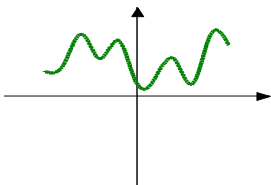
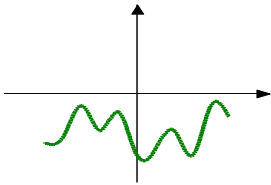
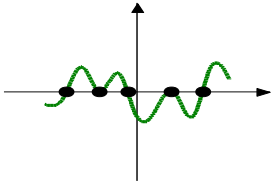
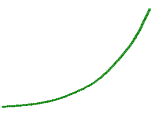
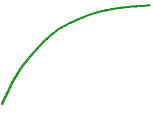
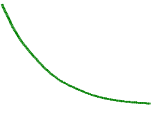
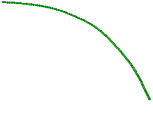


Main graphical features of a function









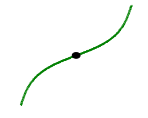
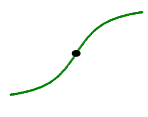
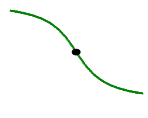

Position features

$f(x)$	Position	Graph
<i>Positive</i>	<i>Above the x-axis</i>	
<i>Negative</i>	<i>Below the x-axis</i>	
<i>0</i>	<i>On the x-axis</i>	

Pattern features

$f(x)$	$f'(x)$	Pattern	Graph
<i>Positive</i>	<i>Positive</i>	<i>Increasing and concave up</i>	
	<i>Negative</i>	<i>Increasing and concave down</i>	
<i>Negative</i>	<i>Positive</i>	<i>Decreasing and concave up</i>	
	<i>Negative</i>	<i>Decreasing and concave down</i>	

Special points

$f'(x)$	$f''(x)$	Feature	Graph
$Neg \rightarrow 0 \rightarrow Pos$	<i>Positive</i>	<i>Minimum</i>	
$Neg \rightarrow 0 \rightarrow Neg$	$Pos \rightarrow 0 \rightarrow Neg$	<i>Inflection</i>	
$Pos \rightarrow 0 \rightarrow Neg$	<i>Negative</i>	<i>Maximum</i>	
$Pos \rightarrow 0 \rightarrow Pos$	$Neg \rightarrow 0 \rightarrow Pos$	<i>Inflection</i>	
$Neg \rightarrow DNE \rightarrow Pos$	$Neg \rightarrow DNE \rightarrow Neg$	<i>Cusp¹ or Asymptote²</i>	
$Neg \rightarrow DNE \rightarrow Neg$	$Neg \rightarrow DNE \rightarrow Pos$	<i>Vert.Infl.¹ or Asymptote²</i>	
$Pos \rightarrow DNE \rightarrow Neg$	$Pos \rightarrow DNE \rightarrow Pos$	<i>Cusp¹ or Asymptote²</i>	
$Pos \rightarrow DNE \rightarrow Pos$	$Pos \rightarrow DNE \rightarrow Neg$	<i>Vert.Infl.¹ or Asymptote²</i>	
<i>Positive</i>	$Neg \rightarrow 0 \rightarrow Pos$	<i>Inflection</i>	
<i>Positive</i>	$Pos \rightarrow 0 \rightarrow Neg$	<i>Inflection</i>	
<i>Negative</i>	$Neg \rightarrow 0 \rightarrow Pos$	<i>Inflection</i>	
<i>Negative</i>	$Pos \rightarrow 0 \rightarrow Neg$	<i>Inflection</i>	

DNE: Does Not Exist

1: If the limit of the function at that point exists and is finite: left graph

2: If the limit of the function at that point is not finite: right graph