Name_____ ID: 1
Hwk CH4 MVT, AVT, FTC #2
Date_____ Period_____

For each problem, find the values of c that satisfy the Mean Value Theorem for Integrals.

1) $f(x) = -2x^2 - 4x + 2; \ [-3, 1]$

2) $f(x) = -\dfrac{5}{x^2}; \ [1, 2]$

For each problem, find the average value of the function over the given interval.

3) $f(x) = -x + 1; \ [-2, 3]$

4) $f(x) = -2\cos x; \ [-\dfrac{\pi}{6}, \pi]$

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

5) $F(x) = \displaystyle\int_{2}^{x} \left(-t^3 + 3t^2 + 2\right) dt$

6) $F(x) = \displaystyle\int_{-\frac{\pi}{2}}^{x} \csc t \cdot \cot t \ dt$