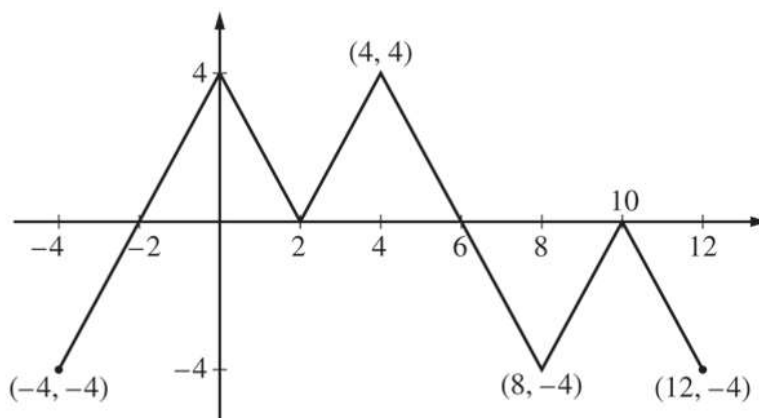


### Piecewise graph problem 2016 3

AP Calculus



Graph of  $f$

The figure above shows the graph of the piecewise-linear function  $f$ . For  $-4 \leq x \leq 12$ , the function  $g$  is defined

by  $g(x) = \int_2^x f(t) dt$ .

- Does  $g$  have a relative minimum, a relative maximum, or neither at  $x = 10$ ? Justify your answer.
- Does the graph of  $g$  have a point of inflection at  $x = 4$ ? Justify your answer.
- Find the absolute minimum value and the absolute maximum value of  $g$  on the interval  $-4 \leq x \leq 12$ . Justify your answers.
- For  $-4 \leq x \leq 12$ , find all intervals for which  $g(x) \leq 0$ .