



## Applying Derivatives

*Derivatives are powerful tools for solving problems.*

4A	<b>Understanding Tangent Lines</b> <ul style="list-style-type: none"><li>• Find the equation of a tangent line</li><li>• Use a tangent line to approximate a function. (Linearization)</li><li>• Use a tangent line to approximate the zeroes of a function. (Newton's method) *</li></ul>	
4B	<b>Understanding the Mean Value Theorem</b> <ul style="list-style-type: none"><li>• Explain the meaning of the MVT</li><li>• Find values guaranteed by the MVT</li></ul>	
4C	<b>Understanding Extrema</b> <ul style="list-style-type: none"><li>• Use a variety of techniques to find extrema</li><li>• Use a variety of techniques to justify the extrema</li><li>• Optimize a scenario</li></ul>	
4D	<b>Understanding Related Rates</b> <ul style="list-style-type: none"><li>• Find equations relating rates of change</li><li>• Find unknown rates of change in a scenario</li></ul>	
4E*	<b>Understanding L'Hôpital's Rule</b> <ul style="list-style-type: none"><li>• Identify indeterminate forms</li><li>• Use algebra to rewrite indeterminate forms in the 0/0 form</li><li>• Evaluate limits with L'Hôpital's rule</li></ul>	