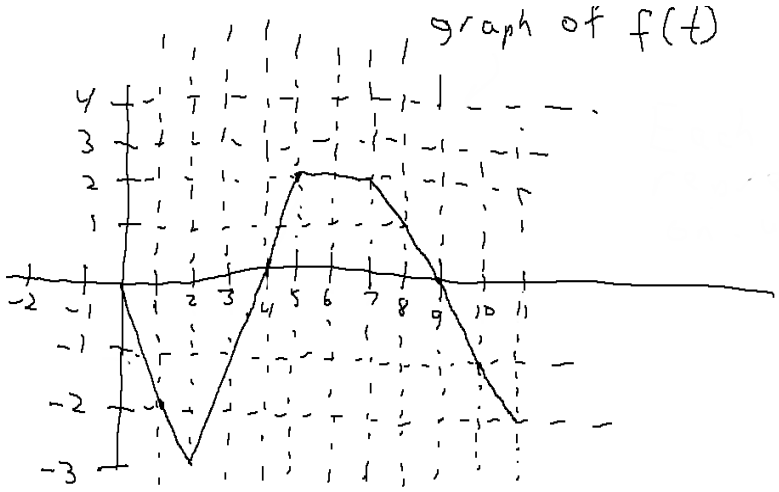
Definite integrals. The Fundamental Theorem of Calculus, Part 1
homework problems for video (2)
solutions in video (3)



(8) Evaluate the following definite integrals

(a) $\int_0^4 f(t)\,dt$

(b) $\int_4^7 f(t)\,dt$

(c) $\int_7^{11} f(t)\,dt$

(d) $\int_0^{11} f(t)\,dt$

9. Define $g(x) = \int_0^x f(t)\,dt$, where f is given by the above graph and x is in $[0, 11]$. On which interval(s) is g increasing? Briefly explain.

Find the derivatives g'(x) of the following functions (using FTC1).

(a) $g(x) = \int_x^3 \frac{e^t - 1}{\sin t}\,dt$

(b) $g(x) = \int_1^{2x} t(5 + t^2)\,dt$