Math 221 Week 4 Quiz

Name:

Section:

Instructions: There are 2 questions in this quiz (both sides printed).
Time: **10 minutes.**
You do not need to simplify your answers
No Calculators, No Notecards
You must **show your work and justify your answer** to receive credit. Good luck and try to have fun!

Problem 1: Let

$$f(x) = \begin{cases} ax + 1 & x < 6 \\ x^2 + a & x \geq 6 \end{cases}$$

Find the value of a that makes f continuous everywhere. (5 points)

Problem 2: Use the definition of the derivative to find the derivative of the function $f(x) = \frac{1}{x+2}$ at the point $x = 2$. (5 points)

Bonus (0 pts): What's a good TV show that isn't bad?