

# Calculus

M 19 November 2012

RESET THE  
SESSION

SET THE  
PARTICIPANT  
LIST

PLUG IN THE  
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Boxed answers agree with  
TurningPoint answers

Points agree with  
TurningPoint points

Points total to 100

Topics covered are in bounds

QUIZ  
FOLLOWS

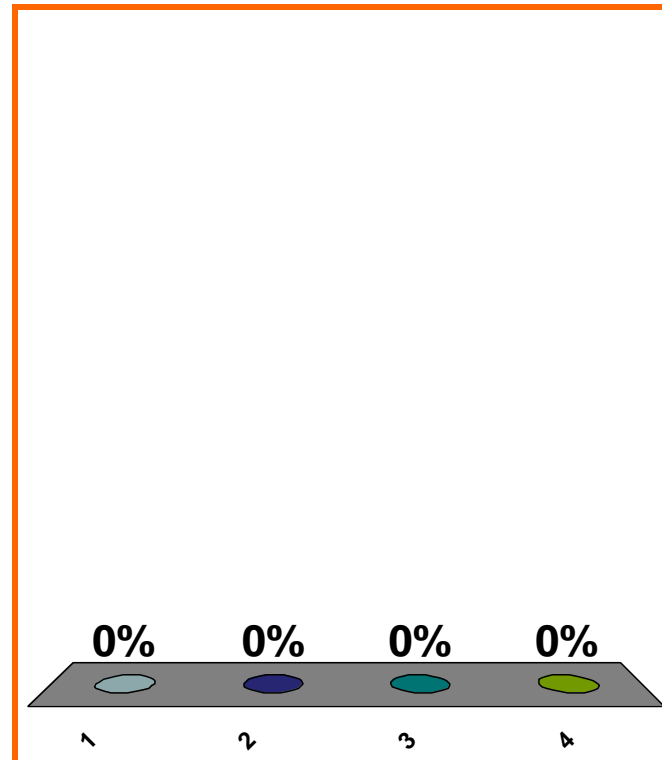
$$\int_1^3 (\sin \theta) d\theta = ??$$

(a)  $(\cos \theta) + C$

(b)  $[\cos \theta]_{\theta: \rightarrow 1}^{\theta: \rightarrow 3}$

(c)  $[-\cos \theta]_{\theta: \rightarrow 1}^{\theta: \rightarrow 3}$

(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 0610

10 pts

5

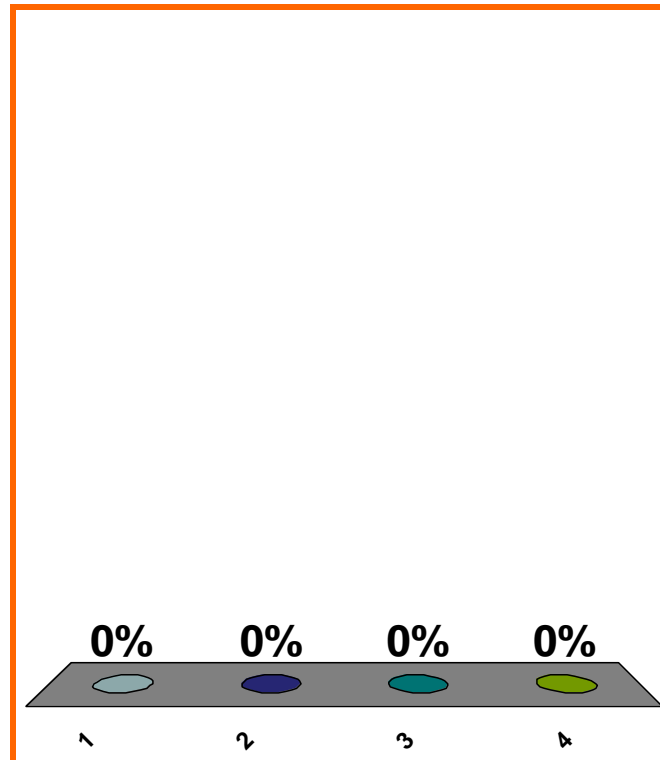
$$\frac{d}{dx} \left[ \int_1^x \cos t \, dt \right]$$

(a)  $-\cos x$

(b)  $(\sin 1) - (\sin x)$

(c)  $\cos x$

(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

$$F'(t) = e^{t^2}$$

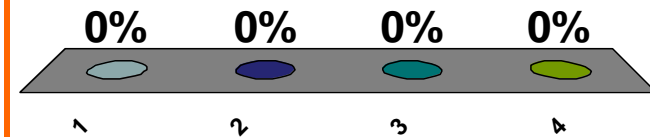
$$\frac{d}{dx} \left[ \int_{x^2}^{x^5} e^{t^2} dt \right]$$

(a)  $\frac{d}{dx} \left[ (F(x))^5 - (F(x))^2 \right]$

(b)  $\frac{d}{dx} \left[ (F(x^5)) - (F(x^2)) \right]$

(c)  $\frac{d}{dx} \left[ (F(x^5))(5x^4) - (F(x^2))(2x) \right]$

(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
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Topic 0620

10 pts

7

$$F'(t) = e^{t^2}$$

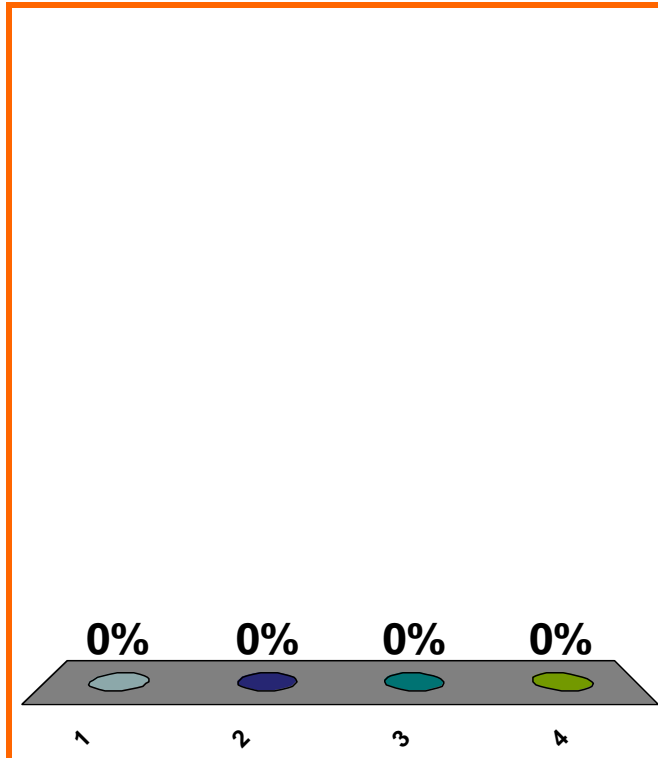
$$\frac{d}{dx} [(F(x^5)) - (F(x^2))]$$

(a)  $(F'(x^5)) - (F'(x^2))$

(b)  $(F(x^5))(5x^4) - (F(x^2))(2x)$

(c)  $(F'(x^5))(5x^4) - (F'(x^2))(2x)$

(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
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Topic 0620

10 pts



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

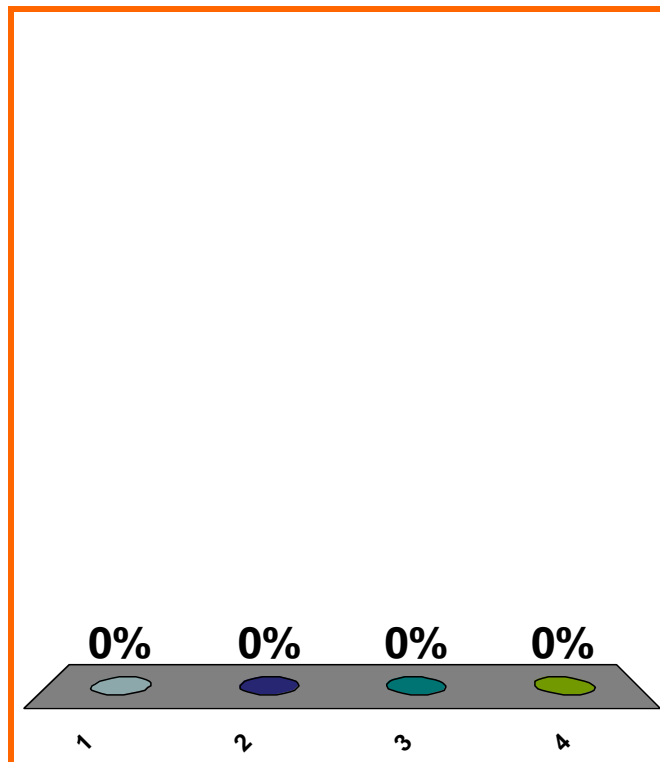
$$\int x^2 + 5^x dx = ??$$

(a)  $2x + (5^x)(\ln 5) + C$

(b)  $\frac{x^3}{3} + \frac{5^x}{\ln 5} + C$

(c)  $\frac{x^3}{3} + \frac{5^{x+1}}{x+1} + C$

(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
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Topic 0570

10 pts

9

$$(a) \sum_{j=1}^n \left[ \frac{3}{n} \right] \left[ e^{1+(3j/n)} \right]$$

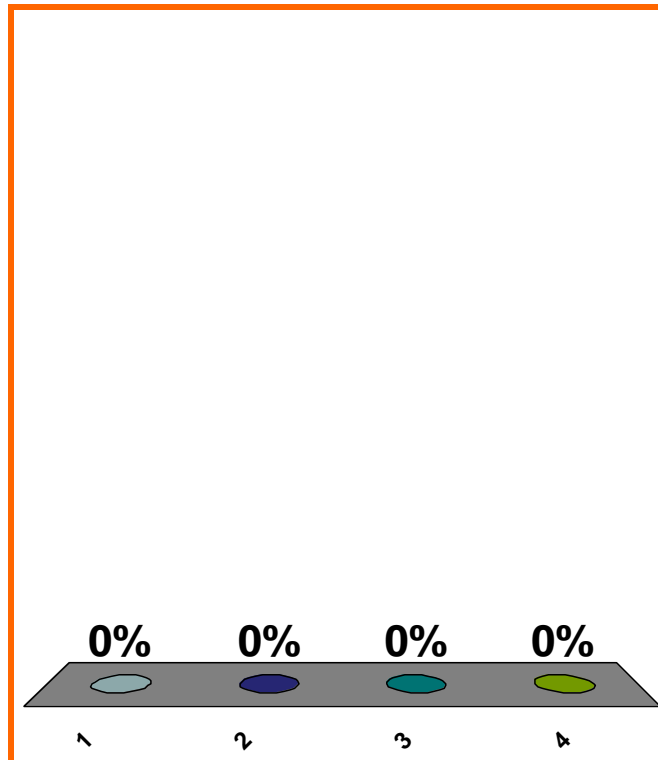
$n$ th left endpt Riem. sum

for  $\int_1^4 e^x dx$

$$(b) \sum_{j=1}^n \left[ \frac{3}{n} \right] \left[ e^{1+(3j/n)-(3/n)} \right]$$

$$(c) \sum_{j=1}^n \left[ \frac{3}{n} \right] \left[ e^{1+(3j/n)-(3/(2n))} \right]$$

(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
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Topic 0590

10 pts

10

$$(a) \sum_{j=0}^{n-1} \left[ \frac{4}{n} \right] \left[ (2 + (4j/n))^5 \right]$$

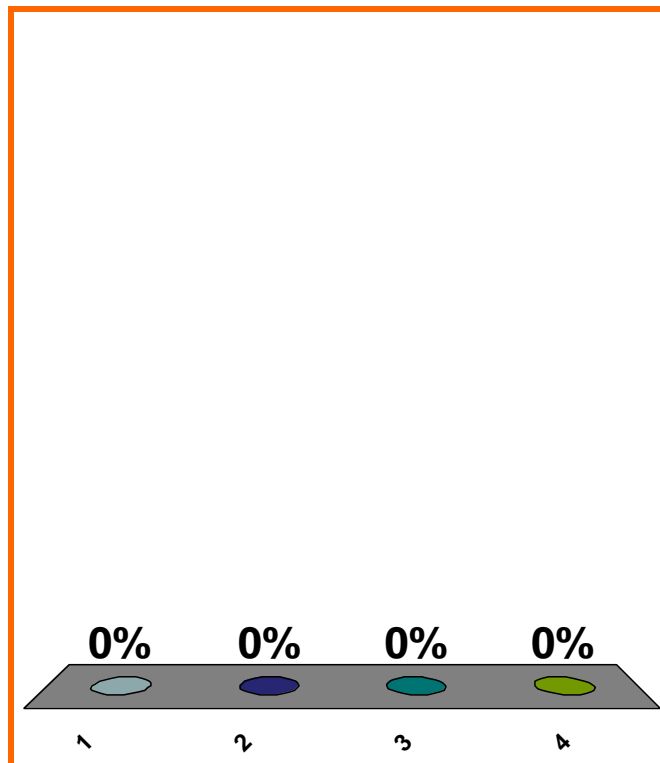
$n$ th left endpt Riem. sum

for  $\int_2^6 x^5 dx$

$$(b) \sum_{j=0}^{n-1} \left[ \frac{4}{n} \right] \left[ (2 + (4j/n) - (4/n))^5 \right]$$

$$(c) \sum_{j=0}^{n-1} \left[ \frac{4}{n} \right] \left[ (2 + (4j/n) + (4/(2n)))^5 \right]$$

(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
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Topic 0590

10 pts

$$(a) \sum_{j=0}^{n-1} \left[ \frac{4}{n} \right] \left[ (2 + (4j/n))^5 \right]$$

$n$ th right endpt Riem. sum

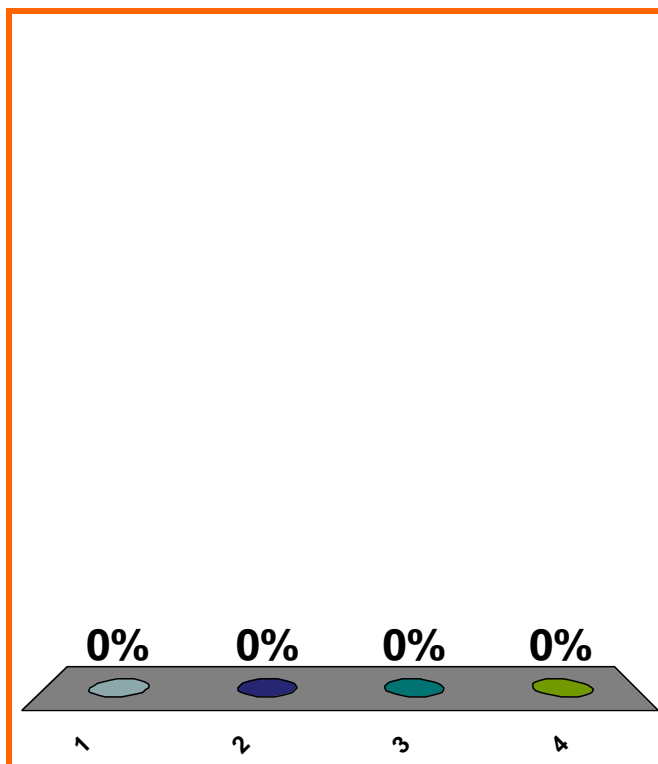
$$\text{for } \int_2^6 x^5 dx$$

$$(b) \sum_{j=0}^{n-1} \left[ \frac{4}{n} \right] \left[ (2 + (4j/n) - (4/n))^5 \right]$$

$$(c) \sum_{j=0}^{n-1} \left[ \frac{4}{n} \right] \left[ (2 + (4j/n) + (4/(2n)))^5 \right]$$

(d) none of the above

$$\sum_{j=0}^{n-1} \left[ \frac{4}{n} \right] \left[ (2 + (4j/n) + (4/n))^5 \right]$$



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

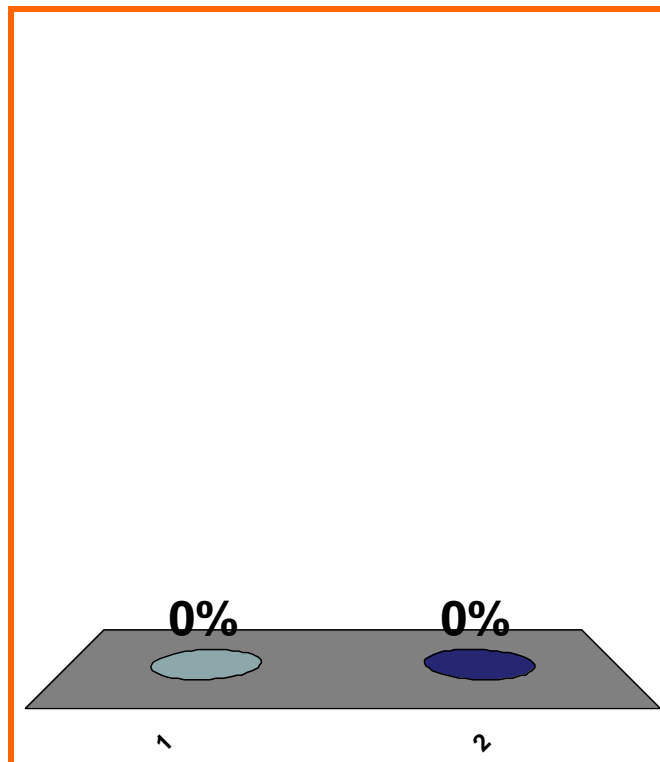
T or F:

$$f : (1, 3) \rightarrow \mathbb{R}$$

$f'$  pos on  $(1, 2)$ ,  $f'(2) = 0$ ,  $f'$  neg on  $(2, 3)$   
 $\Rightarrow f$  has a global max at 2

(a) True

(b) False



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
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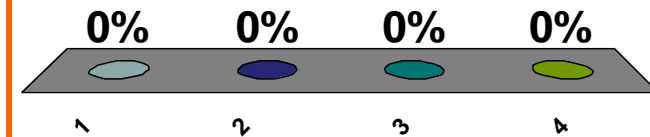
Newton's method formula  
to solve  $x^5 + x^3 = 4$ .

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

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

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

(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

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SAVE THE  
SESSION  
DATA

RETURN TO  
PRESENTATION