Math 527 Topics in Calculus and Analysis
Homework Assignment 2
Due Tuesday, February 18, 2014

Use the limit definition of derivative
\[ f'(x) = \lim_{h \to 0} \frac{f(x + h) - f(x)}{h} \]
for the following functions:

(1) \( f(x) = x^2 - 5x + 2 \)

(2) \( f(x) = x^3 + 7x + 5 \)

(3) \( f(x) = \frac{-2}{x - 1} \)

(4) \( f(x) = \frac{x^2}{x - 4} \)

(5) \( f(x) = \sqrt{x - 8} \)