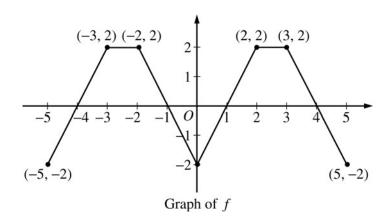
2006 AP® CALCULUS AB FREE-RESPONSE QUESTIONS



- 3. The graph of the function f shown above consists of six line segments. Let g be the function given by $g(x) = \int_0^x f(t) dt$.
 - (a) Find g(4), g'(4), and g''(4).
 - (b) Does g have a relative minimum, a relative maximum, or neither at x = 1? Justify your answer.
 - (c) Suppose that f is defined for all real numbers x and is periodic with a period of length 5. The graph above shows two periods of f. Given that g(5) = 2, find g(10) and write an equation for the line tangent to the graph of g at x = 108.

WRITE ALL WORK IN THE PINK EXAM BOOKLET.

END OF PART A OF SECTION II