Continuity Preparation

Have completed by tomorrow (beginning of class): From the graphs below, write down the domain of each function and then answer the questions in the columns labeled 1-3. Make an educated guess about whether the function is continuous at x = 3.

the questions in the columns labeled 1-3	Function	1	2	3	
<u>Graph</u>	What is the domain?	What is $f(3)$?	What is $\lim_{x\to 3} f(x)$?	Does $f(3) = \lim_{x \to 3} f(x)^{?}$	Is f continuous at $x = 3$?
8 6 9 4 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	$f(x) = \frac{x^2 - 9}{x - 3}$				
8 6 9 9 4 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	$f(x) = \frac{1}{x - 3}$				
8 6 9 4 2 2 2 3 2 1 2 4 6	$f(x) = \begin{cases} \frac{1}{x-3}, & x \neq 3 \\ -1, & x = 3 \end{cases}$				
8 6 9 4 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	$f(x) = \begin{cases} \frac{x^2 - 9}{x - 3}, & x \neq 3 \\ -1, & x = 3 \end{cases}$				
-5 -4 -3 -2 -1 0 1 2 3 4 6 x	$f(x) = \begin{cases} \frac{x^2 - 9}{x - 3}, & x \neq 3 \\ 6, & x = 3 \end{cases}$				
y 4- 2- 2- 3 -2 -1 U 1 2 3 4 6	$f(x) = \begin{cases} 0, & x < 3 \\ 1, & x \ge 3 \end{cases}$				