Given the graph of $f'(x)$ to the right answer questions 1-4
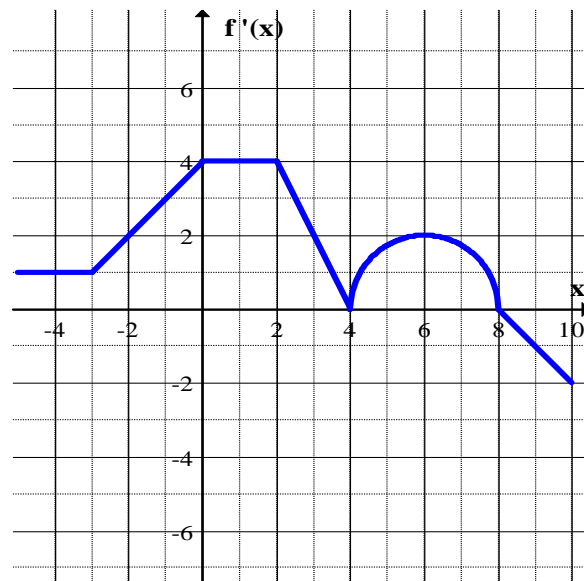
1. $\int_{-4}^{-2} f'(x)\,dx$

2. $\int_{3}^{6} f'(x)\,dx$

3. $\int_{3}^{0} f'(x)\,dx$

4. $\int_{4}^{10} \left(f'(x)+3 \right)\,dx$

5. $\int \left(5x^3 + 2x - \cos x \right)\,dx$

6. $\int \frac{-1}{\sqrt{1-x^2}}\,dx$

7. $\int \cot x \csc x\,dx$

8. $\int \frac{x^2+1}{x}\,dx$

9. You are walking along the bank of a tidal river watching the incoming tide carry a bottle upstream. You record the velocity of the flow every 5 minutes for an hour, with the results shown in the table below. About how far upstream does the bottle travel during that hour?

Time (min)	0	5	10	15	20	25	30	35	40	45	50	55	60
Velocity (m/min)	1.0	1.2	1.7	2.0	1.8	1.6	1.4	1.2	1.0	1.8	1.5	1.2	0

   a. Find LRAM$_{12}$ estimate using 12 subintervals of length 5.

   b. Find RRAM$_{12}$ estimate using 12 subintervals of length 5.

   c. Find MRAM$_6$ estimate using 6 subintervals of length 10.

10. Given $\int_{0}^{4} f(x)\,dx = 7$, $\int_{0}^{7} f(x)\,dx = -1$, and $\int_{4}^{7} G(x)\,dx = 9$. What is $\int_{4}^{7} \left(2f(x) - 3G(x) \right)\,dx$?