SATPREP Name_____

Assignment:Second fundamental Theorem of Calculus Date_____

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

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

2) $F(x) = \int_{1}^{x} (-t^3 + 4t^2 - 7)\, dt$

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

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

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

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

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

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

9) $F(x) = \int_{x}^{2x} e^t\, dt$

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

Answers to Assignment:Second fundamental Theorem of Calculus

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

2) $F'(x) = -x^3 + 4x^2 - 7$

3) $F'(x) = 6x^5$

4) $F'(x) = -2xe^{x^2+1}$

5) $F'(x) = -6x^{\frac{5}{3}}$

6) $F'(x) = \frac{2}{x^5}$

7) $F'(x) = -\frac{6x}{(x^2-1)^3} + \frac{3}{(x-1)^3}$

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

9) $F'(x) = 2e^{2x} - e^x$

10) $F'(x) = \frac{2}{x}$