Math 220 - Take-home quiz (Quiz 2)

1. Find the indicated limits:

$$\lim_{x \to 7} \frac{x+2}{x-8}$$

$$\lim_{x \to 7^+} \frac{x+1}{x^2-49}$$

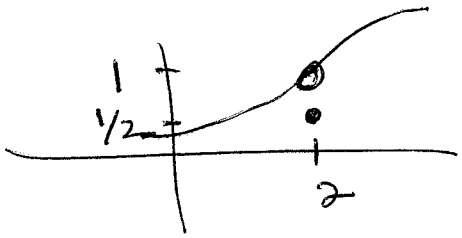
$$\lim_{x \to 7^-} \frac{x+1}{x^2-49}$$

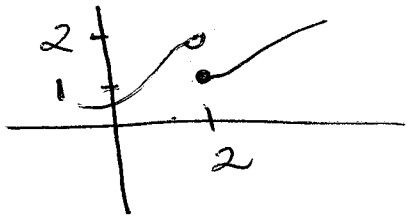
$$\lim_{x \to 7} \frac{x+1}{x^2-49}$$

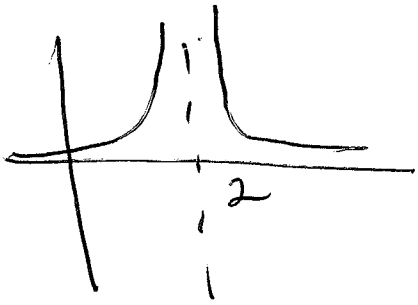
$$\lim_{x \to 1} f(x) \quad \text{when} \quad f(x) = \begin{cases} 6 + x, & x < 1 \\ 2 + 5x, & x \geq 1 \end{cases}$$

$$\lim_{x \to 8} \frac{\frac{1}{8} - \frac{1}{x}}{x^2 - 64}$$

What is the limit of each fcn. as $x \to 2$?







2. At a level of production of 23 units, the "marginal cost of production" is \$8. Explain what this means.

3. Find doubling time for an investment of \$800 at interest rate of $3\frac{1}{2}\%$ compounded quarterly. Show all your work and use a calculator to give the answer.