MTH 201 -- Calculus Module 7B: The Second Derivative Test and Concavity

October 21-22, 2020

Agenda for today

- Polling activity over Daily Preparation + Q&A time
- Activity: Finding critical numbers and applying the First Derivative Test
- Q/A + Feedback time

Suppose $g'(1) = 0$ and $g''(1) = 10$. Then...

g has a local maximum at $x = 1$

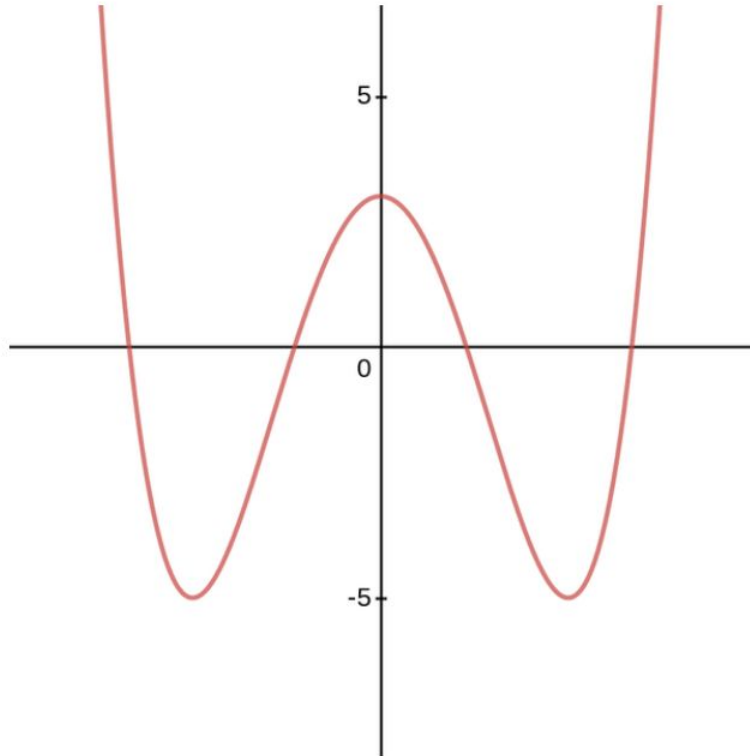g has a local minimum at $x = 1$

g has an inflection point at $x = 1$
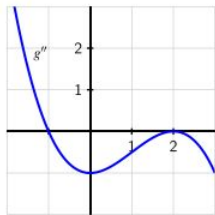
None of the above

Here's the graph of a function. Click on the inflection points of the function.

Practice at Jamboard

Here is the graph of g'', the second derivative of a function g. What are the x-coordinates of its inflection points? Select all that apply.
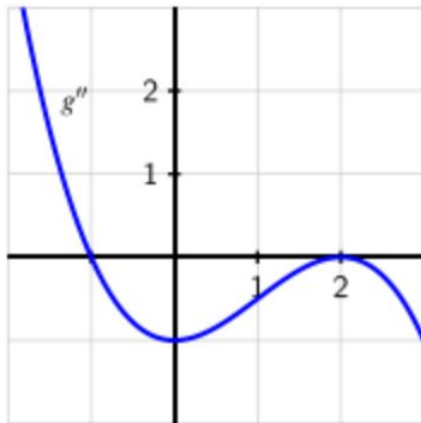

$x = -1$
$x = 0$
$x = 1$
$x = 2$
None of these

Here is the graph of g'', the second derivative of a function g. On which of these intervals is g concave up?

$(-\infty, -1)$

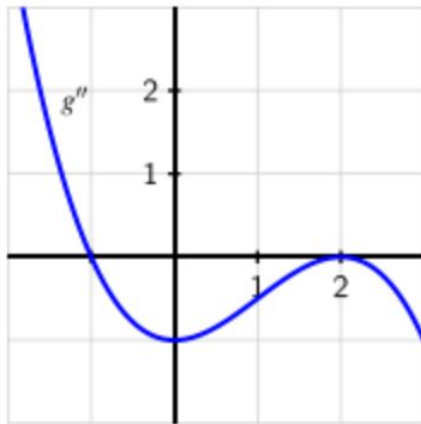$(-\infty, 0)$

$(-\infty, 1)$

$(-\infty, 2)$

$(-1, 1)$

$(-1, \infty)$

None of these

Here is the graph of g'', the second derivative of a function g. Suppose you are given that $g'(-1.6) = 0$. From this, we can conclude that...

None of these

g has a local minimum at this point

g has a local maximum at this point

g has neither a local minimum nor a local maximum at this point