Calculus
M 19 March 2012

RESET THE SESSION

SET THE PARTICIPANT LIST

PLUG IN THE RECEIVER

New topics (see diary)

Topics covered are in bounds

Boxed answers agree with TurningPoint answers

Points agree with TurningPoint points

Points total to 100

Cover the look ahead

QUIZ
FOLLOWS

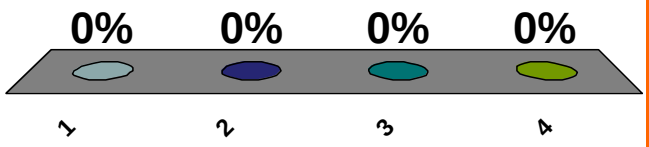
$$\frac{d}{dx}\left[(e^8)(\sin 3)\right] = ??$$

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

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

(c) 0

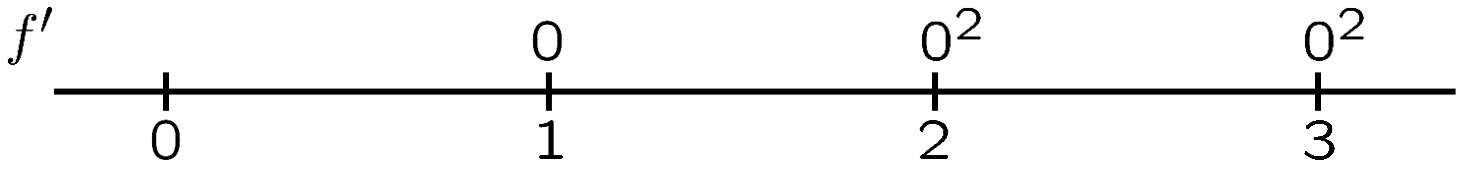
(d) none of the above



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

max interval of decr.

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

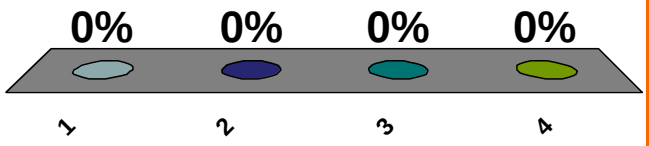


(a) $[0, \infty)$

(b) $[1, \infty)$

(c) $[2, \infty)$

(d) none of the above



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CURRENT Graph $y = (x+4)e^x$

GRAPHING CHECKLIST

precalculus

labor saving device

A. Symmetry

(i) even function: $f(-x) = f(x)$

(ii) odd function: $f(-x) = -(f(x))$

(iii) periodic function: $f(x+p) = f(x)$

B. Intervals of Positivity or Negativity, and

(i) domain

(ii) x,y-intercepts

f

(iii) vertical, horizontal asymptotes

limits

C. Intervals of Increase or Decrease f'

D. Concavity and Points of Inflection f''

calculus

LOOK AHEAD

$$\sum_{j=1}^{n} j^q$$

$$\int \frac{1}{\text{quadratic}}\, dx$$

definite integrals

$$\int_0^{\pi} \sin^2\theta \, d\theta$$

$$\frac{d}{dx}\left[\int_1^x t^3\, dt\right]$$

$$\triangle\left[\sum_{j=1}^{n} j^3\, dt\right]$$

LOOK BACK

derivs w.r.t. t of exprs of r, x, w, etc.

LOOK BACK (implicit diff. & IFT)

derivs of arcsin, arccos
derivs of arctan, arccot

$f(x) = x^7 + x$
$g = f^{-1}$
Find $g(2)$ and $g'(2)$.

LOOK BACK

$y = (2x^2 - x + 1)(\cos(3x))$
$\triangle y$, dy,
eq'n of tangent line at $(0, 1)$,
linearization at $x = 0$

$f(x) = 2x \quad \Rightarrow \quad f(s+t) = (f(s)) + (f(t))$??

$f(x) = 3x \quad \Rightarrow \quad f(s+t) = (f(s)) + (f(t))$??

$f(x) = 4x+1 \quad \Rightarrow \quad f(s+t) = (f(s))+(f(t))$??

limit of quotient $=$ quotient of limits ?

$$e^{\ln x} = x \quad ?$$

$$\ln e^{x} = x \quad ?$$

$$x^2/x = x \quad ?$$

$$x/x^2 = 1/x \quad ?$$

position $= 2t^3 + 5t^2$

velocity at $t = 3$?

SAVE THE SESSION DATA

RETURN TO PRESENTATION