

Fundamental Theorem of Calculus – Part II (NC)

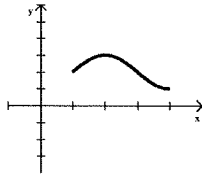
Name: _____

Write out the FTC II (in words), then use it to solve the problems that follow.

1. The graph of f' is shown below.

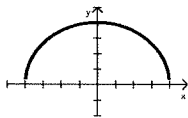
Show work here:

$\int_1^4 f'(x)dx = 6.2$ and $f(1) = 3$. Find $f(4)$.



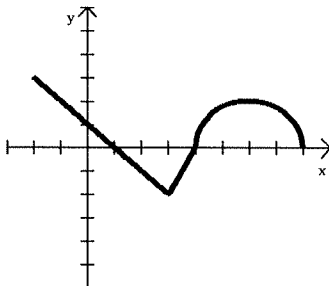
2. The graph of f' is the semi-circle below.

Find $f(-4)$ given that $f(4) = 7$.



3. The graph of f' , consisting of two line segments and a semicircle, is shown. Given that $f(-2) = 5$, find:

- (a) $f(1)$ (b) $f(4)$ (c) $f(8)$



4. $\int_0^9 (e^x - x^2) dx$

5. $\int_1^9 (t - \sqrt{t}) dt$

6. $\int_4^{16} \left(\frac{p-1}{p}\right) dp$

7. $\int_0^5 \frac{1}{(x-3)^2} dx$ (Watch out!!)

8. $\int_0^1 \frac{1}{(x-3)^2} dx$

9. Use the function f in the figure and the function F defined by $F(x) = \int_0^x f(t) dt$ on the interval $0 \leq x \leq 4$ to complete the table.

x	0	1	2	3	4
$F(x)$					

