Calculus
W 21 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

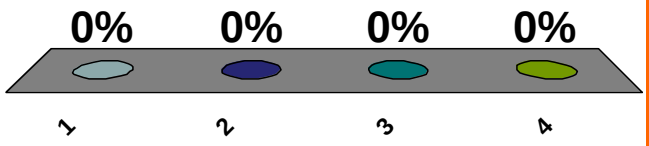
$$\frac{d}{dx}\left[(\ln 8)(\sin 3)\right] = ??$$

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

(b) 0

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

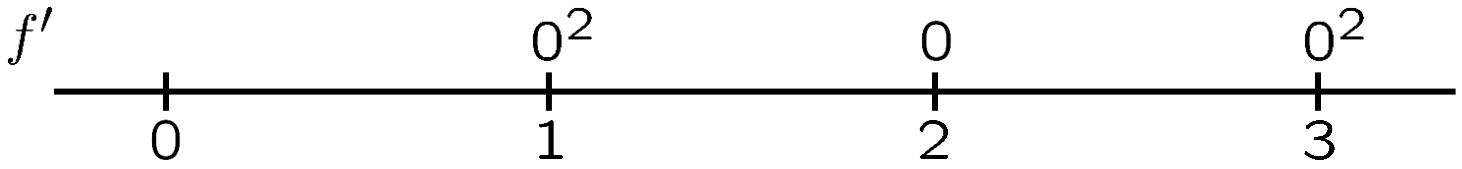
(d) none of the above



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

max interval of decr.

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

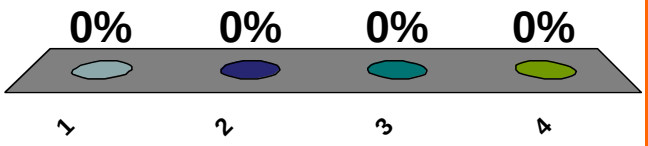


(a) $[0, \infty)$

(b) $[1, \infty)$

(c) $[2, \infty)$

(d) none of the above



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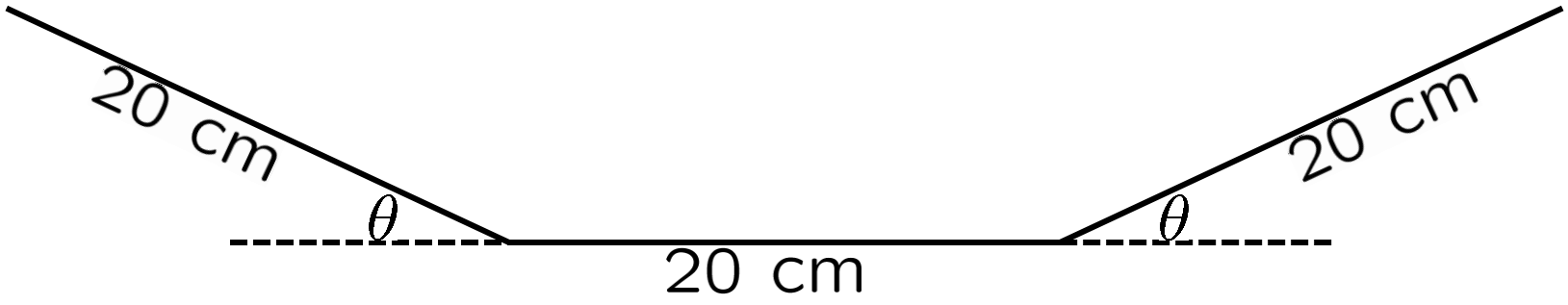
CURRENT

A trough for holding water is be formed by taking a piece of sheet metal 60 cm wide and folding the 20 cm on either end up as shown below. Determine the angle that will maximize the amount of water that the trough can hold.



LOOK AHEAD

vols: rectangle/paralellogram, triangle, generalized cylinder, generalized cone sector, disk, hemisphere, sphere, solid sector, ball.

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

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

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

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

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