

You may only use your textbook, your notes, and your calculator on these problems. You may not use any outside resources, including tutors or solution manuals. Remember that the purpose of these quizzes is to see if you understand what you have learned on your homework, and also to tell you what you still need to study for the upcoming exam.

1. (2 points) Given $f(x) = 3x^2 - 2x + 1$ find $\frac{f(x+h)-f(x)}{h}$.

2. (2 points) Find the limit: $\lim_{h \rightarrow 0} \frac{x^2 + 2xh + h^2 - 3 - x^2 + 3}{h}$

3. (2 points) Find the limit: $\lim_{x \rightarrow 3} \frac{4x+12}{x^2-9}$.

4. (2 points) Find the limit: $\lim_{x \rightarrow 1^-} \frac{\sqrt{2x}(x-1)}{|x-1|}$

5. (2 points) Using a verbal description, describe what a limit is and what it finds. Provide graphs to illustrate your verbal description.