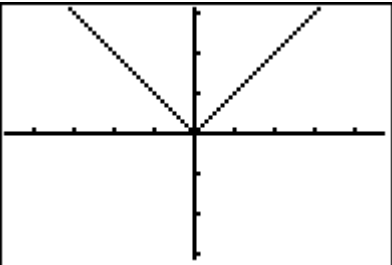
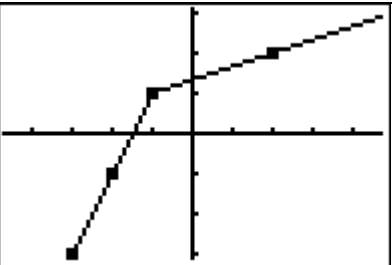
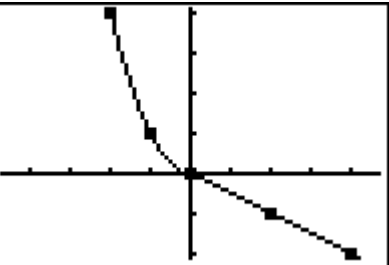
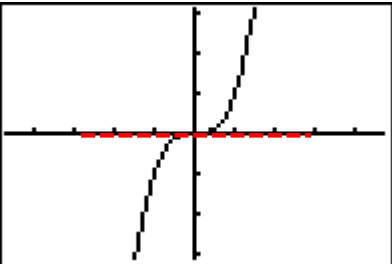
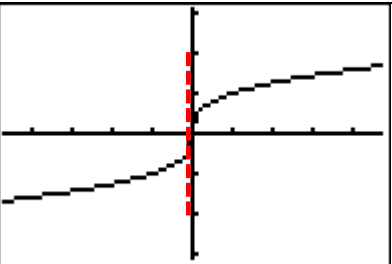
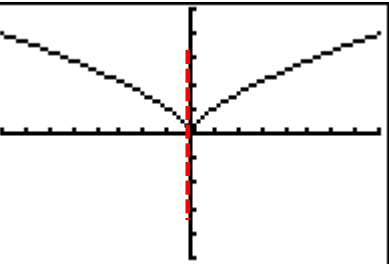
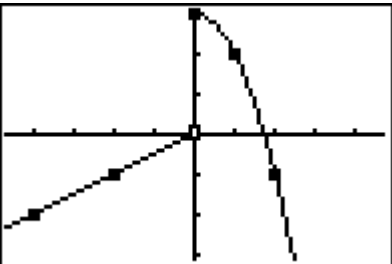


**DIFFERENTIABILITY**

- 1) Is  $f(x)$  continuous at the specified  $x$ -value? Use the definition of continuity to justify your answer.
- 2) Sketch the graph of the derivative function  $f'(x)$  on the same axes.
- 3) Is the derivative function continuous for all  $x$ ? If no, state the  $x$ -value where discontinuity occurs.
- 4) The graph of  $f(x)$  is differentiable everywhere the derivative function exists. State the  $x$ -value where  $f(x)$  is not differentiable.

		
<p>at <math>X=0</math></p>	<p>at <math>X=-1</math></p>	<p>at <math>X=0</math></p>
		
<p>at <math>X=0</math></p>	<p>at <math>X=0</math></p>	<p>at <math>X=0</math></p>
	<p>What is a pre-requisite for a graph to be differentiable?</p> <hr/> <p>On the graph of <math>f(x)</math> describe 3 characteristics you may see which result in non-differentiability.</p> <hr/> <hr/> <hr/>	<p>Write the Definition of Derivative for a function:</p> <hr/> <p>When does a limit exist?</p> <hr/> <p>So in order for a function to be differentiable at a point...</p> <hr/> <p>or in other notation:</p> <hr/>
<p>at <math>X=0</math></p>		

If a function is differentiable at a point, then the function is always \_\_\_\_\_ at that point.

If a function is continuous at a point, then the function is sometimes \_\_\_\_\_ at that point.

