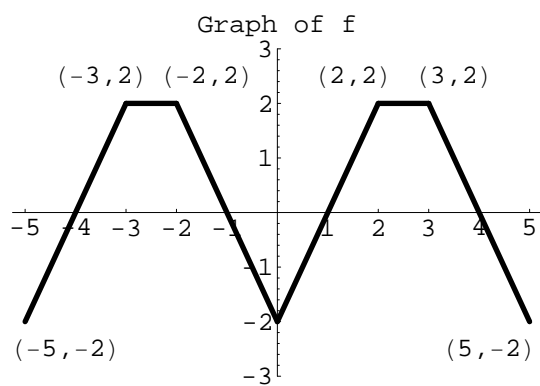*You MAY use your calculators.*

Graph of f

The graph of the function f shown above consists of six line segments. Let g be the function given by $g(x) = \int_0^x f(t)\, \mathrm{d}t$.

(a) Find $g'(4)$, and $g''(4)$.

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(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 $x = 108$.