Quiz 2 **Name:** Key

Instructions: Show all work and simplify your answers! Correct answers without work will receive zero points. Also, points will be taken from messy solutions. **Good Luck!** ☺

Evaluate the following limits.

1. $\lim_{x\to 7} \dfrac{x^2-12x+35}{x-7}$

$$= \lim_{x\to 7} \frac{(x-7)(x-5)}{x-7}$$

$$= \lim_{x\to 7} (x-5)$$

$$= 7-5$$

$$= 2$$

2. $\lim_{x\to 1} \dfrac{\frac{1}{x}-1}{x-1}$

$$= \lim_{x\to 1} \frac{\frac{1}{x}-\frac{x}{x}}{x-1}$$

$$= \lim_{x\to 1} \frac{\frac{1-x}{x}}{x-1}$$

$$= \lim_{x\to 1} \frac{1-x}{x}\cdot\frac{1}{x-1}$$

$$= \lim_{x\to 1} \frac{1-x}{x}\cdot\frac{-1}{1-x}$$

$$= \lim_{x\to 1} \frac{1}{x}\cdot\frac{-1}{1}$$

$$= \lim_{x\to 1} \frac{-1}{x}$$

$$= \frac{-1}{1}$$

$$= -1$$