

6.5 Behavior of Accumulation Functions

Calculus

Name: _____

CA #2

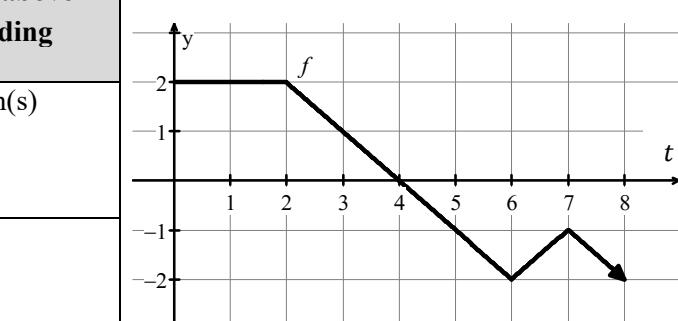
1. Let $g(x) = \int_a^x f(t) dt$ with the graph of f shown above and a is a constant. Find the x -values of g regarding each of the following conditions.

- a. Relative minimum(s) b. Relative maximum(s)

- c. Concave up d. Concave down

- e. Increasing f. Decreasing

- h. If $g(2) = -2$, what is the maximum value of g on the interval $[0, 8]$?



- g. Point(s) of inflection

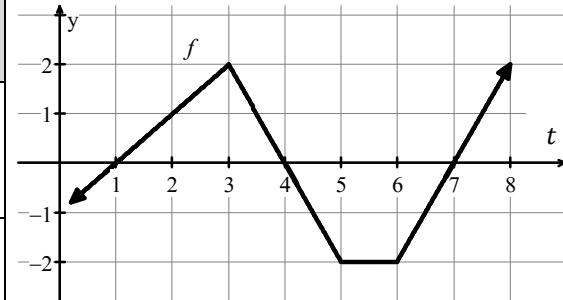
- i. Given $h(x) = \int_0^{3x-2} f(t) dt$. Find the x -value where h has a relative maximum.

2. Let $g(x) = \int_a^x f(t) dt$ with the graph of f shown above and a is a constant. Find the x -values of g regarding each of the following conditions.

- a. Relative minimum(s) b. Relative maximum(s)

- c. Concave up d. Concave down

- e. Increasing f. Decreasing



- g. Point(s) of inflection

- h. If $g(3) = -4$, what is the minimum value of g on the interval $[3, 8]$?

- i. Given $h(x) = \int_0^{x+7} f(t) dt$. Find the x -value where h has a relative maximum.

1a. None	1b. $x = 4$	1c. $(6, 7)$	1d. $(2, 6)$ and $(7, \infty)$	1e. $(0, 4)$	1f. $(4, \infty)$
1g. $x = 6$ and $x = 7$	1h. 0	1i. $x = 2$	1j. $x = 1$ and $x = 7$	1k. $x = 4$	1l. $(-\infty, 3)$ and $(6, \infty)$
2d. $(3, 5)$	2e. $(1, 4)$ and $(7, \infty)$	2f. $(-\infty, 1)$ and $(4, 7)$	2g. $x = 3$	2h. -7	2i. $x = -9$