Calculus
F 15 November 2013

RECEIVER
PARTICIPANT LIST
RESET SESSION

Response tables
$\sum$ points $= 100$
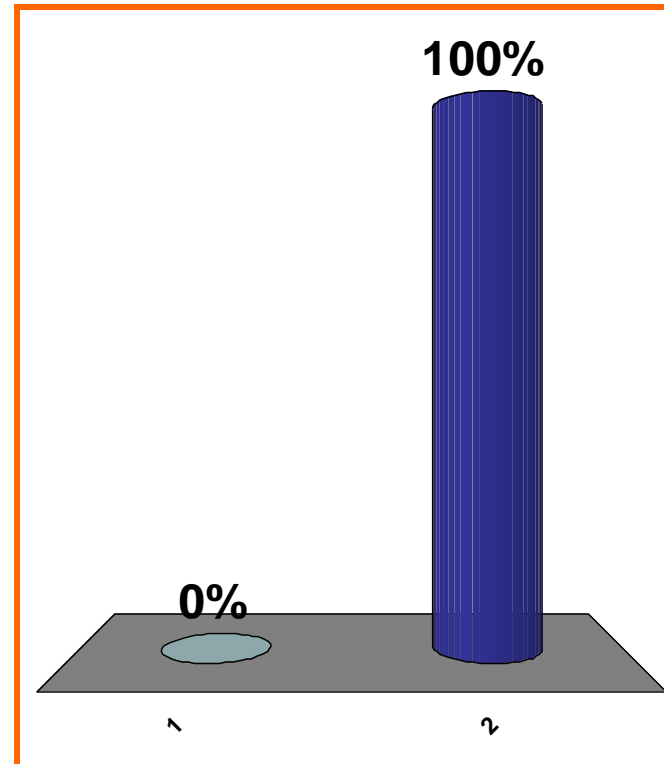Pts agree
Answers agree

QUIZ
FOLLOWS

$1 + 1 = ??$

(a) 1

(b) 2

100%

0%

1   2
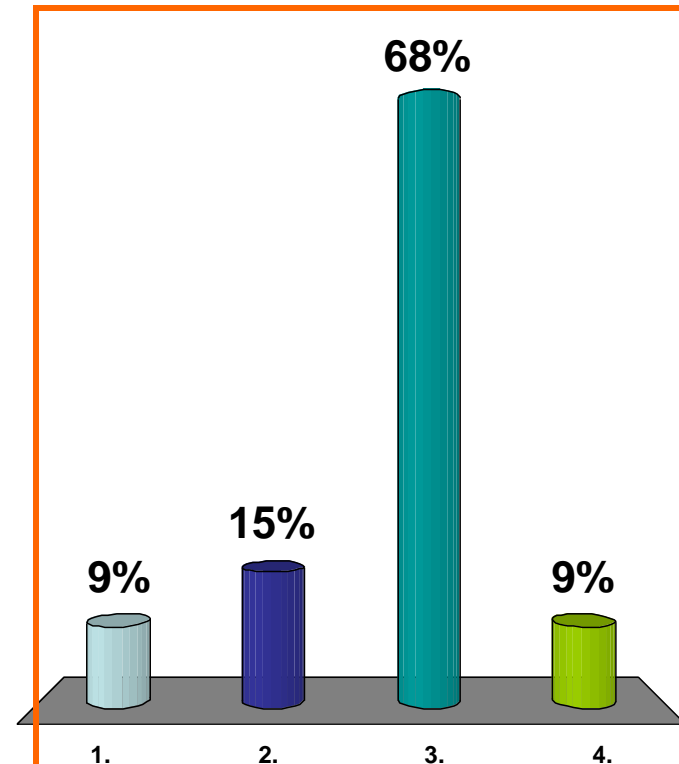
Newton's method formula to solve $2e^x + x^2 - 8 = 0$.

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

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

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

(d) none of the above

68%

15%

9%   9%

1.   2.   3.   4.

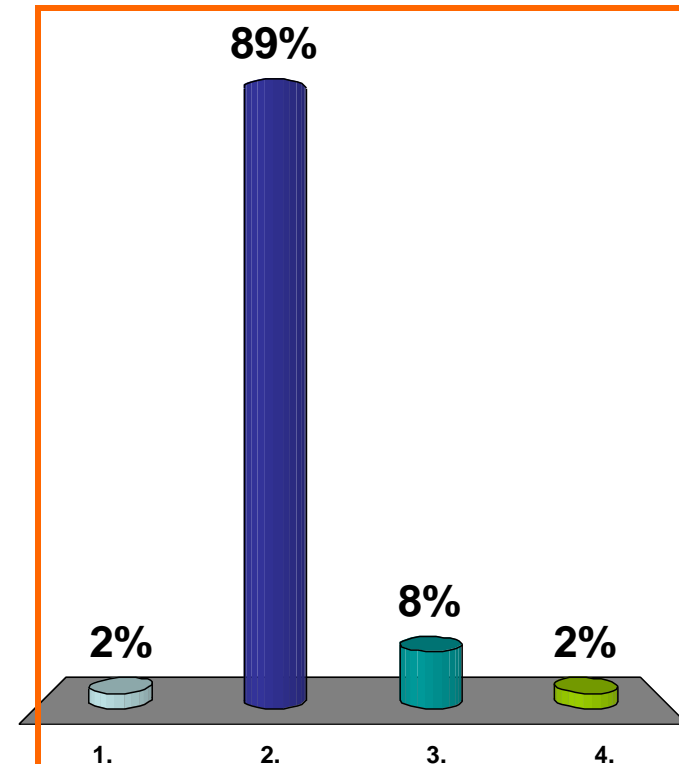Newton's method for solving $e^{5x} + x^2 = 7$:

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

(a) $x_n - \dfrac{e^{5x_n} + x_n^2}{e^{5x_n} + 2x_n}$

(b) $x_n - \dfrac{e^{5x_n} + x_n^2 - 7}{5e^{5x_n} + 2x_n}$

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

(d) none of the above

89%

2%

8%

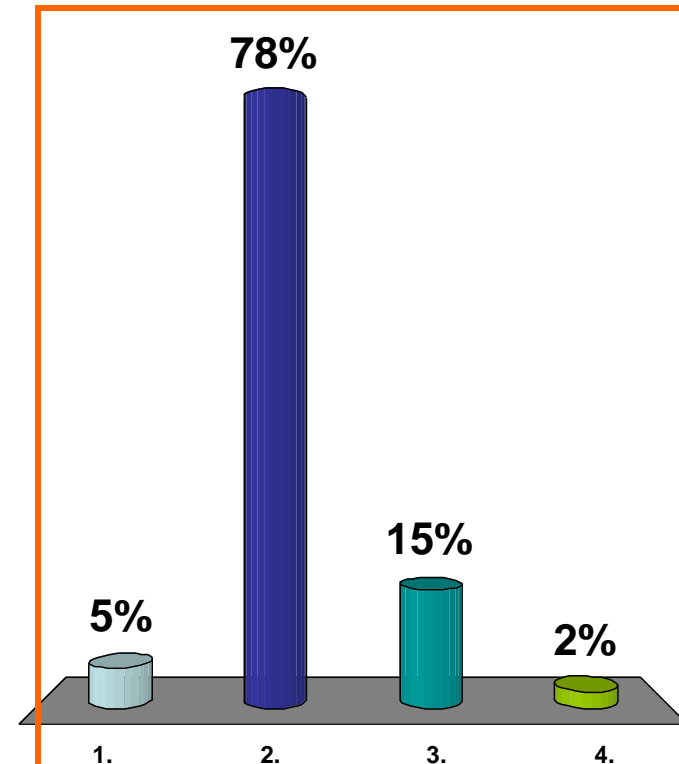2%

1.   2.   3.   4.

tangent line to $y = f(x)$ at $(2, 7)$

$$y - 7 = 8(x - 2)$$

"linearization" of $f(x)$ at $x = 2$?

(a) $8(x - 2)$

(b) $7 + 8(x - 2)$

(c) $7 - 8(x - 2)$

(d) none of the above

78%

15%

5%

2%

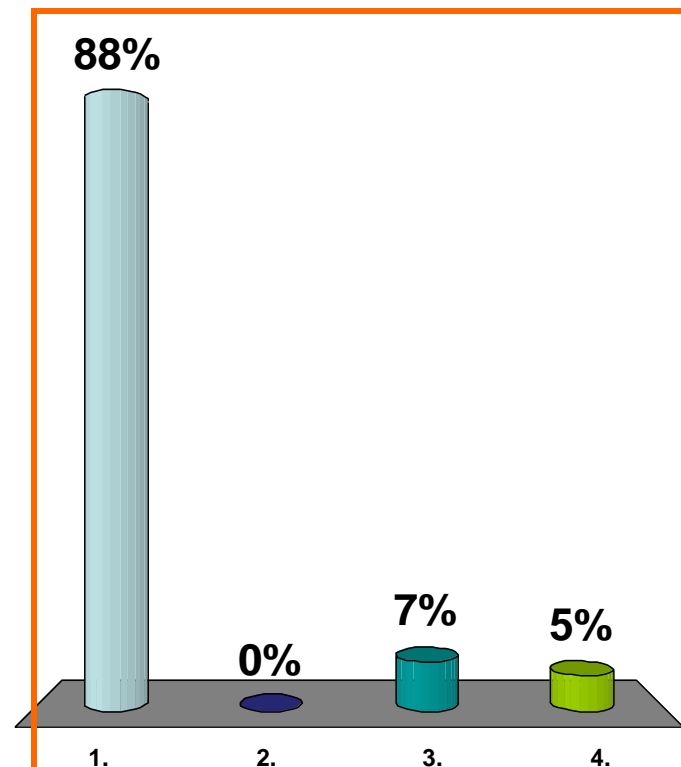1.   2.   3.   4.

Topic 0540   10 pts

$$f(7) = 4, \quad f'(7) = -8$$

Linear approx. to $f(x)$ at $x = 7$?

(a) $4 - 8(x - 7)$

(b) $7x^2 - 8x + 4$

(c) $-8 + 4(x - 7)$

(d) none of the above

88%

0%

7%

5%

1.   2.   3.   4.

Topic 0540   10 pts
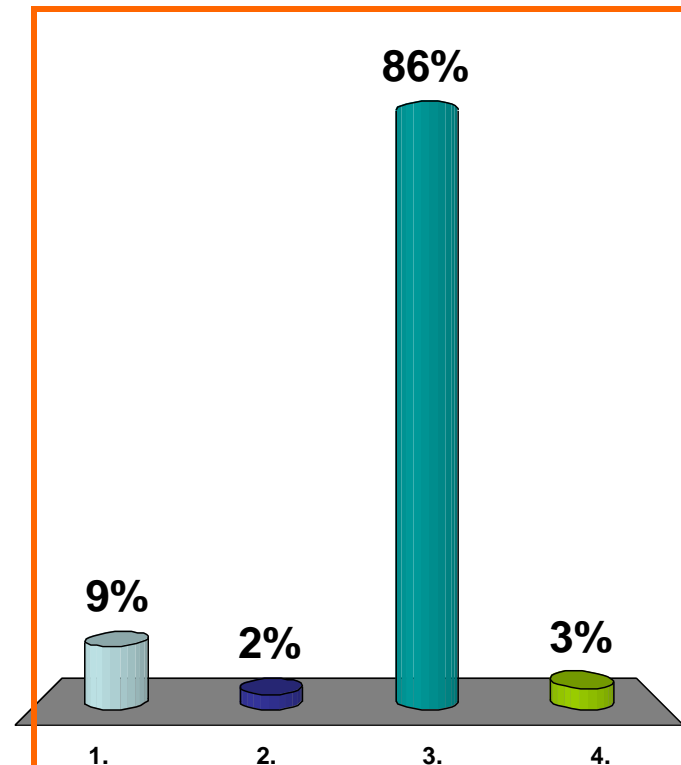
$$\frac{d}{dx}[5^x] = (5^x)(\ln 5)$$

$$\int x^2 + 5^x \, dx = \text{??}$$

(a) $\dfrac{x^3}{3} + \dfrac{5^{x+1}}{x+1} + C$

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

(c) $\dfrac{x^3}{3} + \dfrac{5^x}{\ln 5} + C$
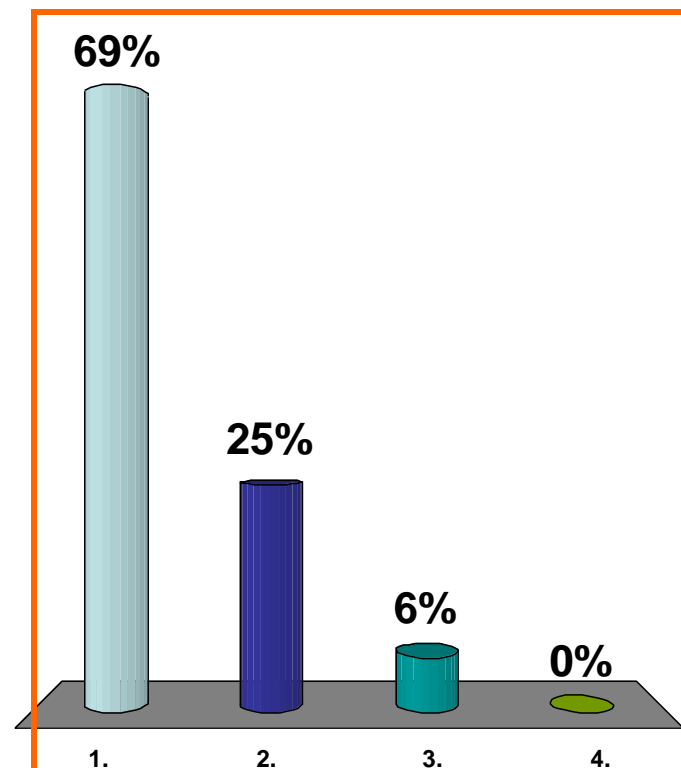
(d) none of the above

86%

9%

2%

3%

1. 2. 3. 4.

nth rt endpt Riem. sum

for $\int_1^2 e^x\,dx$

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

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

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

(d) none of the above

69%

25%

6%

0%

1.   2.   3.   4.

Topic 0590   10 pts

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

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

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

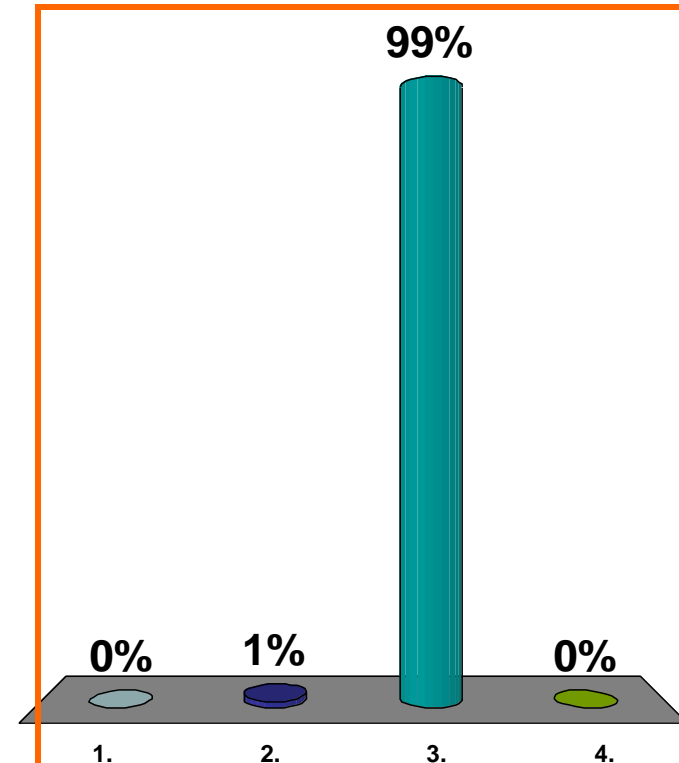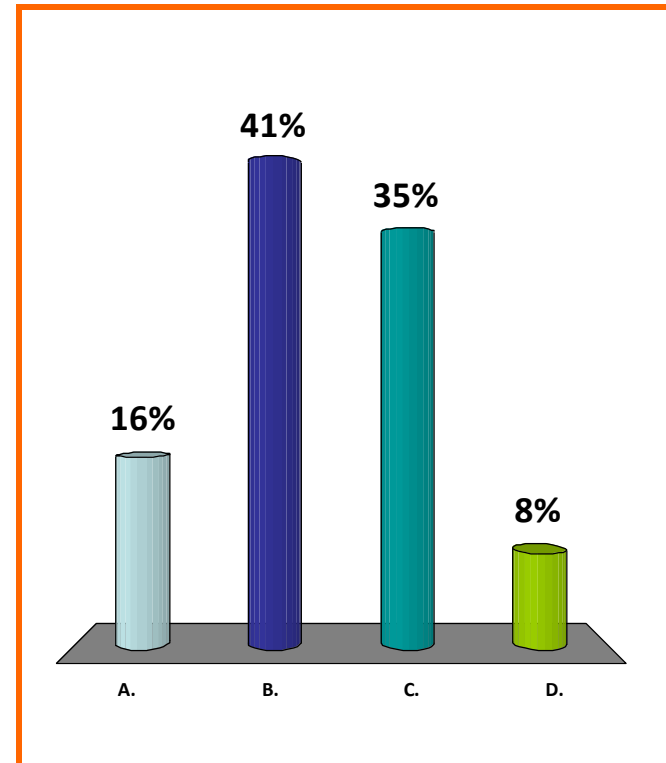(d) none of the above

nth left endpt Riem. sum

for $\displaystyle\int_{1}^{2} e^x \, dx$

92%

7%

1%

0%

1.   2.   3.   4.

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

nth midpt Riem. sum

for $\displaystyle\int_{1}^{2} e^{x}\, dx$

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

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

(d) none of the above

99%

0%   1%   0%

1.   2.   3.   4.

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

(a) $-\cos x$

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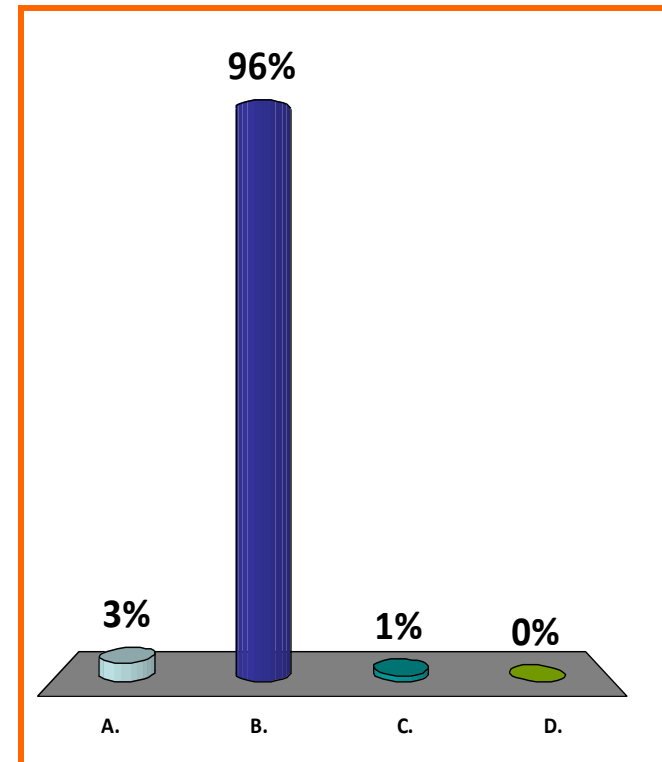
(c) $\cos x$

(d) none of the above

Topic 0610   10 pts

$$\frac{d}{dx}\left[\int_x^1 \cos t \, dt\right]$$

(a) $\cos x$

(b) $-\cos x$

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

(d) none of the above

96%

3%   1%   0%

A.   B.   C.   D.

END QUIZ