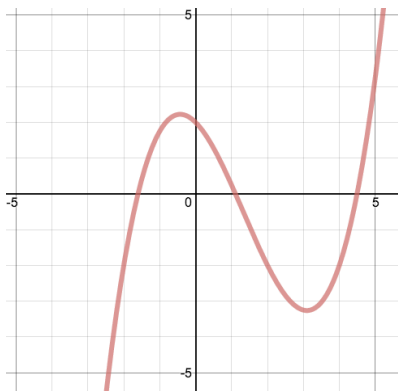


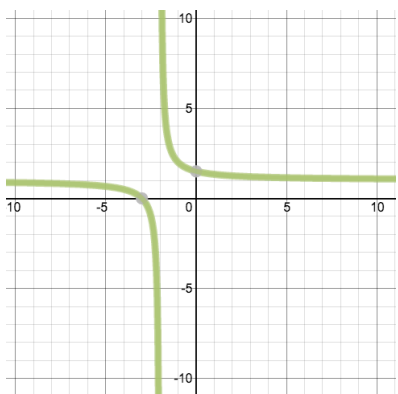
### 1. New Terms Related to Functions

Functions & their features can be described using some/all of the following terms → increasing & decreasing, symmetrical, optimal points, continuous & discontinuous as well as asymptotic behaviour

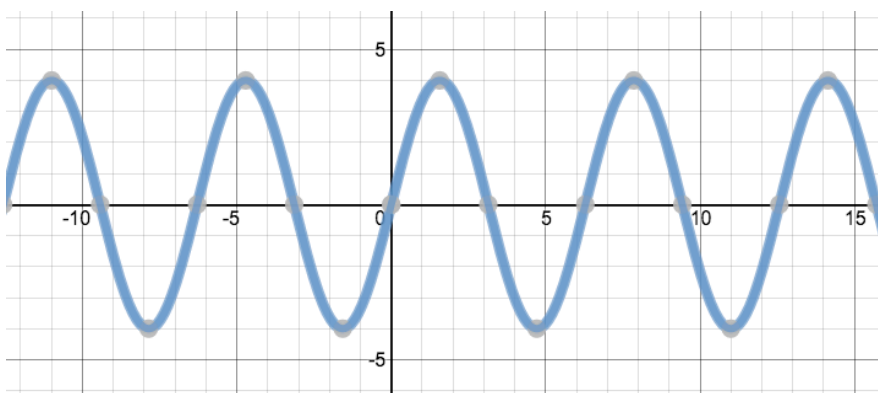
Below are five NEW graphs of functions that we will study in IM3 that demonstrate some of these features. Using these graphs, EXPLAIN what each of the terms above might mean and then indicate where these occur on the functions



domain:  
range:  
increase/decrease:  
symmetry:  
optimal points:  
continuous?



domain:  
range:  
increase/decrease:  
symmetry:  
optimal points:  
continuous?:

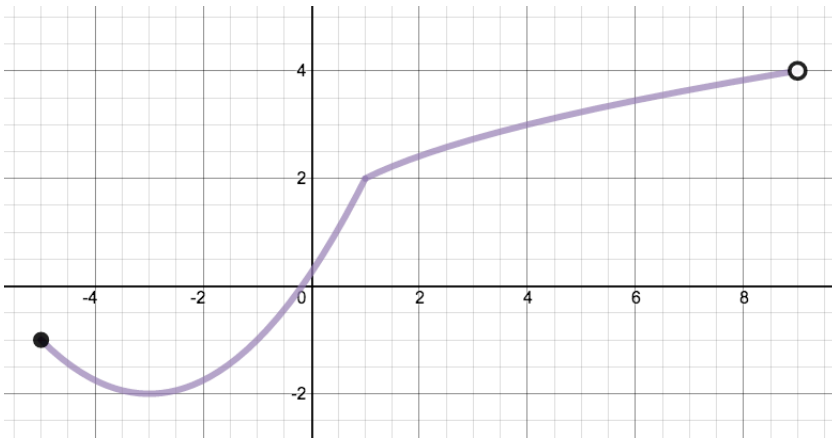


domain:  
range:  
increase/decrease:  
symmetry:  
optimal points:  
continuous?:

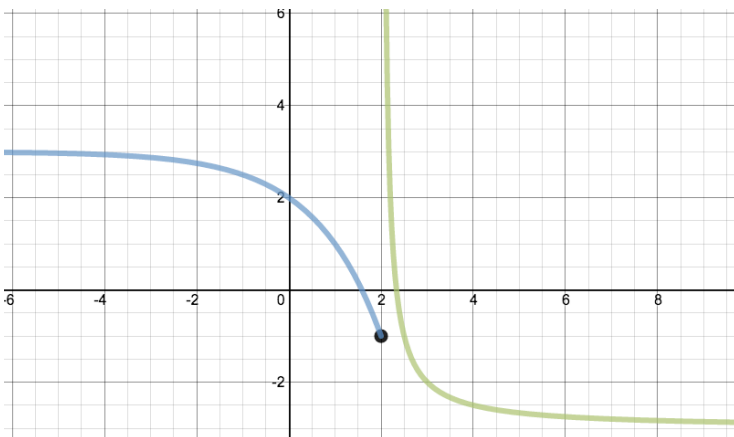
**2. New Terms Related to Functions – Consolidation with Piecewise Functions**

Functions & their features can be described using some/all of the following terms → increasing & decreasing, symmetrical, optimal points, continuous & discontinuous as well as asymptotic behaviour

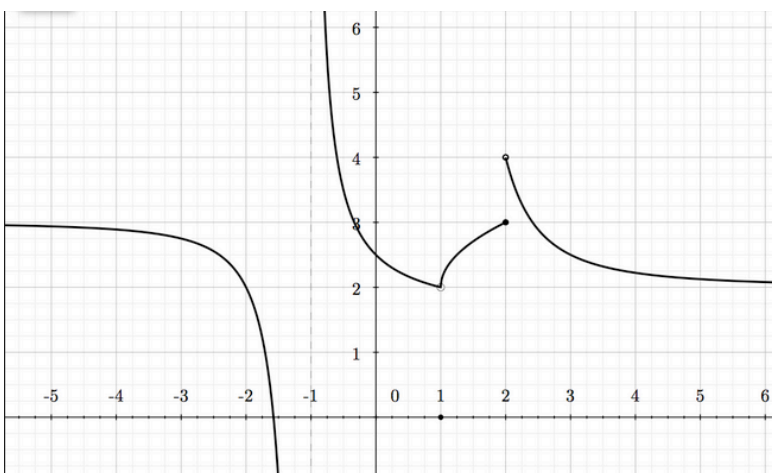
Below are three NEW graphs of functions that we will study in IM3 that demonstrate some of these features. Using these graphs, EXPLAIN what each of the terms above might mean and then indicate where these occur on the functions



domain:  
range:  
increase/decrease:  
symmetry:  
optimal points:  
continuous?:



domain:  
range:  
increase/decrease:  
symmetry:  
optimal points:  
continuous?:



domain:  
range:  
increase/decrease:  
symmetry:  
optimal points:  
continuous?:

**A. New Terms Related to Functions – Using the TI-84 to Graph & Analyze Functions**

Functions & their features can be described using some/all of the following terms → increasing & decreasing, symmetrical, optimal points, continuous & discontinuous as well as asymptotic behaviour

Below are three NEW graphs of functions that we will study in IM3 that demonstrate some of these features. Using these graphs, EXPLAIN what each of the terms above might mean and then indicate where these occur on the functions

<p>(a) <math>f(x) = -\frac{1}{2}x^3 - 2x^2 + 3</math></p>	<p>domain: range: increase/decrease: symmetry: optimal points: continuous?</p>
<p>(b) <math>g(x) = \frac{x^2 + 1}{x - 1}</math></p>	<p>domain: range: increase/decrease: symmetry: optimal points: continuous?</p>