Calculus
F 22 February 2013

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

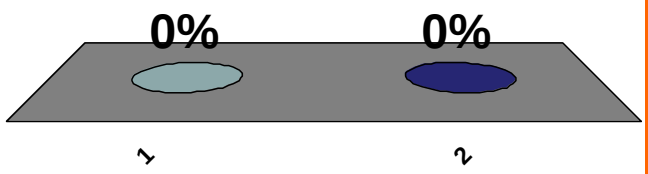
Topics covered are in bounds

QUIZ
FOLLOWS

$1 + 1 = ??$

(a) 1

(b) 2



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$$f(x) = e^x + x^5$$

slope of tangent line at $(1, e+1)$?

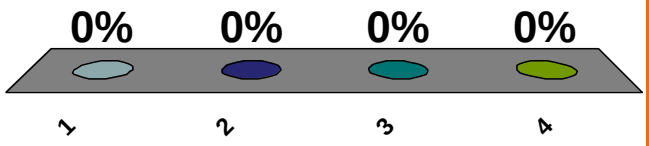
$$f'(x) = e^x + 5x^4$$

(a) $e + 1$

(b) $e + 5$

(c) $e^x + 5x^4$

(d) none of the above



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$$h'(x) = [f'(x)][g(x)] + [f(x)][g'(x)]$$

$$h'(4) = [f'(4)][g(4)] + [f(4)][g'(4)]$$

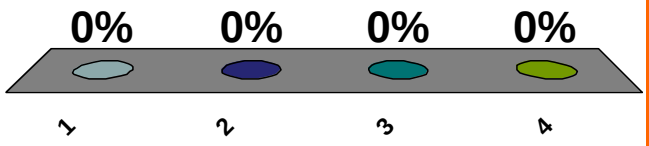
$$f(4) = 7,\ f'(4) = 1$$
$$g(4) = 6,\ g'(4) = 3$$
$$h(x) = [f(x)][g(x)]$$
$$h(4) = ??,\ h'(4) = ??$$

(a) 42, 3

(b) 13, 27

(c) 42, 27

(d) none of the above



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$$h'(x) = \frac{[g(x)][f'(x)] - [f(x)][g'(x)]}{[g(x)]^2}$$

$f(4) = 7,\ f'(4) = 1$
$g(4) = 6,\ g'(4) = 3$
$h(x) = [f(x)]/[g(x)]$
$h(4) = ??,\ h'(4) = ??$

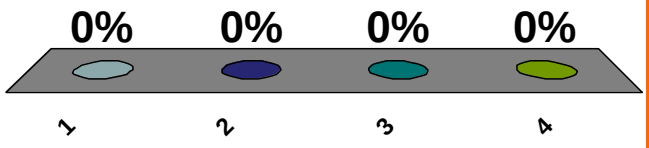
$$h'(4) = \frac{[g(4)][f'(4)] - [f(4)][g'(4)]}{[g(4)]^2}$$

(a) $7/6,\ (6 - 21)/3^2$

(b) $7/6,\ (21 - 6)/3^2$

(c) $7/6,\ (6 - 21)/6^2$

(d) none of the above



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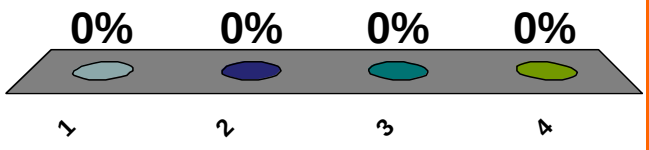
$$\frac{d}{dx}\left[3\sin x + 4\cos x\right] = \text{??}$$

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

(b) $3\cos x + 4\sin x$

(c) $3\cos x - 4\sin x$

(d) none of the above



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

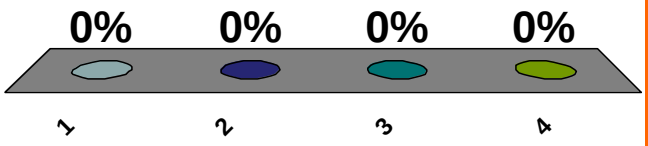
(a) $(1)(\cos x) + (0)(-\sin x)$

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

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

(d) none of the above

Correct: $\sin x + x \cos x - 4 \sin x$



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END
QUIZ

END
CLASS

$$\frac{d}{dx}[\sin x] = \cos x$$

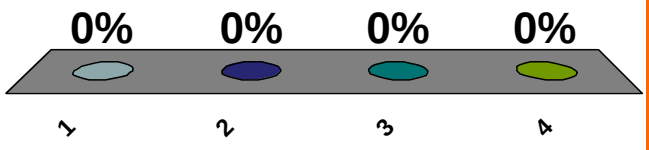
$$\frac{d}{dx}\left[(x^2)(\sin x)\right] = ??$$

(a) $(2x)(\cos x)$

(b) $(2x)(-\cos x)$

(c) $(2x)(\sin x) + (x^2)(\cos x)$

(d) none of the above



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0 of 5

Topic 0340

0 pts

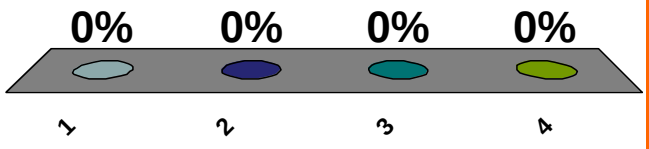
$$\frac{d}{dx}\left[\frac{\sin x}{x}\right] = ??$$

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

(b) $\dfrac{(\sin x)(1) - (x)(\cos x)}{x^2}$

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

(d) none of the above



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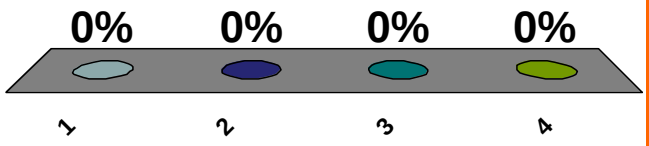
$$\frac{d}{d\theta}\left[\csc\theta\right]$$

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

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

(c) $-\left[\csc^2\theta\right]$

(d) none of the above



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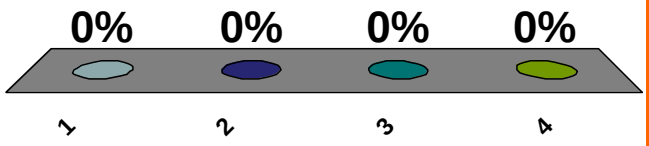
$$\frac{d}{dx}\left[(x^2)(\sin x)\right] = ??$$

(a) $(2x)(\cos x) + (x^2)(\sin x)$

(b) $(2x)(\sin x) + (x^2)(\cos x)$

(c) $(2x)(\cos x)$

(d) none of the above



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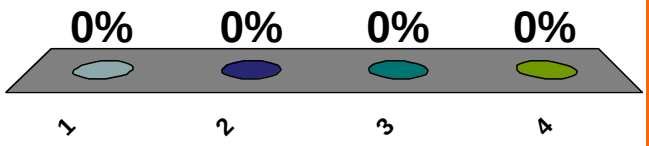
$$\frac{d}{dx}\left[\frac{\sin x}{x^2}\right] = ??$$

(a) $\dfrac{(x^2)(\cos x) - (\sin x)(2x)}{x^4}$

(b) $\dfrac{\cos x}{2x}$

(c) $\dfrac{(\sin x)(2x) - (x^2)(\cos x)}{x^4}$

(d) none of the above



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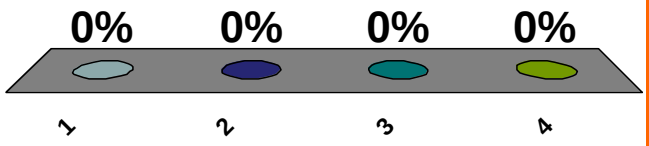
$$\frac{d}{dx}\left[x^{1/2}\right] = ??$$

(a) DNE

(b) [1/2] $\left[x^{-1/2}\right]$

(c) $x^{1/2}(\ln x)$

(d) none of the above



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$$\frac{d}{dx}\left[7x^2 + 4x - 1\right] = ??$$

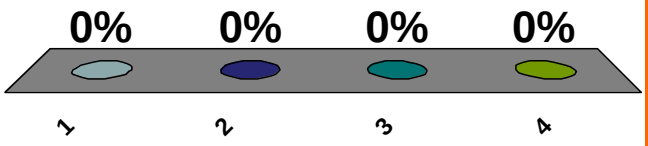
(a) $7x + 4$

(b) $7x^3 + 4x^2 - x$

(c) $14x - 1$

(d) none of the above

Correct answer: $14x + 4$



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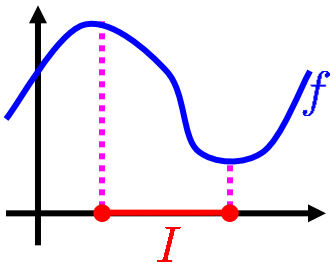
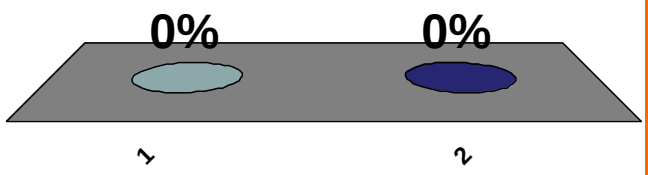


T or F:
f decr. on I

(a) True

(b) False



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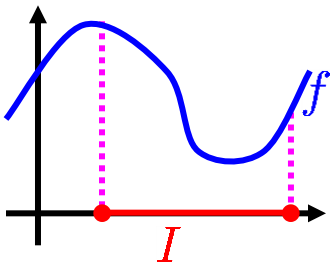
Topic 0290

0 pts



T or F:
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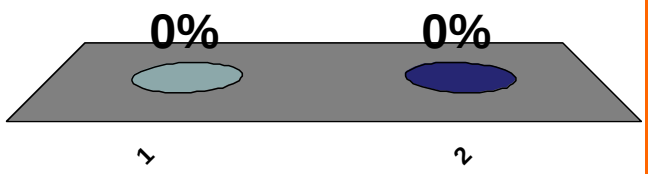
(a) True

(b) False



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Topic 0290

0 pts

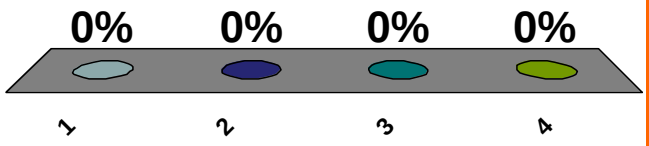
$$\frac{d}{dx}[\cos 7] = ??$$

(a) 0

(b) $\sin 7$

(c) $-\sin 7$

(d) none of the above



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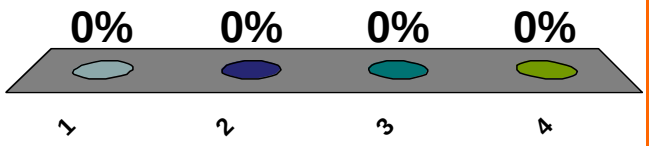
$$\frac{d}{dx}\left[(e^8)(\sin 3)\right] = ??$$

(a) $(e^8)(\cos 3)$

(b) $(e^8)(\sin 3) + (e^8)(\cos 3)$

(c) 0

(d) none of the above



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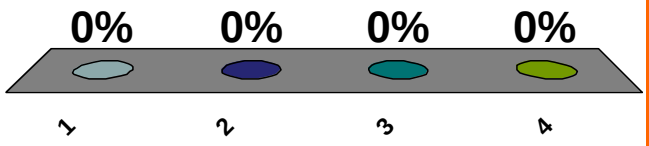
$$\frac{d}{dx}\left[(\ln 8)(\sin 3)\right] = ??$$

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

(b) 0

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

(d) none of the above



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$$\frac{d}{dx}\left[7^{1/2}\right] = ??$$

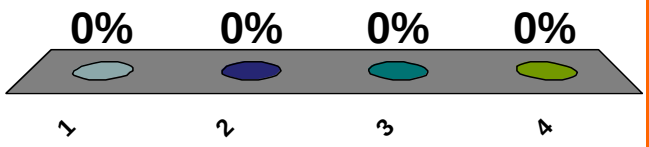
(a) DNE

(b) $[1/2]\left[7^{-1/2}\right]$

(c) $7^{1/2}(\ln 7)$

(d) none of the above

Correct answer: 0



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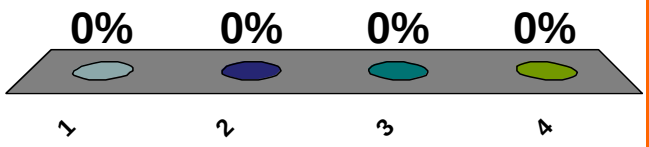
$$\frac{d}{dx}\left[x^{1/2}\right] = ??$$

(a) DNE

(b) [1/2] $\left[x^{-1/2}\right]$

(c) $x^{1/2}(\ln x)$

(d) none of the above



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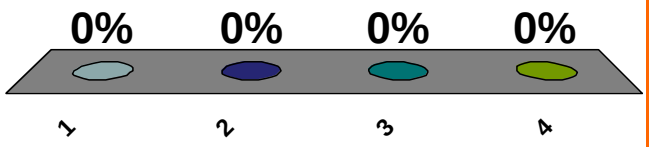
$$\frac{d}{dx}[\ln 5] = ??$$

(a) DNE

(b) 1/5

(c) 0

(d) none of the above



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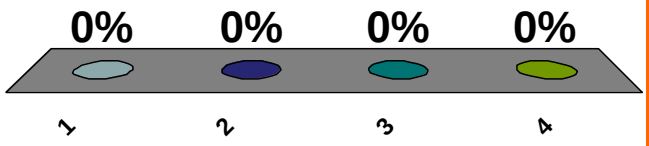
$$\frac{d}{dx}\left[(\ln 5)x\right] = ??$$

(a) $\ln 5$

(b) 0

(c) $x/5$

(d) none of the above



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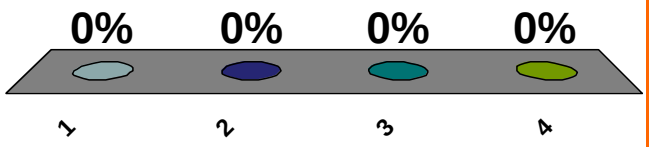
$$\frac{d}{dx}\left[(\ln 5)x\right] = ??$$

(a) 0

(b) $\ln 5$

(c) $x/5$

(d) none of the above



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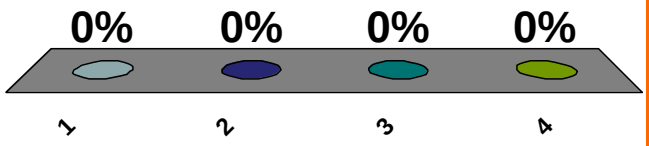
$$\frac{d}{dx}\left[e^{-2}\right] = ??$$

(a) 0

(b) $-2e^{-2}$

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

(d) none of the above



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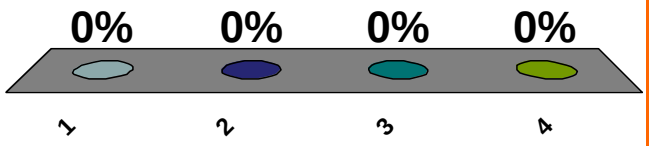
$$\frac{d}{dx}\left[e^{-2}x\right] = ??$$

(a) 0

(b) e^{-2}

(c) $-2e^{-3}x$

(d) none of the above



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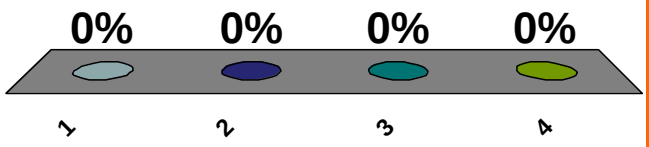
$$\frac{d}{dx}\left[x^{3/2}\right]_{x=0} \neq ??$$

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

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

(c) $(3/2)x^{1/2}$

(d) none of the above



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$$f(x) = x^3, \quad f'(x) = 3x^2$$

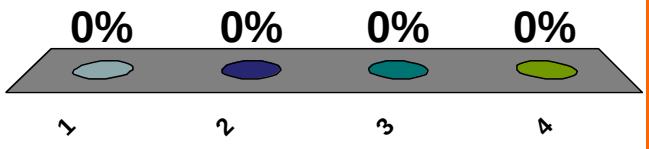
eq'n of tan. line at $(2\ ,\ 8)$

(a) $y - 2 = 3x^2(x - 8)$

(b) $y - 8 = 3x^2(x - 2)$

(c) $y - 8 = 12(x - 2)$

(d) none of the above



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

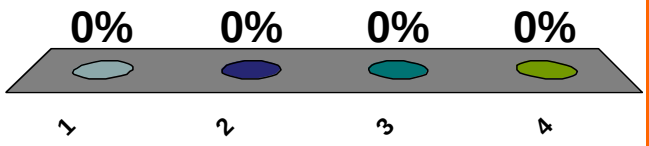
$f(1) = 200$
$f(3) = 800$
avg rate of change?

(a) $(800 - 200)/(3 - 1)$

(b) $(3 - 1)/(800 - 200)$

(c) $(200 - 800)/(3 - 1)$

(d) none of the above



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

$$z = e^t + 4t^3$$

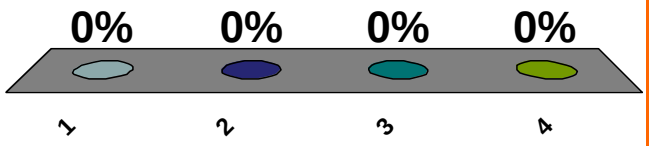
$$\triangle z = ??$$

(a) $\left[e^{t+(\triangle t)} + 4(t + (\triangle t))^3\right] + \left[e^t + 4t^3\right]$

(b) $\left[e^{t+(\triangle t)} - 4(t + (\triangle t))^3\right] + \left[e^t - 4t^3\right]$

(c) $\left[e^{t+(\triangle t)} + 4(t + (\triangle t))^3\right] - \left[e^t + 4t^3\right]$

(d) none of the above



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21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

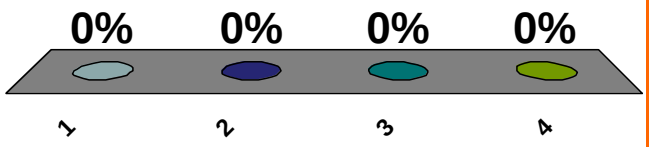
$$\frac{d}{dx}[\ln 5] = ??$$

(a) DNE

(b) 1/5

(c) 0

(d) none of the above



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21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

$$f(x) = x^3, \quad f'(x) = 3x^2$$

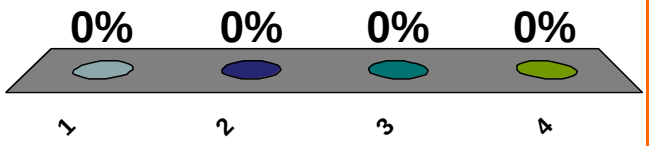
eq'n of tan. line at $(2\ ,\ 8)$

(a) $y - 2 = 3x^2(x - 8)$

(b) $y - 8 = 3x^2(x - 2)$

(c) $y - 8 = 12(x - 2)$

(d) none of the above



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21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

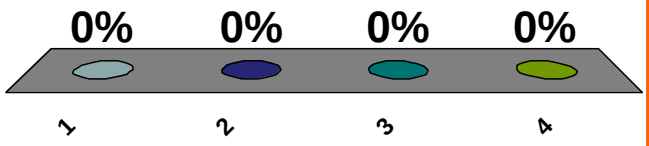
$f(1) = 200$
$f(3) = 800$
avg rate of change?

(a) $(800 - 200)/(3 - 1)$

(b) $(3 - 1)/(800 - 200)$

(c) $(200 - 800)/(3 - 1)$

(d) none of the above



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21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

0 of 5

Topic 0270

0 pts

$$z = e^t + 4t^3$$

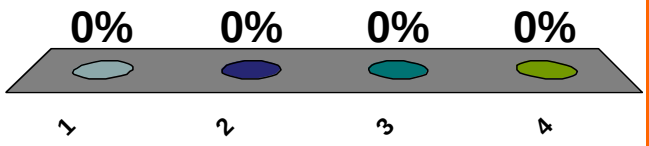
$$\triangle z = ??$$

(a) $\left[e^{t+(\triangle t)} + 4(t + (\triangle t))^3\right] + \left[e^t + 4t^3\right]$

(b) $\left[e^{t+(\triangle t)} - 4(t + (\triangle t))^3\right] + \left[e^t - 4t^3\right]$

(c) $\left[e^{t+(\triangle t)} + 4(t + (\triangle t))^3\right] - \left[e^t + 4t^3\right]$

(d) none of the above



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21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

SAVE THE SESSION DATA

RETURN TO PRESENTATION