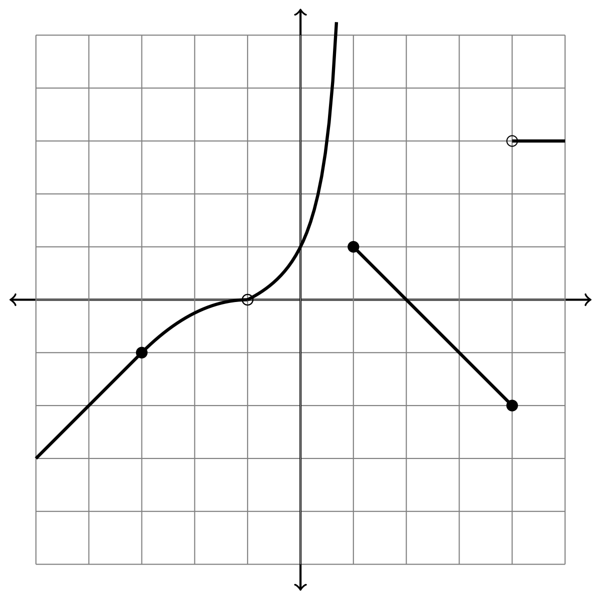
Consider the following piecewise function:

$$f(x) = \begin{cases} 2+x & x \leq -3 \\ -\frac{1}{4}(x+1)^2 & -3 < x < -1 \\ \frac{2}{1-x} - 1 & -1 < x < 1 \\ 2-x & 1 \leq x < 4 \\ -2 & x = 4 \\ 3 & x > 4 \end{cases}$$

whose graph is shown here:



1. There is a table on the last page of the workshop. Fill out all of the information requested in it. You will be asked about one-sided limits, full limits, and continuity of this function f. Do whatever scratch work you need, but you only need to write the answers in the table.

2. Come up with a new function $g(x)$, defined piecewise, with the following properties:

   - g has a jump discontinuity at $x = -2$,
   - g has a removable discontinuity at $x = 1$,
   - g has an infinite discontinuity at $x = 3$, and
   - g is continuous everywhere else.

	$c = -3$	$c = -1$	$c = 1$	$c = 4$
$\lim_{x \to c^+} f(x)$				
$\lim_{x \to c^-} f(x)$				
$\lim_{x \to c} f(x)$				
$f(c)$				
Is f continuous at c?				