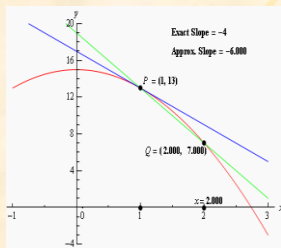
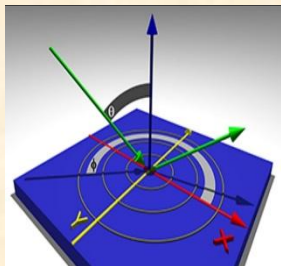
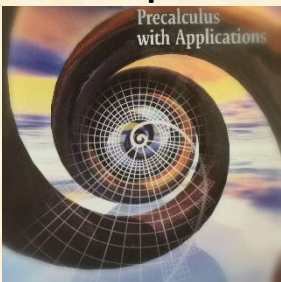




<b>Course Name</b>	<b>Pre-Calculus (Sunday)/预科微积分(周日课程)</b>
<b>Teacher</b>	<i>Mr. Ziping Lin</i>
<b>Duration</b>	1.5 hours a week, 2 semesters
<b>Students</b>	10 <sup>th</sup> -11 <sup>th</sup> grade
<b>Pre-requisites</b>	Algebra II, Geometry
<b>Prepare for</b>	Calculus, SAT Subject Test in Mathematics Level 2
<b>Description</b>	<p>Calculus has wide applications in Physics and other natural sciences, Engineering, and Finance. HuaXia Pre-Calculus is aimed to help student prepared for the All-Important Calculus. This course will progressively and systematically teach student some of the advanced concepts in Pre-Calculus and introduce Limits, Derivatives and Antiderivatives, and the Fundamental Theorem of Calculus.</p>
<b>Contents</b>	<ul style="list-style-type: none"><li>Families of Graphs – Symmetry and Continuity</li><li>Polynomial, Rational, and Radical Functions</li><li>The Trigonometric and Periodic Functions</li><li>Vectors and Parametric Equations</li><li>Polar Coordinates and Complex Numbers</li><li>Introduction to Analytic Geometry and Conics</li><li>Exponential and Logarithmic Relations</li><li>Sequences &amp; Series</li><li>Combinatorics, Statistics and Probability</li><li>Limits, Derivatives, and Antiderivative, and the Fundamental Theorem of Calculus</li></ul>



从预科代数中的斜率到微积分的即刻斜率，从物理中的平均速度到瞬时速率，牛顿和先辈们发明了微积分，向我们展示了微积分的重要性以及微积分在自然科学，工程和经济等领域中必然的广泛应用。

**预科微积分**继续从不同的深度和广度来探讨一些几何和代数 II 的概念，包括线性方程（组），不等式（组），矩阵，有理数函数，指数与对数函数，多项式，三角函数，序列与数组，并引进了物理与工程常用的向量及其运算，以及在电子信息工程中无处不在的周期函数，

**预科微积分**将引导学生们探讨一些微积分基本概念，用极限来表达无限趋近，以无限小来求导，无穷多来积分，引领学生们探索无限的微观与宏观世界。