

## Assignment-Second fundamental theorem of calculus

For each problem, find  $F'(x)$ .

1)  $F(x) = \int_{-4}^x (t - 2) dt$

2)  $F(x) = \int_0^x (t^3 - 4t^2 + 5) dt$

3)  $F(x) = \int_{-1}^{x^2} (t^2 - 2t - 1) dt$

4)  $F(x) = \int_{-3}^{2x} (-t^2 - 4t - 1) dt$

5)  $F(x) = \int_x^{2x} (-t^3 + 9t^2 - 24t + 19) dt$

6)  $F(x) = \int_x^{2x} \frac{3}{t^2} dt$

7)  $F(x) = \int_x^{2x} -\sec t \tan t dt$

8)  $F(x) = \int_x^{x^2} 3e^t dt$

## Answers to Assignment-Second fundamental theorem of calculus

1)  $F'(x) = x - 2$

2)  $F'(x) = x^3 - 4x^2 + 5$

3)  $F'(x) = 2x^5 - 4x^3 - 2x$

4)  $F'(x) = -8x^2 - 16x - 2$

5)  $F'(x) = -15x^3 + 63x^2 - 72x + 19$

6)  $F'(x) = -\frac{3}{2x^2}$

7)  $F'(x) = -2\sec 2x \tan 2x + \sec x \tan x$

8)  $F'(x) = 6xe^{x^2} - 3e^x$

