Supplemental HW due 11/1 (but complete before 10/25)

1.) State the intervals on which f is increasing and state the intervals on which f is decreasing if

a.) The derivative of $f = f'(x) = \frac{e^{2x}(x-3)^2}{x+1}$.

b.) The derivative of $f = f'(x) = \frac{(e^{2x}-1)(x-4)^2}{(x+1)ln(x)}$.

2.) State the intervals on which f is concave up and state the intervals on which f is concave down if

a.) The second derivative of $f = f''(x) = \frac{ln[(x-3)^2]}{e^x+1}$.

b.) The second derivative of $f = f''(x) = \frac{ln(x^2-x-1)]}{e^x ln(x)}$.