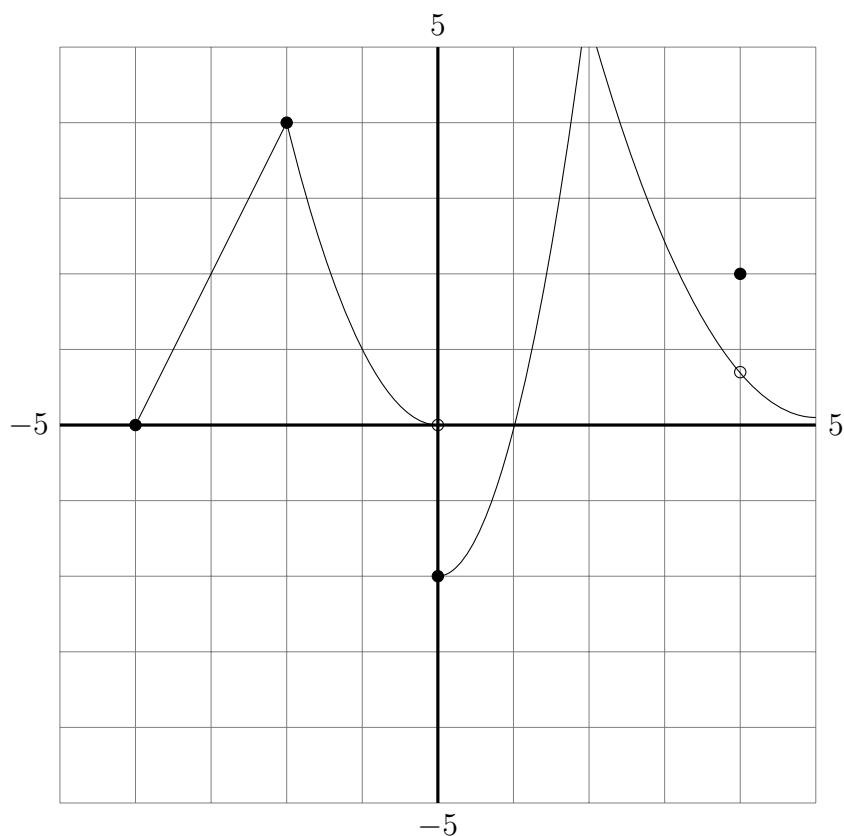


# Math-13 Sections 01 and 02

## Homework #5 Solutions

Consider the following function:



Answer the following for the points at  $c = -4, -2, 0, 2, 4$ :

- Determine  $\lim_{x \rightarrow c^-} f(x)$
- Determine  $\lim_{x \rightarrow c^+} f(x)$
- Determine  $\lim_{x \rightarrow c} f(x)$
- State whether or not the function is continuous at the point. If not, then state why.

$a$	$-4$	$-2$	$0$	$2$	$4$
$\lim_{x \rightarrow a^-} f(x)$	$DNE$	$4$	$0$	$\infty$	$0.8$
$\lim_{x \rightarrow a^+} f(x)$	$0$	$4$	$-2$	$\infty$	$0.8$
$\lim_{x \rightarrow a} f(x)$	$DNE$	$4$	$DNE$	$\infty$	$0.8$

$f(x)$  is not continuous at  $x = -4$  because the limit does not exist.

$f(x)$  is continuous at  $x = -2$ .

$f(x)$  is not continuous at  $x = 0$  because the limit does not exist.

$f(x)$  is not continuous at  $x = 2$  because the limit is infinite.

$f(x)$  is not continuous at  $x = 4$  because the limit does not equal the function value.