6.4 Accumulation Functions

Calculus Name: _____ **CA #1**

Find $F'(x)$.

1. $F(x) = \int_4^x \frac{1}{\sqrt{t}}\,dt$

2. $F(x) = \int_3^x t^2\,dt$

3. $F(x) = \int_\pi^x \tan t\,dt$

4. $F(x) = \int_5^x \frac{1}{t}\,dt$

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

6. $F(x) = \int_e^{e^x} \ln t\,dt$

7. $F(x) = \int_9^{x^4} \sqrt{t}\,dt$

8. $F(x) = \int_0^{x^2 - x} t^2\,dt$

9. $F(x) = \int_{-\pi}^{\cos x} 2^t\,dt$

10. $F(x) = \int_{-x}^{x} \sin^2 t\,dt$

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

12. $F(x) = \int_{x^2}^{x^4} \sqrt{t}\,dt$

Answers to 9.1 CA #1

1. $\frac{1}{\sqrt{x}}$	2. x^2	3. $\tan x$	4. $\frac{1}{x}$	5. $2 - 8x^2$	6. xe^x	7. $4x^5$	8. $2x^5 - 5x^4 + 4x^3 - x^2$	9. $-\sin x\, 2^{\cos x}$	10. $\sin^2 x + \sin^2(-x)$	11. $54x^5 + x^2$	12. $4x^5 - 2x^2$