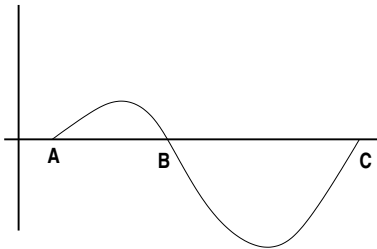


Week in Review # 9
Sections 5.5, 7.1, 7.2

Things to know:

- Understand that $\int_a^b f'(x)dx$ is the total change of $f(x)$ from $x = a$ to $x = b$
 - Be able to compute antiderivatives by the integration rules and by u-substitution.
-

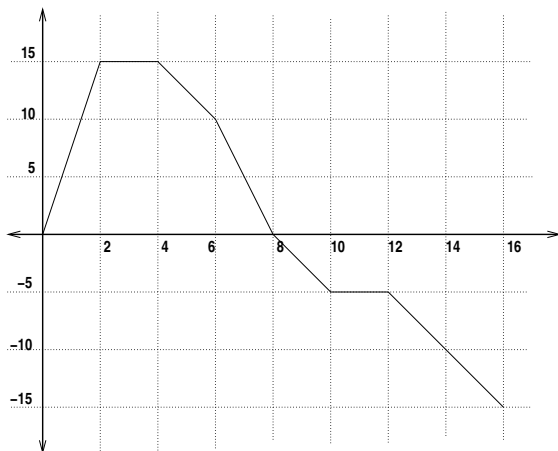
1. Use the graph is of $f'(x)$ to determin which of these two values are the largest.



(a) $f(a)$ or $f(b)$

(b) $f(a)$ or $f(c)$

2. The graph is of $f'(x)$. Fill in the table values for $f(x)$ given that $f(6) = 100$



x	0	2	4	12	14	16
$f(x)$						

3. Which of these is an antiderivative of $f'(x) = 4xe^{2x}$?

(a) $f(x) = 2x^2e^{2x} + xe^{2x} + C$

(b) $f(x) = 2xe^{2x} - e^{2x} + C$

(c) $f(x) = (2x - 1)e^{2x}$

4. Find $f(x)$ if $f'(x) = 6e^{2x} + 8\sin(2x)$ and $f(0) = 20$

5. Compute these integrals.

(a) $\int 7x^4 + 5x^3 + 8 \, dx$

(b) $\int 3x^2 \, dw$

(c) $\int 5x + \frac{5}{x} + \frac{6}{x^4} \, dx$

$$(d) \int \frac{1}{e^{3x}} + \frac{1}{4x} dx$$

$$(e) \int x^2 \sqrt{x} dx$$

$$(f) \int 6 \cos(3x) + e dx$$

$$(g) \int 4x^3(1 + 2x^4)^8 dx$$

$$(h) \int \frac{x^4}{\sqrt{x^5 + 5}} dx$$

$$(i) \int (8x^3 + 14) \sin(x^4 + 7x) dx$$

$$(j) \int \sin(2x) (\cos(2x) + 10)^7 dx$$

$$(k) \int \frac{12xe^{x^2}}{1 + e^{x^2}} dx$$

$$(l) \int 12 \sin(6x + 7) \cos(6x + 7) dx$$