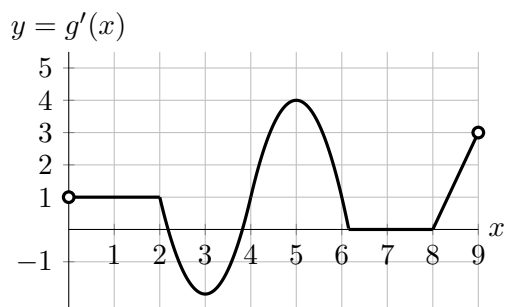


1. [8 points] The graph of the derivative  $g'(x)$  of a function  $g(x)$  with domain  $0 < x < 9$  is shown below.



- a. [2 points] On which interval(s) is the function  $g(x)$  constant?

*Solution:* Approximately on the interval  $(6.2, 8)$

- b. [2 points] On which interval(s) is the function  $g(x)$  linear?

*Solution:*  $(0, 2]$  and approximately on the interval  $(6.2, 8)$

- c. [2 points] On which interval(s) is the function  $g(x)$  decreasing?

*Solution:* Approximately on the interval  $(2.25, 3.75)$

- d. [2 points] At which value(s) of  $0 < x < 9$  is the function  $g(x)$  increasing the fastest?

*Solution:*  $x = 5$