AP Calculus-AB Limits, Continuity, & R.O.C Day 10

Notes: Derivative as a Function

Example(s) 1:

 For the function given, arrange the following numbers from least to greatest.

1. $ f^{'}\left(-5\right), f^{'}\left(-3.5\right), f^{'}\left(-2\right), f^{'}\left(.5\right), f^{'}\left(3\right) \& f(4)$
2. Sketch a graph of the derivative on top of $f(x)$.



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| What do you know about $f(x)$? | What does it tell you about $f'(x)$? |
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Example(s) 2:

 Sketch the graph of $f'(x)$ given the graph of f(x).

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Differentiability:

We say that a function is differentiable at a point if a derivative is defined at the point. A function  will fail to be differentiable at  if

*  is discontinuous at ,
*  has a cusp or corner at , or
*  has a vertical tangent at 

Example(s) 3:

 State where each function is not differentiable and why.











