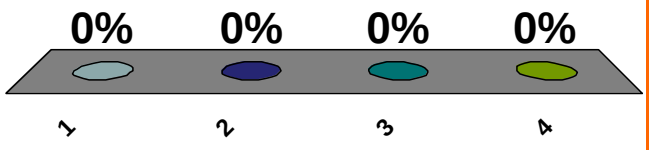
$$\lim_{x\to 0}\frac{e^x-1-x}{x^2}\underset{\text{I'H}}{=}\lim_{x\to 0}\frac{e^x-1}{2x}\underset{\text{I'H}}{=}\lim_{x\to 0}\frac{e^x}{2}=\text{??}$$

(a) ∞

(b) $\frac{1}{2}$

(c) DNE

(d) none of the above



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Topic 0410

10 pts

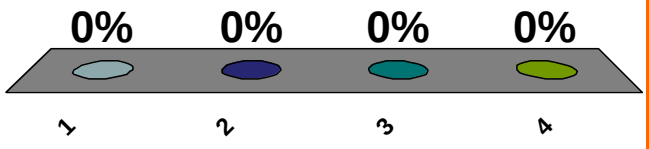
$$\lim_{x \to 0} \frac{e^x - x}{x^2} = ??$$

(a) ∞

(b) $\lim_{x \to 0} \frac{e^x - 1}{2x}$

(c) DNE

(d) none of the above



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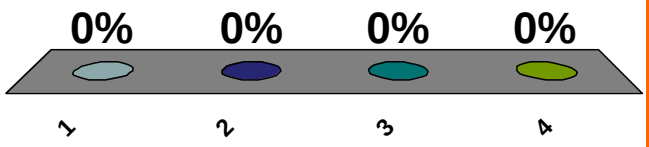
$$\lim_{x \to 0} \frac{e^x - x}{x^3} = ??$$

(a) ∞

(b) $\lim_{x \to 0} \frac{e^x - 1}{3x^2}$

(c) DNE

(d) none of the above



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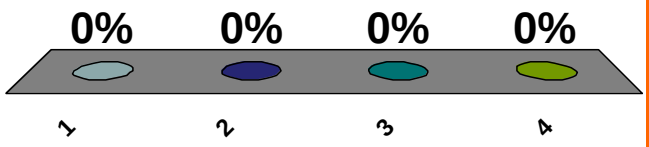
$$\lim_{x \to 0} \frac{e^x - x}{x^4} = ??$$

(a) ∞

(b) $\lim_{x \to 0} \frac{e^x - 1}{4x^3}$

(c) DNE

(d) none of the above



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0 of 5

Topic 0410

0 pts

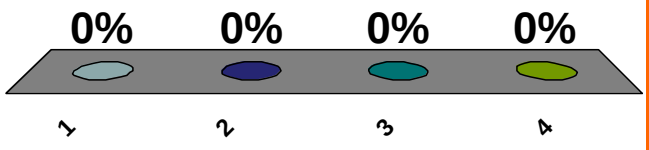
$$\lim_{x \to 0} \frac{e^x - x - 1}{x^4} = ??$$

(a) 0

(b) $\lim_{x \to 0} \frac{e^x - 1}{4x^3}$

(c) DNE

(d) none of the above



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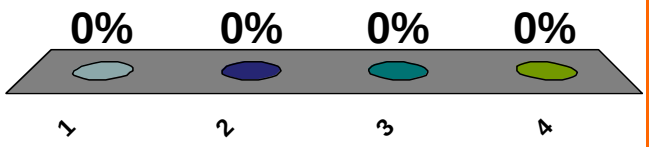
$$\lim_{x\to 0}\frac{e^x-x-1}{x^4} \overset{\text{l'H}}{=} \lim_{x\to 0}\frac{e^x-1}{4x^3} = ??$$

(a) $\lim_{x\to 0}\frac{e^x}{12x^2}$

(b) ∞

(c) DNE

(d) none of the above



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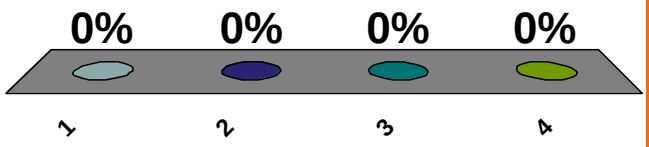
$$\lim_{x\to 0}\frac{e^x-x-1}{x^4}=\lim_{x\to 0}\frac{e^x-1}{4x^3}=\lim_{x\to 0}\frac{e^x}{12x^2}=??$$

(a) $\lim_{x\to 0}\frac{e^x}{24x}$

(b) ∞

(c) DNE

(d) none of the above



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$$\arctan' = \frac{1}{1+(\quad\bullet\quad)^2}$$

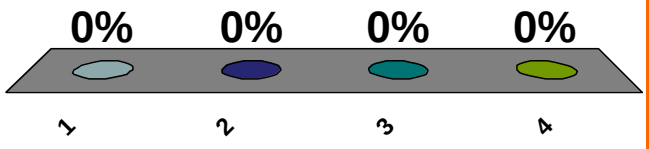
$(d/dx)(\arctan e^x) =$??

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

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

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

(d) none of the above



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$(d/dx)(e^{-2x})$

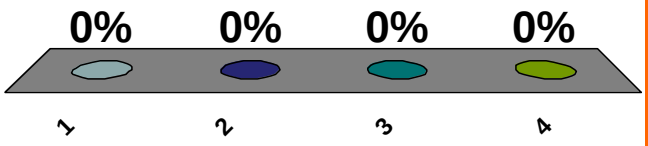
(a) e^{-2x}

(b) e^{-2}

(c) $2e^{2x}$

(d) none of the above

Correct answer: $-2e^{-2x}$



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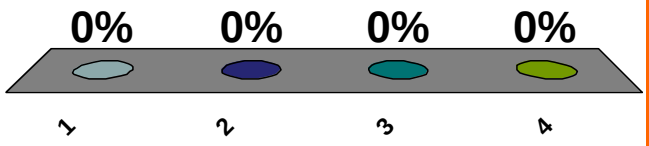
$$\frac{d}{dt}\left[\csc\theta\right]$$

(a) $-\left[\csc^2\theta\right]\left[\dot{\theta}\right]$

(b) $-\left[\csc\theta\right]\left[\cot\theta\right]$

(c) $-\left[\csc\theta\right]\left[\cot\theta\right]\left[\dot{\theta}\right]$

(d) none of the above



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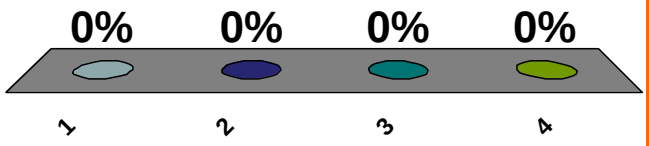
$$\frac{d}{dx}\left[\text{la}\left(x^2+4x-1\right)\right]$$

(a) $\text{la}\,(2x+4)$

(b) $\dfrac{2x+4}{x^2+4x-1}$

(c) $\left[\text{la}\left(x^2+4x-1\right)\right][2x+4]$

(d) none of the above



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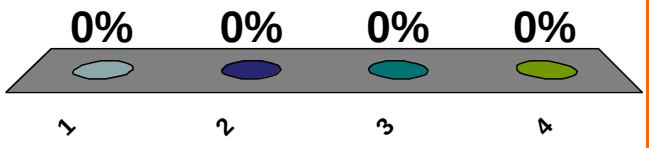
$$\frac{d}{dx}\left[\ln\left(\left(x^2+4x-1\right)^{1/3}\right)\right]$$

(a) $\frac{1}{3}\cdot\frac{2x+4}{x^2+4x-1}$

(b) $\left(\frac{2x+4}{x^2+4x-1}\right)^{1/3}$

(c) $\frac{1}{3}\left(\frac{2x+4}{x^2+4x-1}\right)^{-2/3}$

(d) none of the above



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Principle of log diff:

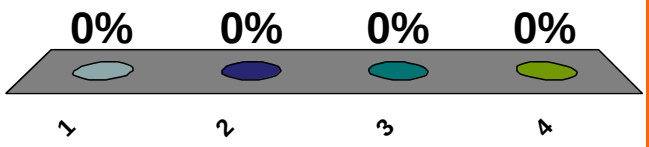
$$f'(x) = \text{??}$$

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

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

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

(d) none of the above



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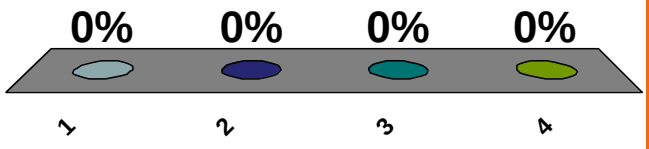
(a) $x(1+x^2)^{x-1}\left[\frac{d}{dx}(1+x^2)\right]$

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

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

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

(d) none of the above



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$$\log_{10}(x) = \frac{\ln x}{\ln 10}$$

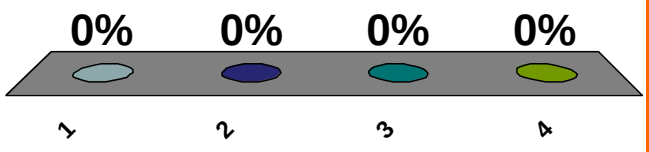
$$\frac{d}{dx}\left[\log_{10}(x)\right] \underset{x>0}{=} \text{??}$$

(a) $\dfrac{1/x}{1/10}$

(b) $\dfrac{1}{x(\ln 10)}$

(c) $\dfrac{\ln x}{1/10}$

(d) none of the above



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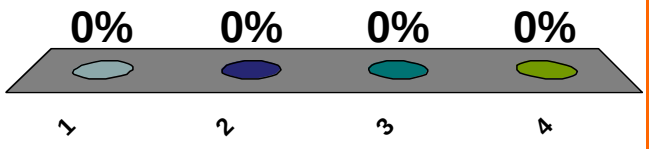
$$\frac{d}{dx}\left[x \sin x + 4 \cos x\right] = \text{??}$$

(a) $(1)(\cos x) + (0)(-\sin x)$

(b) $\sin x + x \cos x - 4 \sin x$

(c) $x \cos x - 4 \sin x$

(d) none of the above



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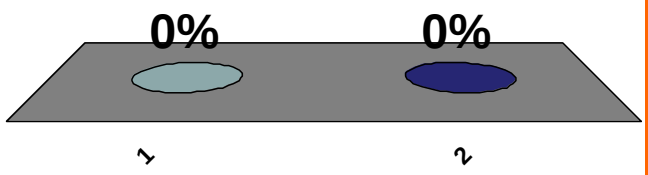
T or F:

$f' > 0$ on $(2, 3)$

$\Rightarrow$ f incr. on $(2, 3)$

(a) True

(b) False



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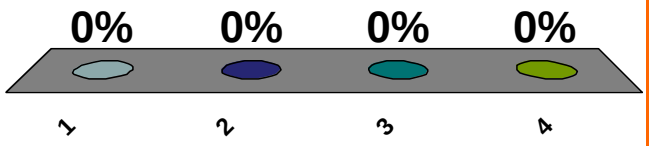
$$\frac{d}{dx}\left[(\ln 8)(\sin 3)\right] = ??$$

(a) 0

(b) $(1/8)(\sin 3) + (\ln 8)(\cos 3)$

(c) $(1/8)(\cos 3)$

(d) none of the above



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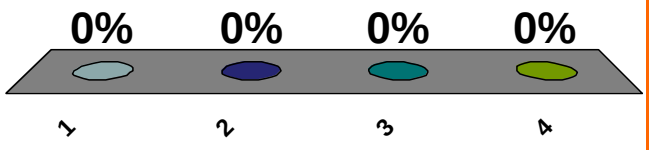
$$\frac{d}{dx}\left[(\ln 5)x\right] = ??$$

(a) 0

(b) $x/5$

(c) $\ln 5$

(d) none of the above



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SAVE THE SESSION DATA

RETURN TO PRESENTATION