LET'S PLAY CALC-PARDY!!

http://www.magicnet.net/~jtms/jeopardy/index.htm

Calc-pardy

Chain Gang	We're Related	Optimus Prime	Vital Signs	Critical Thinking
Q $200	Q $200	Q $200	Q $200	Q $200
Q $400	Q $400	Q $400	Q $400	Q $400
Q $600	Q $600	Q $600	Q $600	Q $600
Q $800	Q $800	Q $800	Q $800	Q $800
Q $1000	Q $1000	Q $1000	Q $1000	Q $1000

Final Jeopardy

$200 Question from Chain Gang

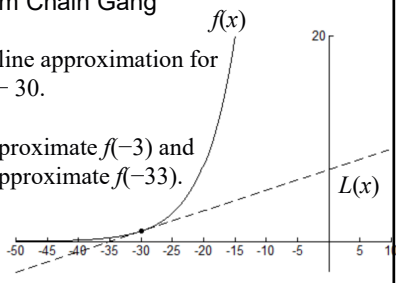
Find y' if $y = \ln x^9$

$400 Question from Chain Gang

Find y' if

$$y = (5x^{10} + 10)^{20}$$

$600 Question from Chain Gang



$L(x)$ is the tangent line approximation for $f(x) = e^{0.2x+6}$ at $x = -30$.

$L(-3)$ is used to approximate $f(-3)$ and $L(-33)$ is used to approximate $f(-33)$.

Which of these $L(-3)$ or $L(-33)$, is a better approximation of the function value?

Report the formula for $L(x)$ and the full values of both $L(-3)$ and $L(-33)$.

$800 Question from Chain Gang

Find y′ if

$$y = \frac{e^{2x}}{e^x - 4}$$

$1000 Question from Chain Gang

$$y = \tan^{-1}(e^x)$$

$$y' = ?$$

$200 Question from We're Related

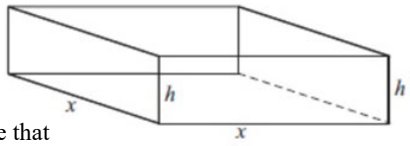
If a circle's radius increases at 6 cm / s, find the rate the area increases when the radius is 10 cm.

$400 Question from We're Related

If the sides of a cube increase at 6 cm / s, find the rate the volume increases when the side length is 10 cm.

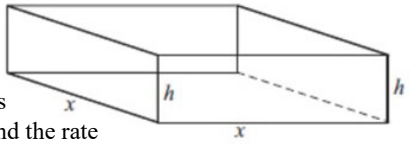
$600 Question from We're Related

If the height h increases at 8 cm / s, and the base x is fixed at 2 cm, find the rate that the volume increases.



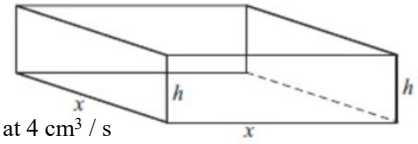
$800 Question from We're Related

If the volume V increases at 5 cm^3 / s, and the height h is fixed at 10 cm, find the rate that the base x increases when the base $x = 2$.



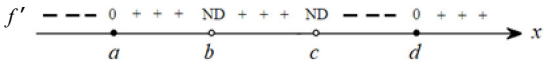
$1000 Question from We're Related

A rectangular tank is filled with 400 cm^3 of water. If the volume decreases at 4 cm^3 / s and the base x is fixed at 2 cm, write h as a function of t.



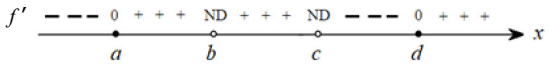
$200 Question from Optimus Prime

The signs of f' are shown. For what value(s) does f have a local maximum?



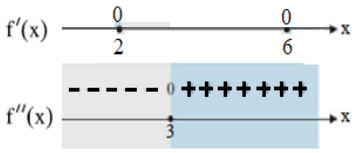
$400 Question from Optimus Prime

The signs of f' are shown. For what value(s) does f has a local minimum?



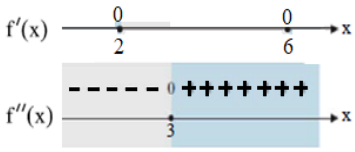
$600 Question from Optimus Prime

The signs of f' and f'' are shown. For what value(s) does f have a local minimum?



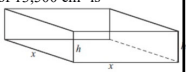
$800 Question from Optimus Prime

The signs of f' and f'' are shown. For what value(s) does f have a local maximum?



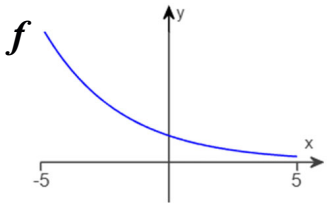
$1000 Question from Optimus Prime

A rectangular tank with a square base, an open top, and volume of 13,500 cm^3 is to be constructed of sheet steel. The tank with the minimum surface area has a square base with a side length of ? and height of ?



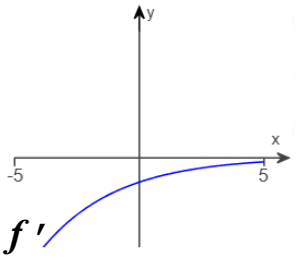
$200 Question from Vital Signs

Sign of f''



$400 Question from Vital Signs

Sign of f''

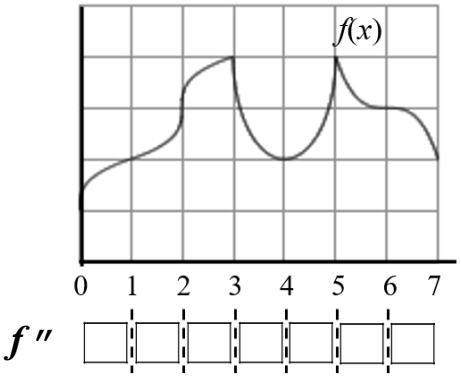


$600 Question from Vital Signs

Sketch a graph of f which has a value $x = c$ where f' and f'' are both 0

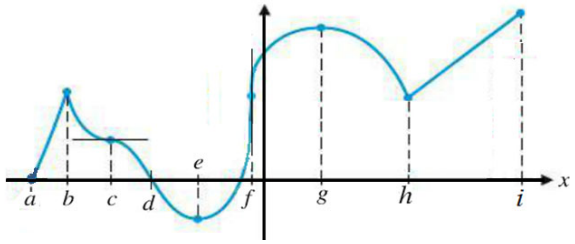
$1000 Question from Vital Signs

Put + or – in each box



$200 Question from Critical Thinking

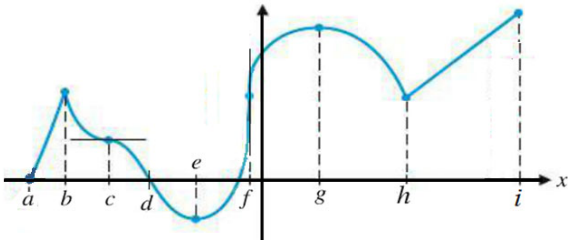
List all the critical values of the function



The function has critical values at *x* = *b, c, e, f, g, h*

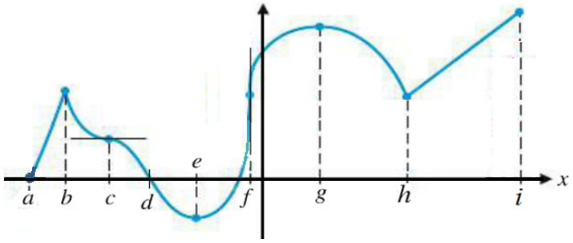
$400 Question from Critical Thinking

List all the critical values of the function where the first derivative does not exist



$600 Question from Critical Thinking

Which critical values correspond to **neither** local minima or local maxima?



$800 Question from Critical Thinking

$f(x) = e^x(x-4)$ has critical value at $x = 3$.

$1000 Question from Critical Thinking

$f(x) = e^x(x-4)$ Find where $f''(x) = 0$.

Final Jeopardy Question

Find $g'(7)$