Math 75/Burger
Test 1 Speed prep-problems/part a

1. Simplify $\frac{f(4+h)-f(4)}{h}$ for $f(x) = 2x^2 - 3x$ (Be prepared to show your work on this problem!)

   a. $13 + 3h$
   b. $13 + 2h$
   c. $13 + h$
   d. $13 - h$
   e. $13 - 3h$

2. The domain of the function $f(x) = \frac{2x-1}{4x^2-1}$ is

   a. $(-\frac{1}{2}, \frac{1}{2}]$
   b. $(-\frac{1}{2}, \frac{1}{2})$
   c. $(-\infty, -\frac{1}{2}) \cup (-\frac{1}{2}, \frac{1}{2}) \cup \left(\frac{1}{2}, \infty\right)$
   d. $(-\infty, -\frac{1}{2}) \cup (-\frac{1}{2}, \infty)$
   e. $(-\infty, \frac{1}{2}) \cup \left(\frac{1}{2}, \infty\right)$

3. What is $\lim_{x \to \frac{1}{2}} \frac{2x-1}{4x^2-1}$?

4. What is $\lim_{x \to -\frac{1}{2}^-} \frac{2x-1}{4x^2-1}$?

5. Does $\lim_{x \to -\frac{1}{2}} \frac{2x-1}{4x^2-1}$ exist?