

# Unit 3: Limits

## Vocabulary and notation

$\lim_{x \rightarrow a} f(x)$	$\lim_{x \rightarrow a^+} f(x)$	$\lim_{x \rightarrow a^-} f(x)$	$\lim_{x \rightarrow \infty} f(x)$
$\lim_{x \rightarrow -\infty} f(x)$	continuous	continuous on an open interval	continuous on a closed interval
	horizontal asymptote	limit of a sequence	

## Skills

- Formal definition of a limit: know it and be able to use it in simple cases
- Recognition of limits from graphs
- Limits at infinity: definition
- One-sided limits: definition
- Limits of  $\pm\infty$ , as a subclass of UNDEFINED limits
- Definition of continuity

Know when these results apply and how to use them:

- Intermediate value theorem
- Theorems for computing limits: sums/differences, products/quotients, composition with continuous functions
- Conjugate radical trick
- Sandwiching theorem