

Calculus

F 28 September 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

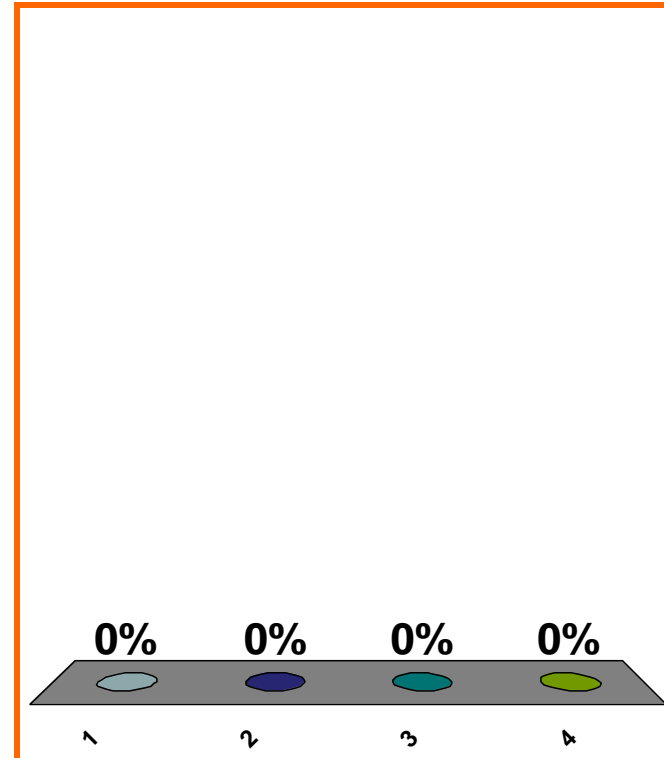
$$\frac{d}{dx} [x^{3/2}]_{x \neq 0} = ??$$

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

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

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

(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

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Topic 0310

10 pts

5

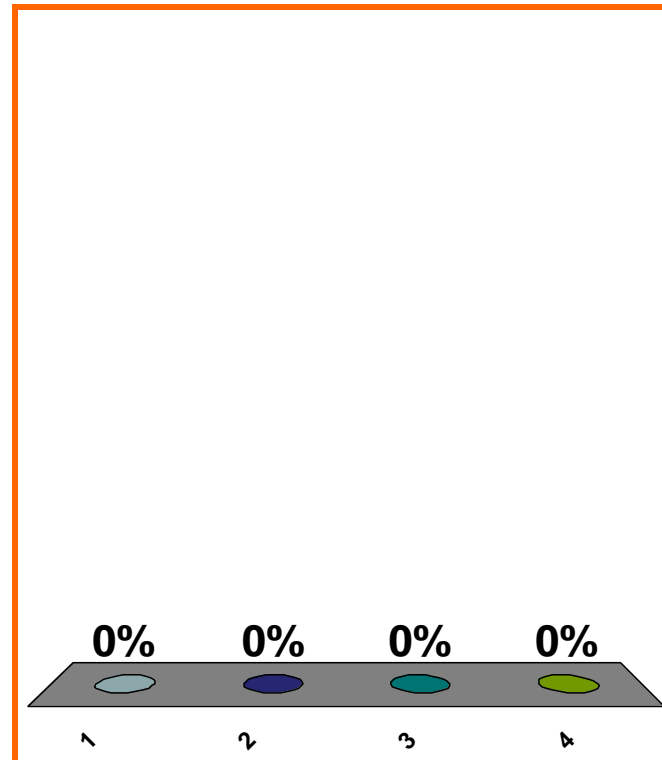
$$\frac{d}{dx} [7x^2 + 4x - 1] = ??$$

(a) $7x + 4$

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

(c) $14x + 4$

(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

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

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

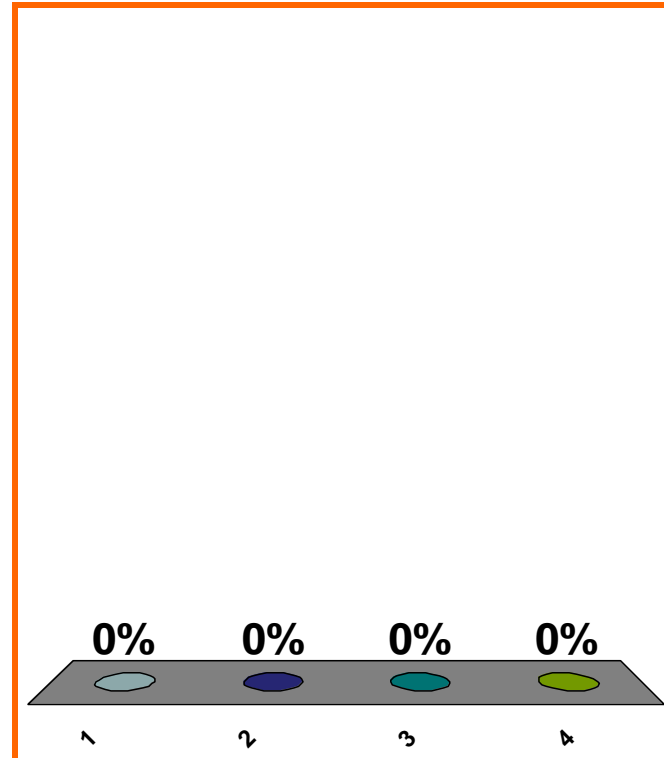
(a) $y - 2 = 3x^2(x - 8)$

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

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

(d) none of the above

Correct: $y - 8 = 12(x - 2)$



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
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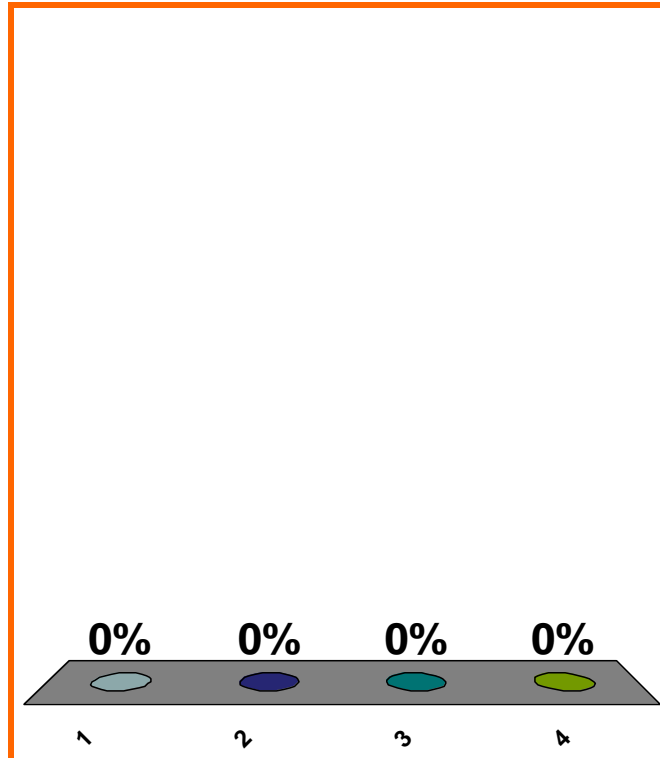
$$\lim_{x \rightarrow -\infty} \left[\frac{\sqrt{x^2 + 1}}{3x} \right] = ??$$

(a) $-1/3$

(b) $1/3$

(c) DNE

(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

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Topic 0240

10 pts

8

$$\lim_{x \rightarrow 5} \left(\frac{3x^3 - 2x + 8}{x - 5} \right)$$

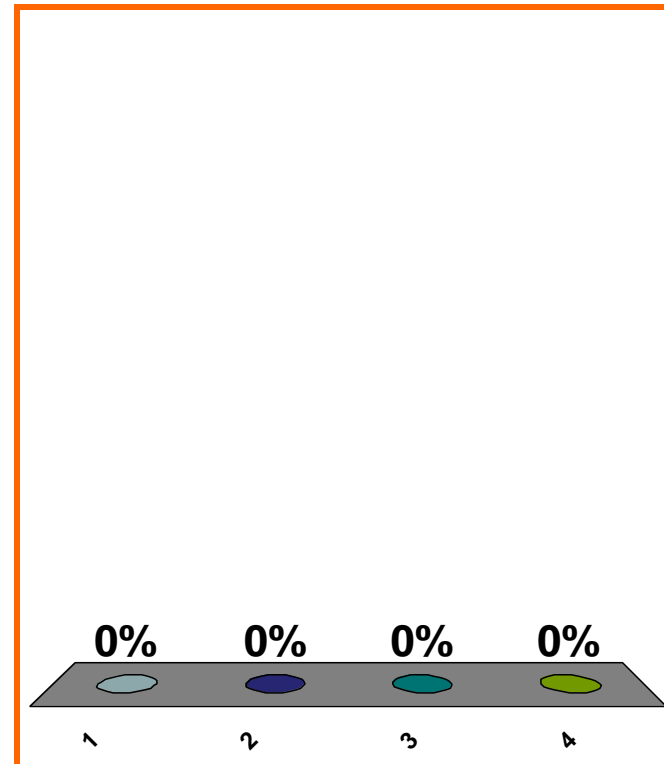
(a) $(3)(5^3) - (2)(5) + 8$

(b) $-\infty$

(c) ∞

(d) none of the above

Correct answer: DNE



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

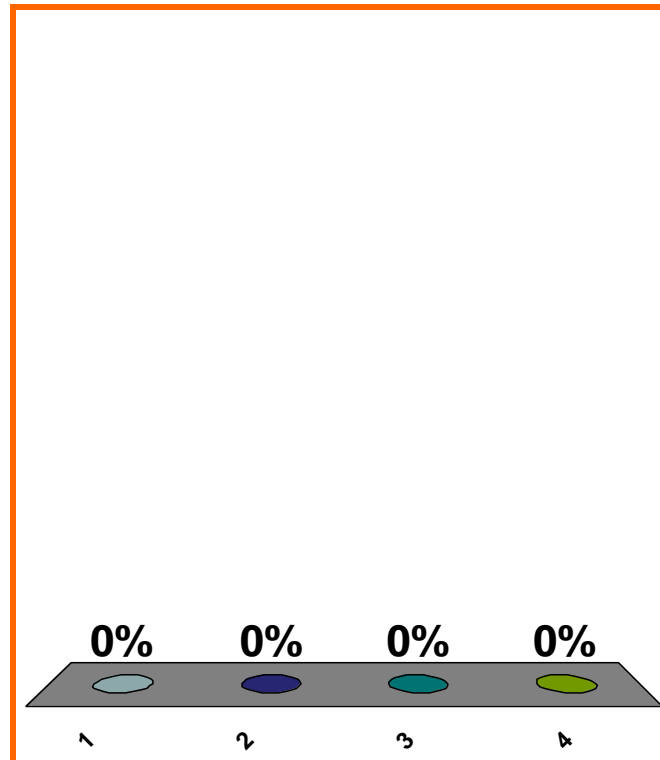
$$\lim_{x \rightarrow -\infty} \left[\frac{100x^3 + 2x - 1}{x^4 - x^3 + x^2 + 1} \right] = ??$$

(a) ∞

(b) $-\infty$

(c) 0

(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

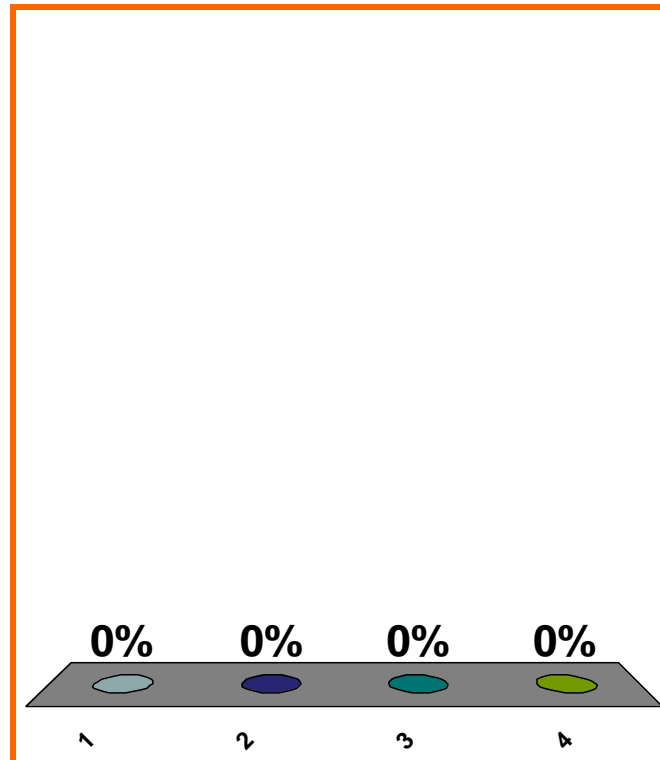
$$\lim_{x \rightarrow -\infty} \left[\frac{100x^3 + 2x - 1}{x + 1} \right] = ??$$

(a) 100

(b) $-\infty$

(c) ∞

(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

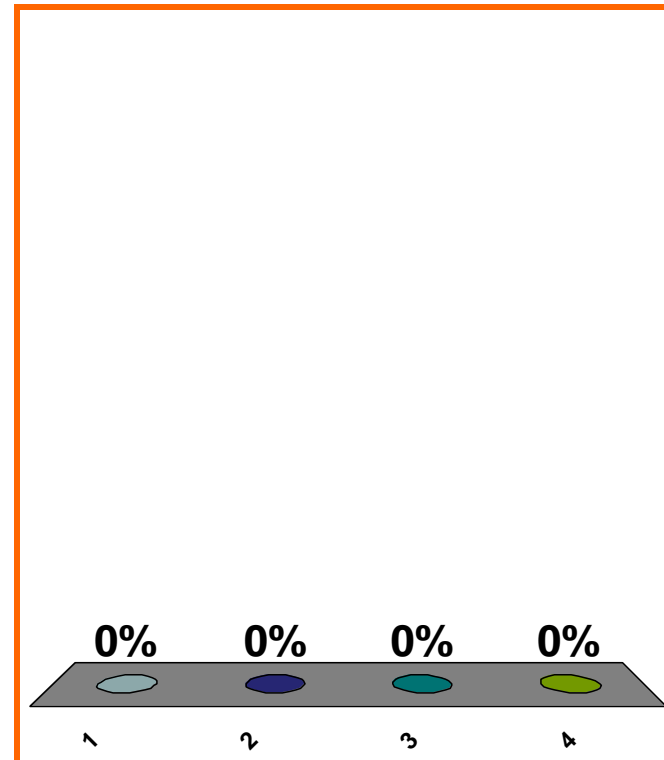
$\ln 0 = ??$

(a) 0

(b) DNE

(c) 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

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Topic 0260

0 pts

12

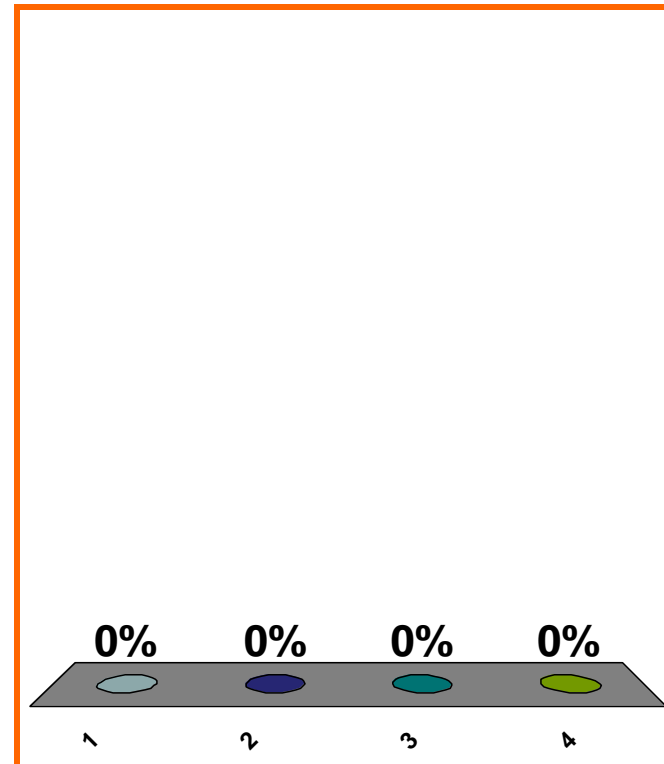
$$\log_{10}(0.01) = ??$$

(a) -2

(b) -1

(c) 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

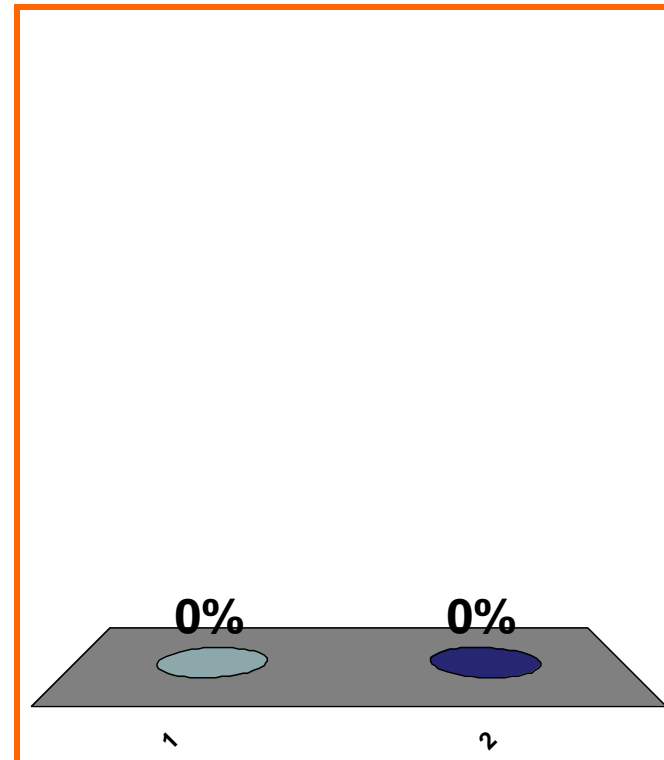
T or F:

f incr. on $(2, 3)$

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

(a) True

(b) False



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

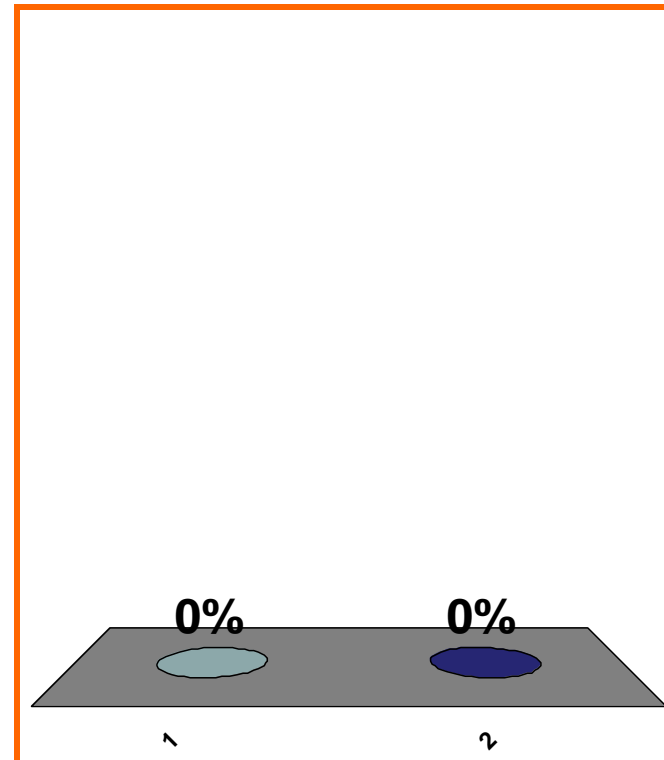
T or F:

f incr. on $(2, 3)$

$\Rightarrow f' \geq 0$ on $(2, 3)$

(a) True

(b) False



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

T or F:

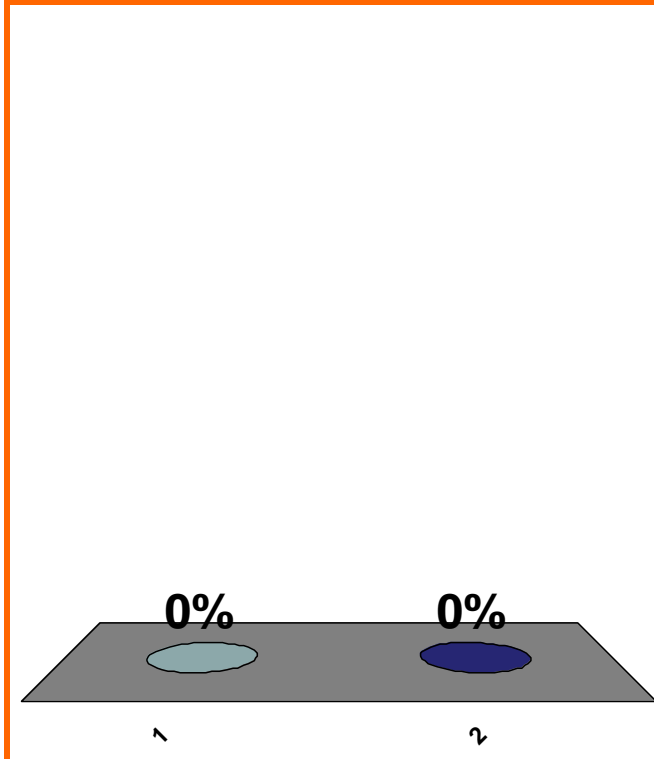
f incr. on $(2, 3)$

f diff. on $(2, 3)$

$\Rightarrow f' \geq 0$ on $(2, 3)$

(a) True

(b) False



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

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Topic 0290

0 pts

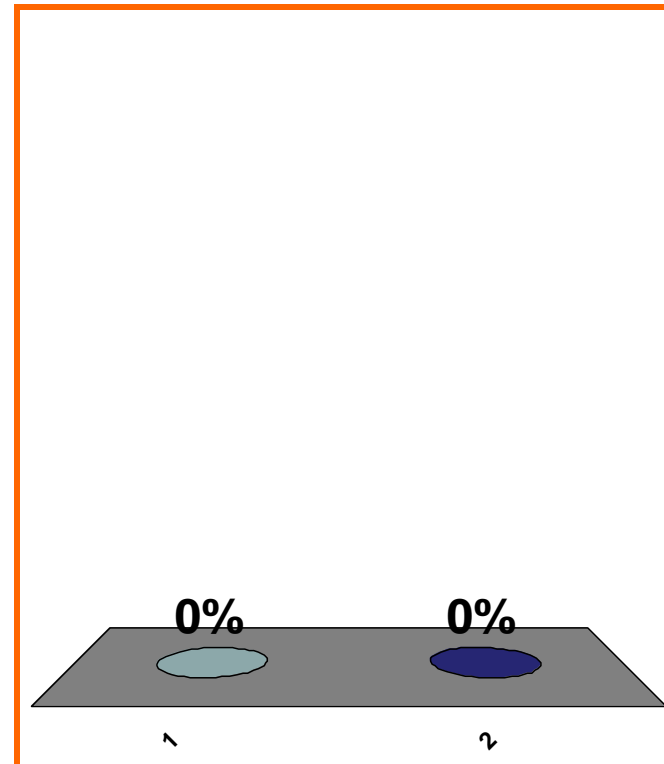
T or F:

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



(a) True

(b) False



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

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Topic 0290

10 pts

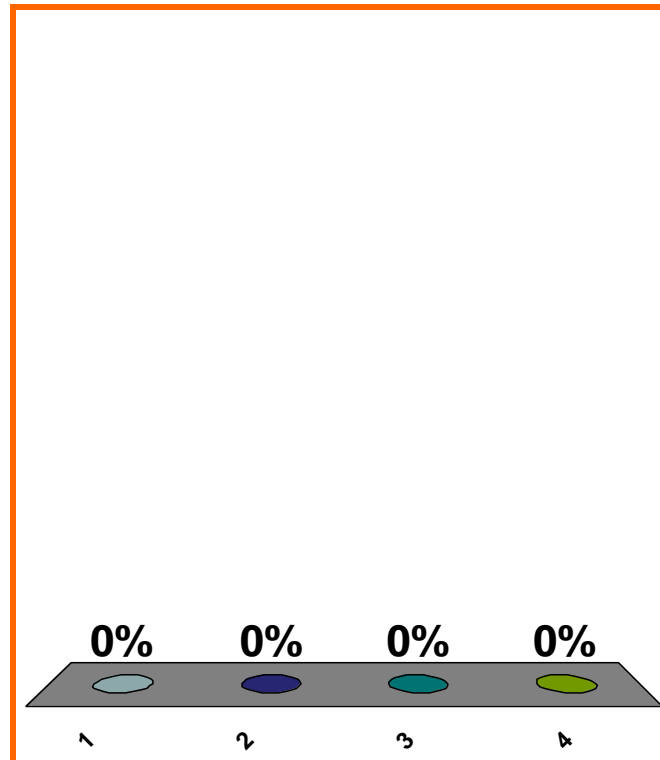
$$\frac{d}{dx} [\cos 7] = ??$$

(a) 0

(b) $\sin 7$

(c) $-\sin 7$

(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

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Topic 0310

0 pts

18

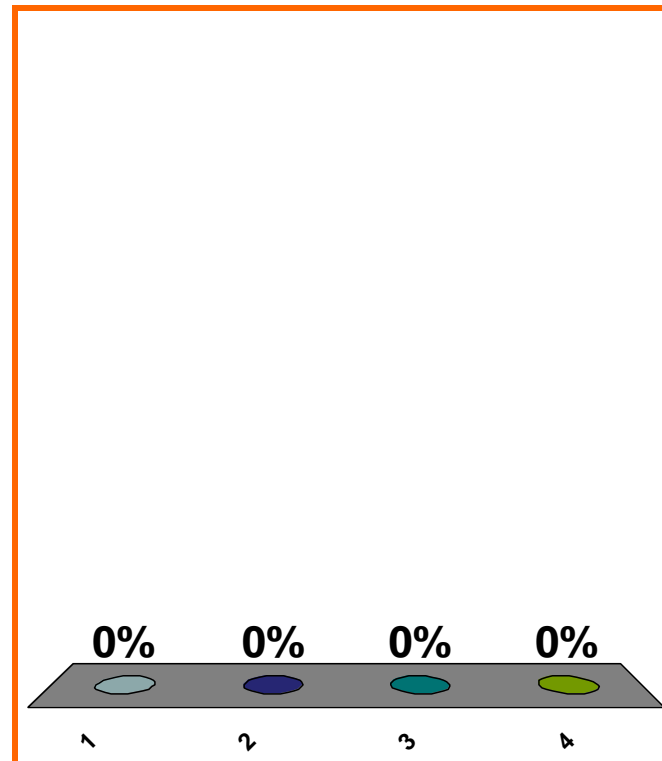
$$\frac{d}{dx} [(e^8)(\sin 3)] = ??$$

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

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

(c) 0

(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

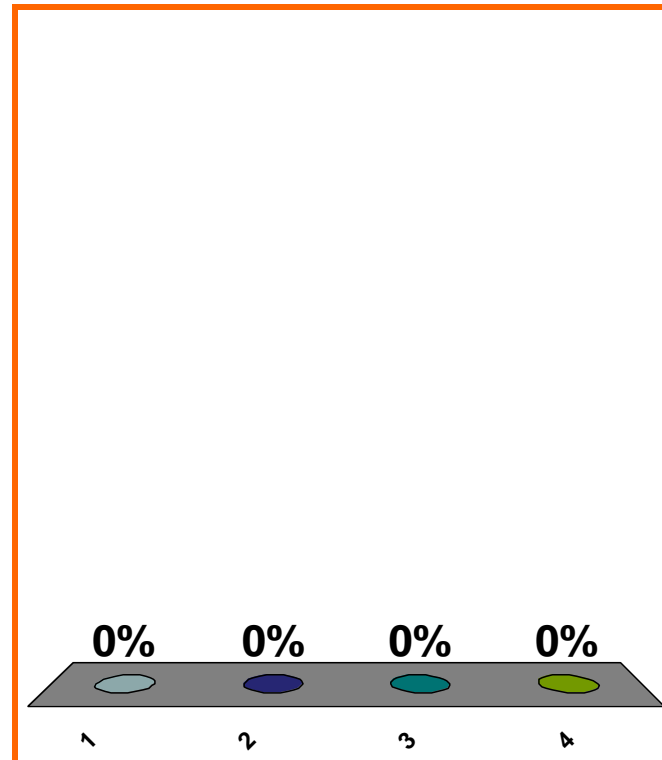
$$\frac{d}{dx} [(\ln 8)(\sin 3)] = ??$$

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

(b) 0

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

(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

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Topic 0310

0 pts

20

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

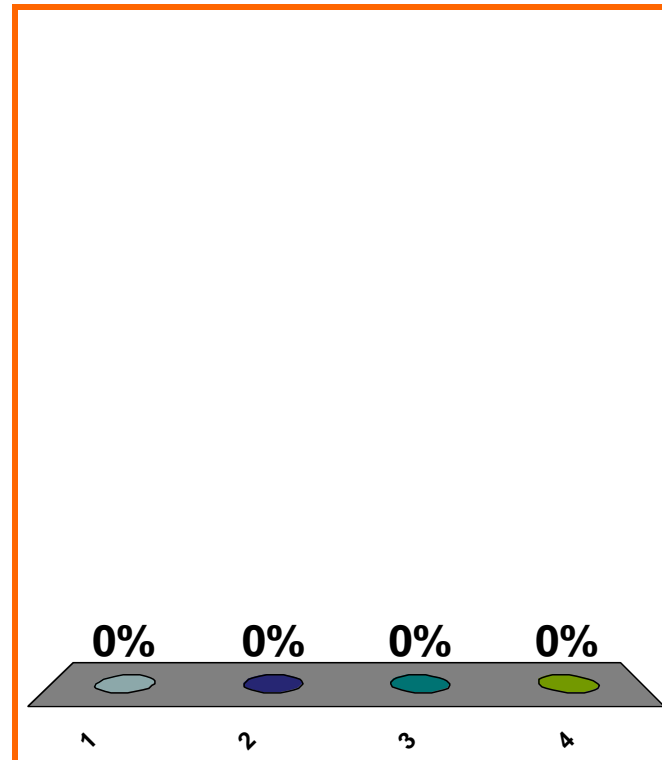
(a) DNE

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

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

(d) none of the above

Correct answer: 0



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

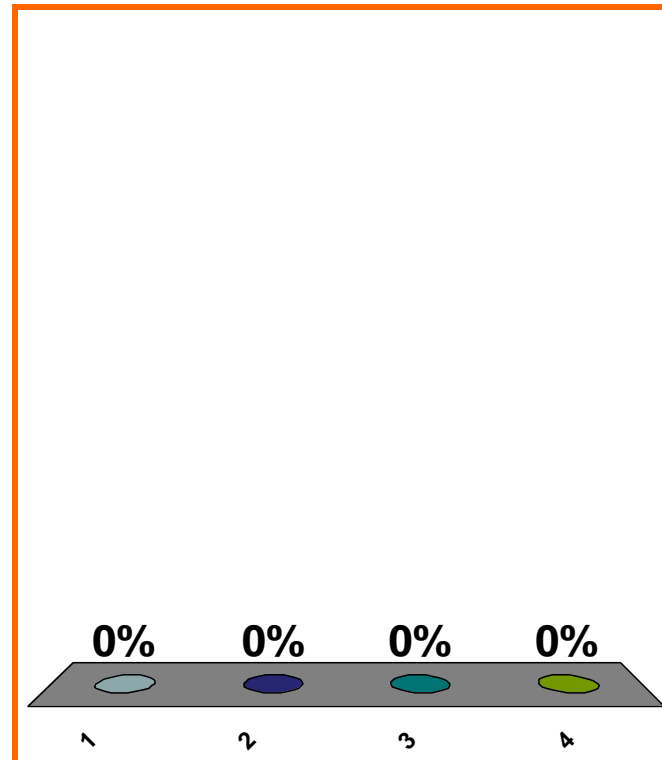
$$\frac{d}{dx} [x^{1/2}] = ??$$

(a) DNE

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

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

(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

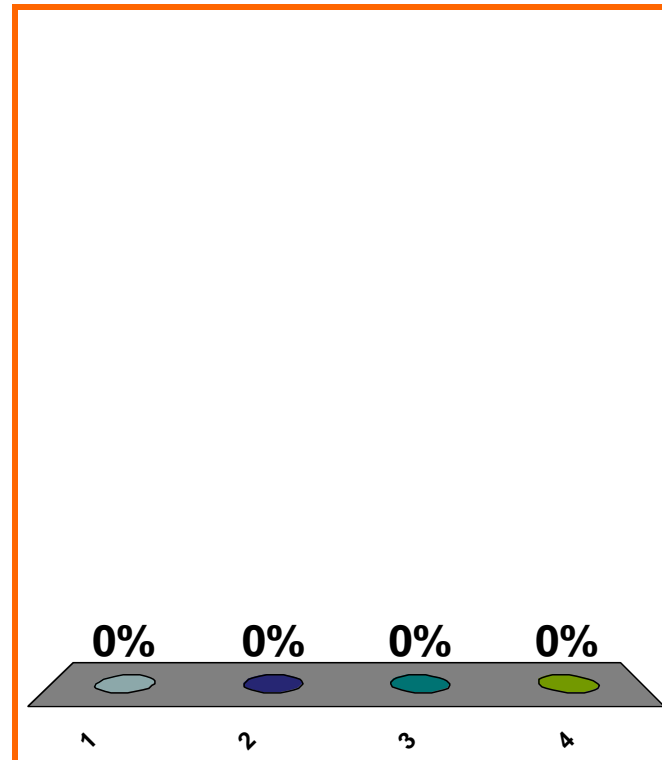
$$\frac{d}{dx} [\ln 5] = ??$$

(a) DNE

(b) 1/5

(c) 0

(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

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Topic 0310

10 pts

23

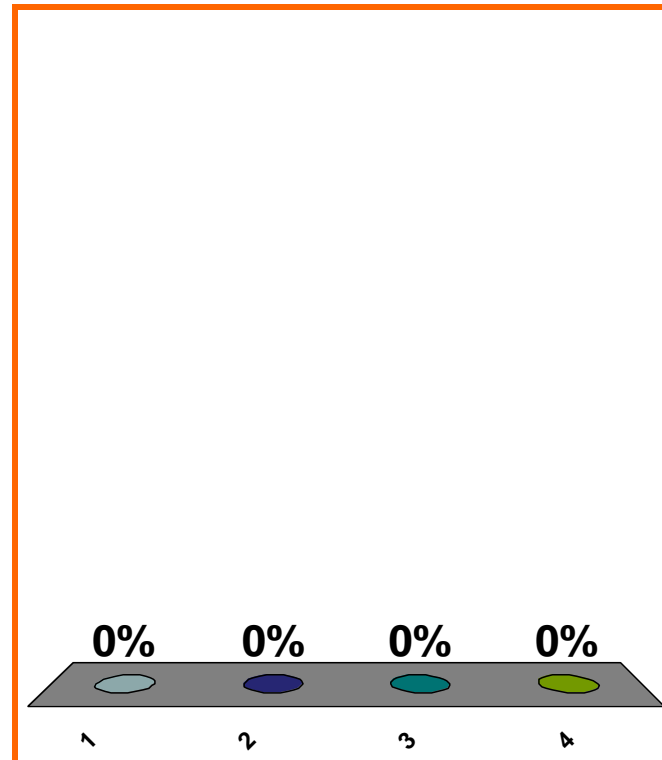
$$\frac{d}{dx} [(\ln 5)x] = ??$$

(a) $\ln 5$

(b) 0

(c) $x/5$

(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

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Topic 0310

0 pts

24

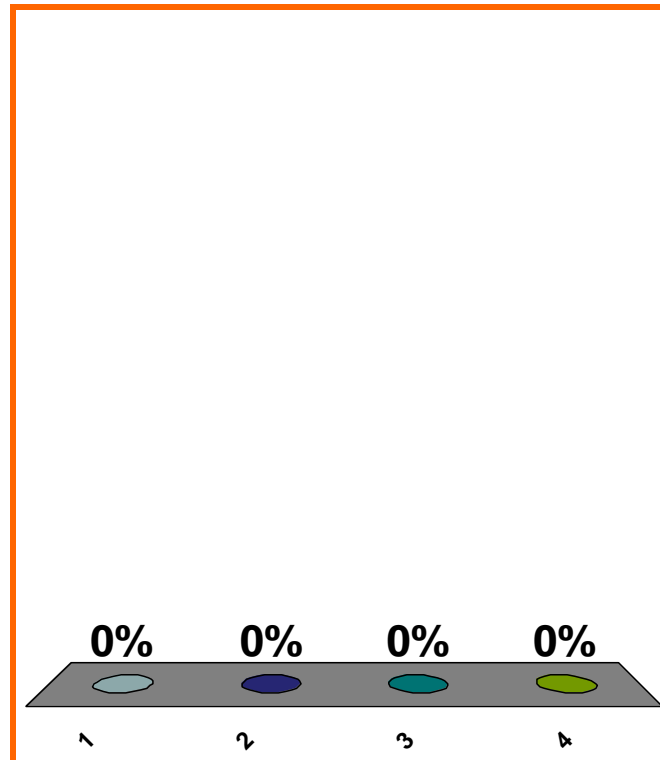
$$\frac{d}{dx} [e^{-2}] = ??$$

(a) 0

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

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

(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

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Topic 0310

0 pts

25

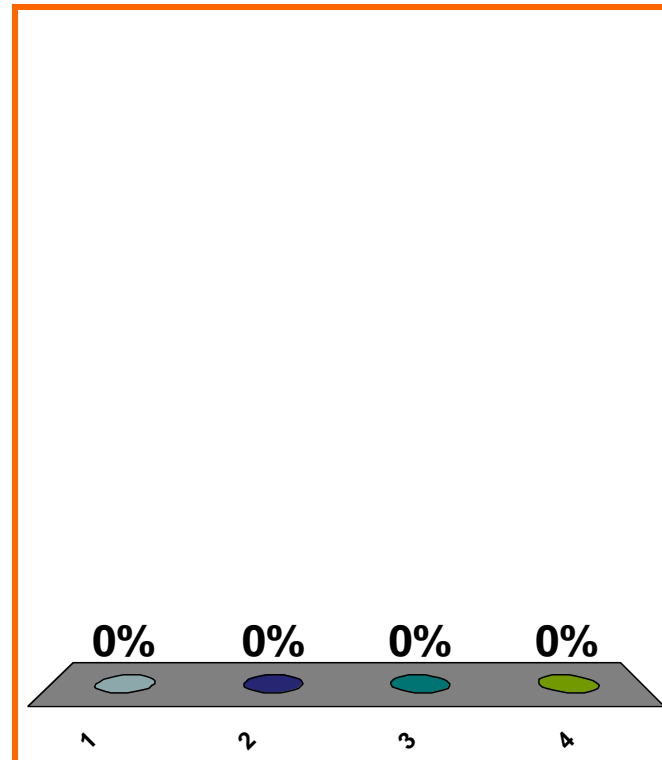
$$\frac{d}{dx} [e^{-2x}] = ??$$

(a) 0

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

(c) e^{-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

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Topic 0310

10 pts

26

SAVE THE
SESSION
DATA

RETURN TO
PRESENTATION

additivity of error

homogeneous vs. inhomogeneous

homog. linear polynomial in x, y, z

LOOK AHEAD

d/dt and d/ds

differentiation

differentiation w.r.t. x of expr. with y

log diff