AP Calculus AB Name_____ ID: 1

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FTC 1 and 2 [I-U8]

Date_____ Period____

For each problem, find $F'(x)$. Skill I-U4

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

2) $F(x) = \int_{-\frac{\pi}{6}}^{x} 2 \cdot \sec^2 t\, dt$

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

4) $F(x) = \int_{-\frac{\pi}{4}}^{x^2} -\sec^2 t\, dt$

5) $F(x) = \int_{0}^{3x} (-t^3 + 2t^2 + 3)\, dt$

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

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

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

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Evaluate each definite integral. Skill I-U8

9) $\int_{-1}^{1} \left(-x^4 + x^2 + 2\right) dx$

10) $\int_{2}^{3} -\frac{3}{x^2}\, dx$

11) $\int_{2}^{4} -\frac{4}{x}\, dx$

12) $\int_{-\frac{\pi}{4}}^{0} -2\sec x \cdot \tan x\, dx$

13) $\int_{\frac{3}{2}}^{\frac{3\sqrt{3}}{2}} \frac{1}{\sqrt{9 - x^2}}\, dx$

14) $\int_{0}^{\frac{\pi}{4}} -2 \cdot \sec^2 x\, dx$

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