

Calculus

F 2 November 2012

RESET THE
SESSION

SET THE
PARTICIPANT
LIST

PLUG IN THE
RECEIVER

Boxed answers agree with
TurningPoint answers

Points agree with
TurningPoint points

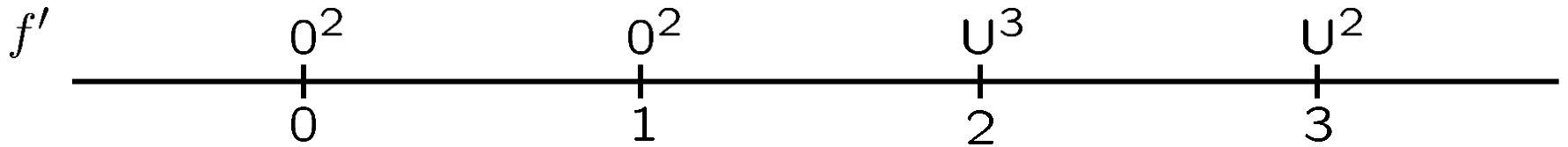
Points total to 100

Topics covered are in bounds

QUIZ
FOLLOWS

max intervals of incr

for f , if $f'(x) = x^2(x-1)^2/(x-2)^3(x-3)^2$.



(a) $[0, \infty)$

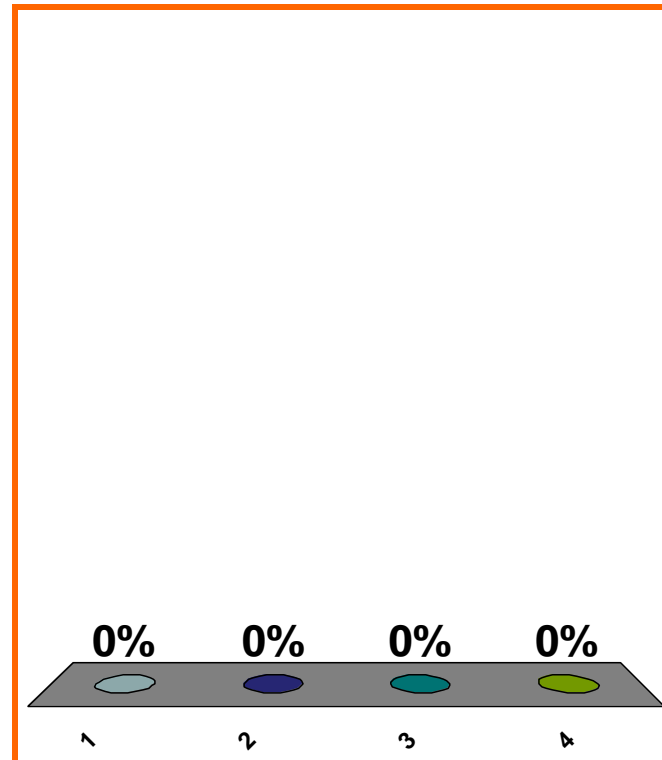
NOTE:
 $f(2)$ and $f(3)$
DNE

(b) $[1, \infty)$

(c) $[2, \infty)$

(d) none of the above

Correct: $(2, 3)$ and $(3, \infty)$



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

0 of 5

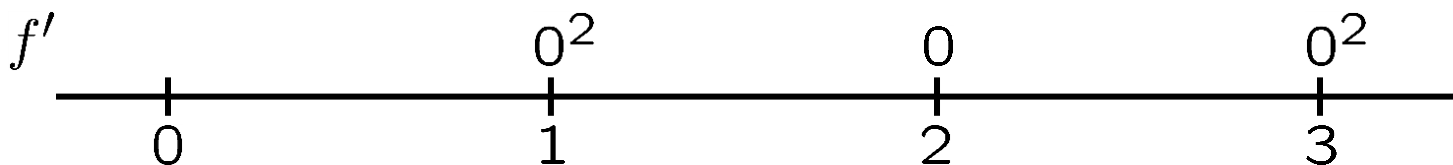
Topic 0470

0 pts

5

max interval of decr.

for f , if $f'(x) = -(x-1)^2(x-2)(x-3)^2$.

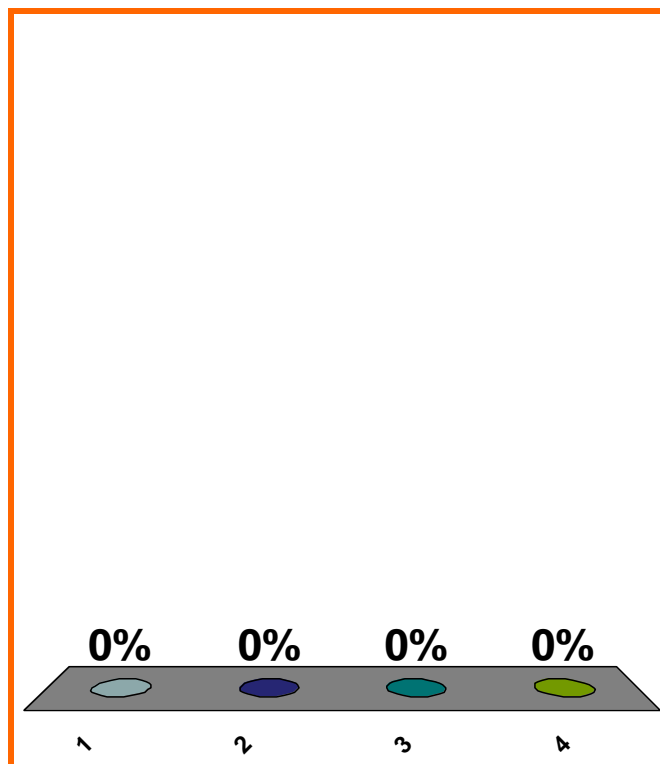


(a) $[1, \infty)$

(b) $[2, \infty)$

(c) $[3, \infty)$

(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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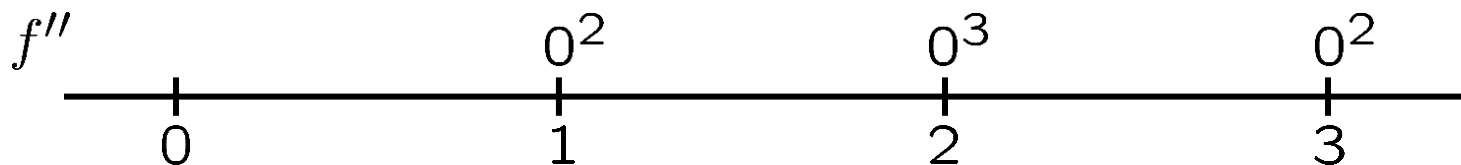
Topic 0470

10 pts

6

max intervals of cc dn

for f , if $f''(x) = -e^{-x}(x-1)^2(x-2)^3(x-3)^2$.

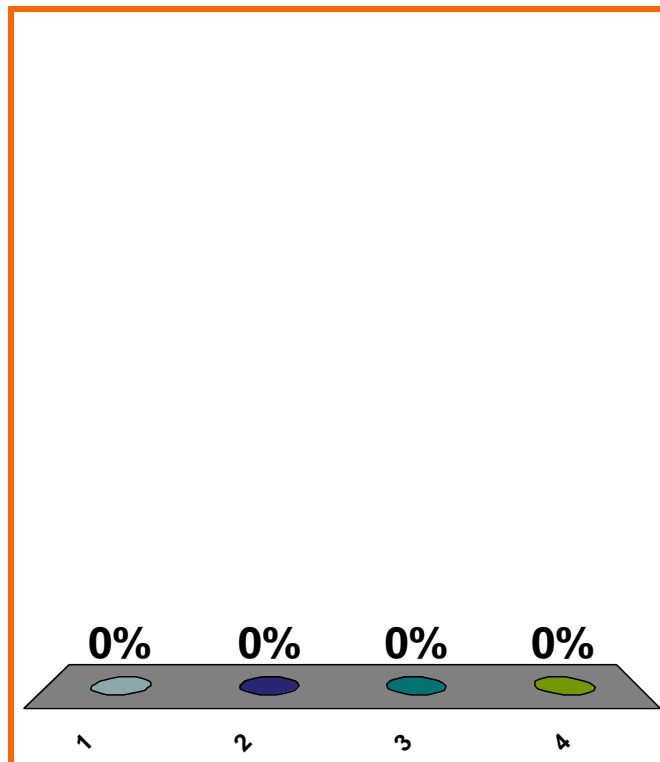


(a) $[0, \infty)$

(b) $[1, \infty)$

(c) $[2, \infty)$

(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 0470

0 pts

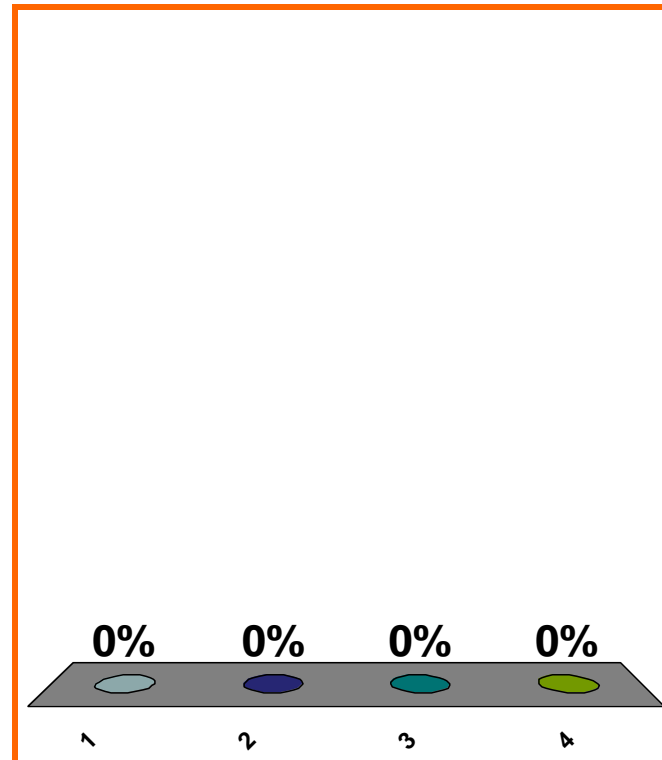
Newton's method formula to solve $2x^3 - 4x + 8 = 0$.

$$(a) \quad x_{n+1} = x_n - \frac{2x_n^3 - 4x_n + 8}{6x_n^2 - 4}$$

$$(b) \quad x_{n+1} = x_n + \frac{6x_n^2 - 4}{2x_n^3 - 4x_n + 8}$$

$$(c) \quad x_{n+1} = x_n - \frac{6x_n^2 - 4}{2x_n^3 - 4x_n + 8}$$

(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 0530

10 pts

8

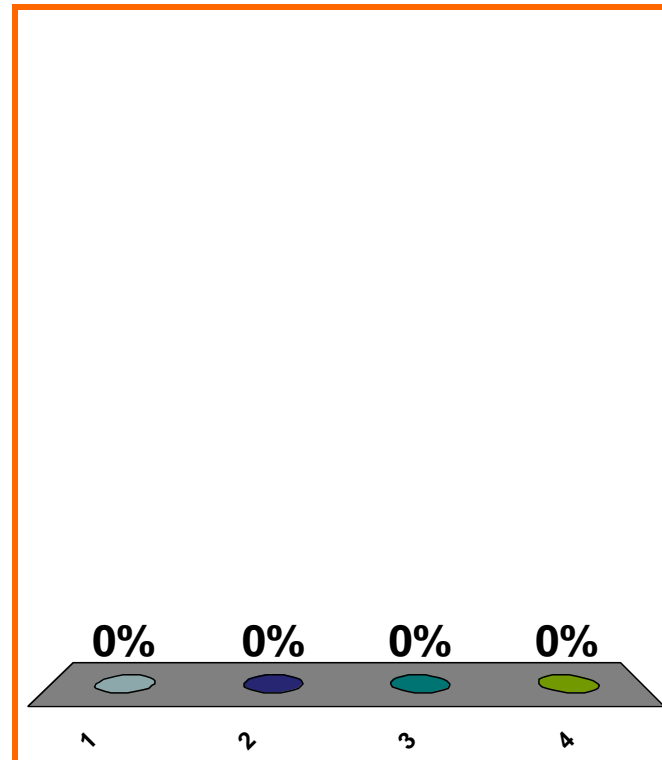
Newton's method formula to solve $2e^x + x^2 - 8 = 0$.

$$(a) \quad x_{n+1} = x_n - \frac{2e^{x_n} + x_n^2 - 8}{2e^{x_n} + 2x_n}$$

$$(b) \quad x_{n+1} = x_n - \frac{2x_n e^{x_n-1} + 2x_n}{2e^{x_n} + x_n^2 - 8}$$

$$(c) \quad x_{n+1} = x_n - \frac{2e^{x_n} + x_n^2 - 8}{2x_n e^{x_n-1} + 2x_n}$$

(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 0530

10 pts

Newton's method
for solving $e^x + x = 1$:

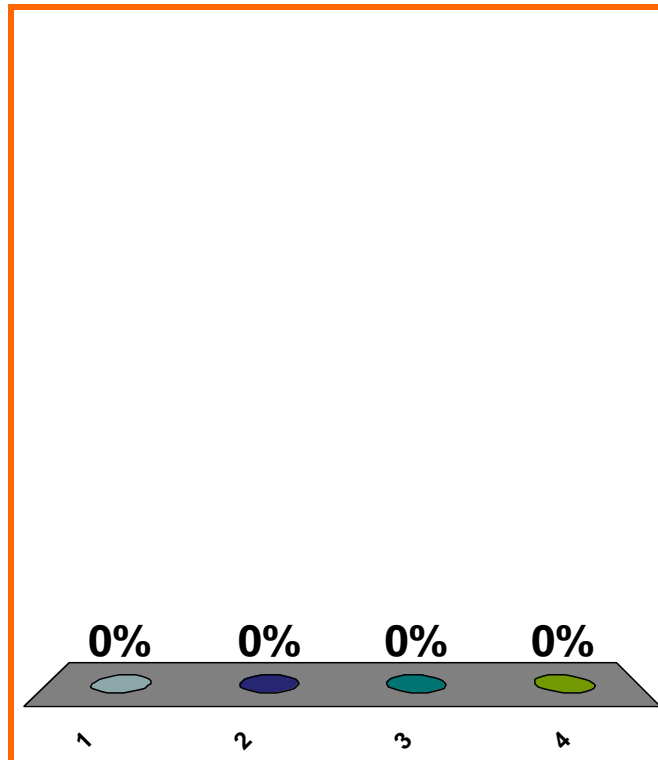
$$x_{n+1} = ??$$

$$(a) \quad x_n - \frac{e^{x_n} + x_n}{e^{x_n} + 1}$$

$$(b) \quad x_n - \frac{e^{x_n} + x_n - 1}{e^{x_n} + 1}$$

$$(c) \quad x_n - \frac{e^{x_n} + 1}{e^{x_n} + x_n}$$

(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

Newton's method
for solving $e^{2x} + x = 4$:

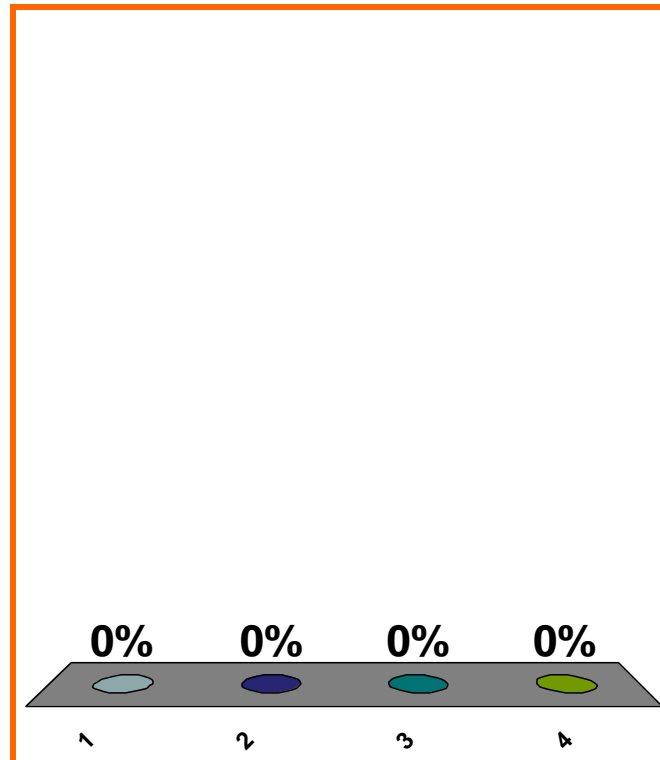
$$x_{n+1} = ??$$

$$(a) \quad x_n - \frac{e^{2x_n} + x_n - 4}{e^{2x_n} + 1}$$

$$(b) \quad x_n - \frac{e^{2x_n} + x_n}{e^{2x_n} + 1}$$

$$(c) \quad x_n - \frac{e^{2x_n} + x_n - 4}{2e^{2x_n} + 1}$$

(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

Newton's method
for solving $e^{5x} + x^2 = 7$:

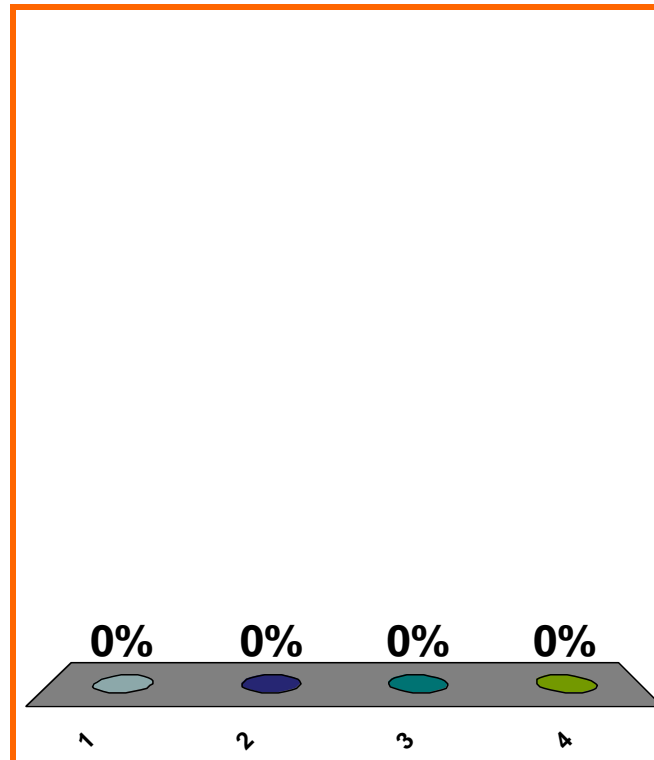
$$x_{n+1} = ??$$

$$(a) \quad x_n - \frac{e^{5x_n} + x_n^2 - 7}{5e^{5x_n} + 2x_n}$$

$$(b) \quad x_n - \frac{e^{5x_n} + x_n^2}{e^{5x_n} + 2x_n}$$

$$(c) \quad x_n - \frac{e^{5x_n} + x_n^2 - 7}{e^{5x_n} + 2x_n}$$

(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

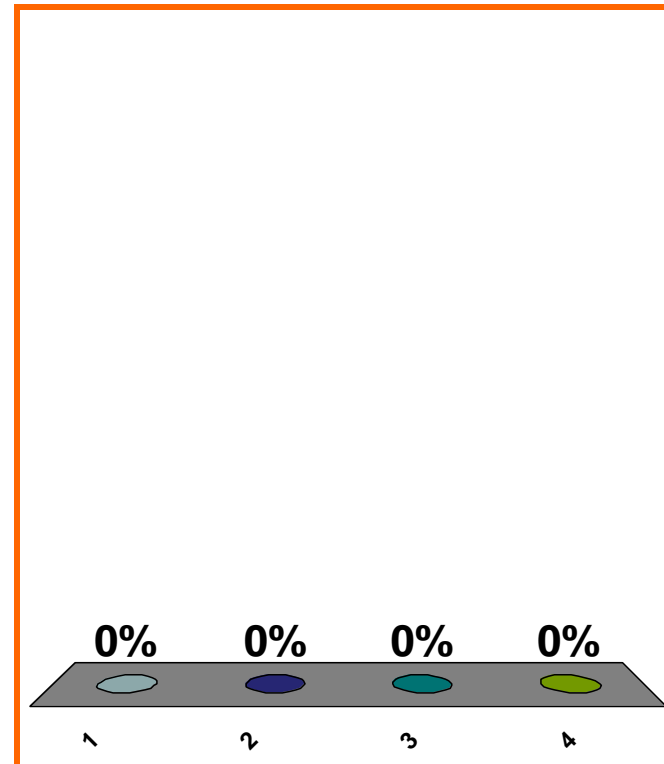
Newton's method formula to solve $(\cos x) + x^3 - 4 = 0$.

(a) $x_{n+1} = x_n - \frac{(\sin x_n) + 3x_n^2}{(\cos x_n) + x_n^3 - 4}$

(b) $x_{n+1} = x_n - \frac{(\cos x_n) + x_n^3 - 4}{-(\sin x_n) + 3x_n^2}$

(c) $x_{n+1} = x_n - \frac{(\cos x_n) + x_n^3 - 4}{(\sin x_n) + 3x_n^2}$

(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 0530

10 pts

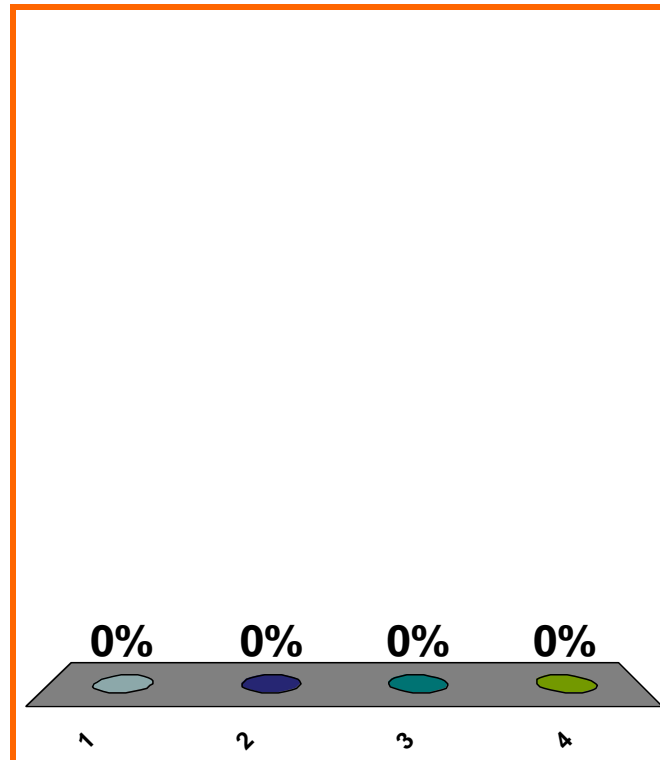
Newton's method formula to solve $x^3 + x^2 - 4 = 0$.

$$(a) \quad x_{n+1} = x_n - \frac{x_n^3 + x_n^2 - 4}{3x_n^2 + 2x_n}$$

$$(b) \quad x_{n+1} = x_n + \frac{3x_n^2 + 2x_n}{x_n^3 + x_n^2 - 4}$$

$$(c) \quad x_{n+1} = x_n - \frac{3x_n^2 + 2x_n}{x_n^3 + x_n^2 - 4}$$

(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

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Topic 0530

10 pts

14

Newton's method formula
to solve $x^5 + x^3 = 4$.

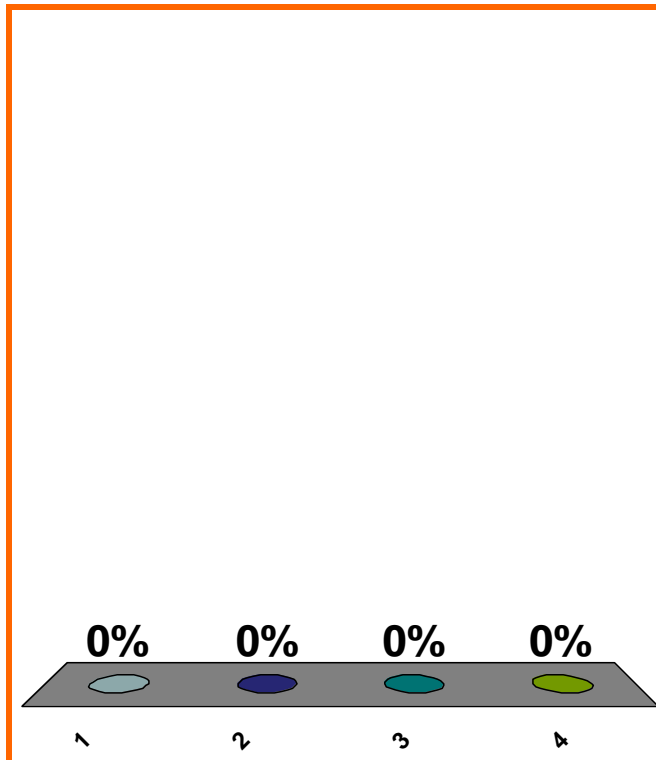
(a) $x_{n+1} = x_n + \frac{x_n^5 + x_n^3}{5x_n^4 + 3x_n^2}$

(b) $x_{n+1} = x_n + \frac{5x_n^4 + 3x_n^2}{x_n^5 + x_n^3}$

(c) $x_{n+1} = x_n - \frac{x_n^5 + x_n^3}{5x_n^4 + 3x_n^2}$

(d) none of the above

Correct: $x_{n+1} = x_n - \frac{x_n^5 + x_n^3 - 4}{5x_n^4 + 3x_n^2}$



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

Newton's method
for solving $f(x) = 1$:

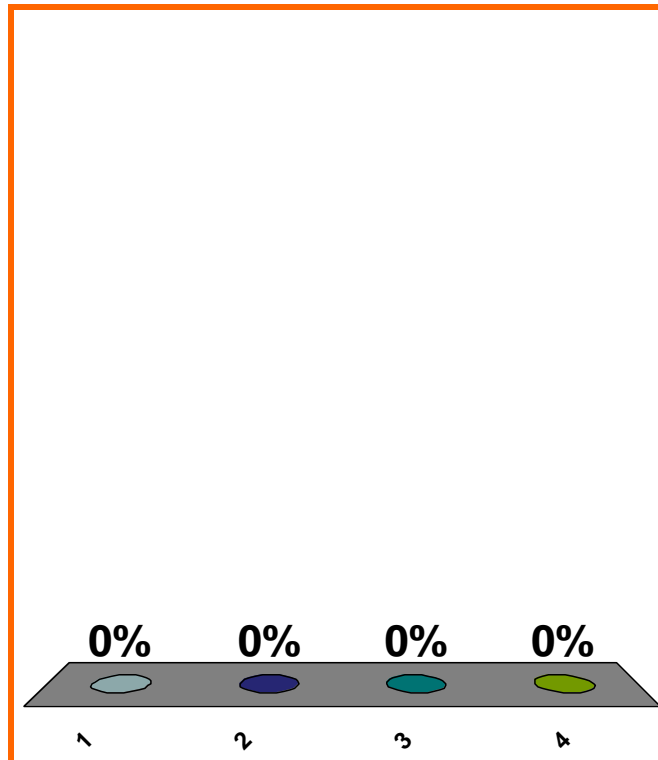
$$x_{n+1} = ??$$

$$(a) \quad x_n - \frac{f(x_n)}{f'(x_n)}$$

$$(b) \quad x_n - \frac{[f(x_n)] - 1}{f'(x_n)}$$

$$(c) \quad x_n - \frac{f'(x_n)}{f(x_n)}$$

(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

Newton's method
for solving $f(x) = 5$:

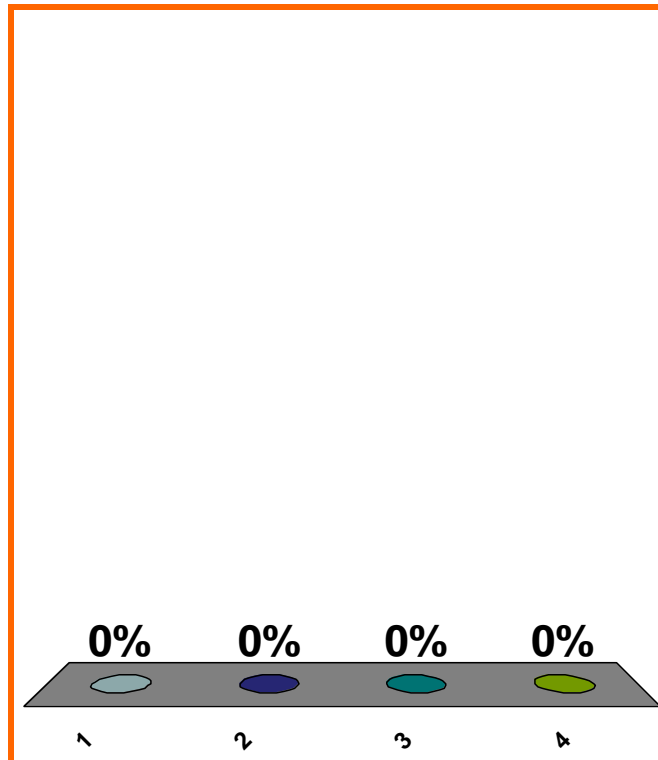
$$x_{n+1} = ??$$

$$(a) \quad x_n - \frac{[f(x_n)] - 5}{f'(x_n)}$$

$$(b) \quad x_n - \frac{[f(x_n)] - 1}{f'(x_n)}$$

$$(c) \quad x_n - \frac{f'(x_n)}{f(x_n)}$$

(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

0 of 5

Topic 0530

10 pts

SAVE THE
SESSION
DATA

RETURN TO
PRESENTATION