Max/Min Values

Find the absolute maximum and minimum values of the following functions on the intervals indicated:

1. $f(x) = 3x^2 - 12x + 5$ on $[0, 3]$.

2. $f(x) = \frac{x}{x^2+1}$ on $[0, 2]$.

3. $f(x) = \frac{\ln(x)}{x}$ on $[1, 3]$.

4. $f(x) = e^{-x} - e^{-2x}$ on $[0, 1]$.

5. $f(x) = \sin(x) + \cos(x)$ on $[0, \pi/3]$.