

微積分

經驗分享

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微積分

危機氛

微績分

個案分享

92學年度 92年9月至93年7月			
科 目	第一學期		
	學分	成績	
體育—初級軟式棒球			
英語聽講	1		
憲法之基本原理與政府體制	2		
中國藝術概論			
經濟學導論	2		
線性代數			
高等微積分	4		
機率概論	3		
統計概論			
微分方程			
向量分析	*3	48	
數學軟體	3		

93學年度 93年9月至94年7月			
科 目	第一學期		
	學分	成績	
體育—初級網球	0		
體育—進階軟式棒球			
心理學導論	2		
道家經典選讀			
微分方程			
複變函數論	3		
代數學	3		
幾何學	3		
向量分析	3	96	
應用線性代數			
組合學	3		
組合編碼			

Warnings

➤ Careless Attitude

- I learned what teacher says.
- Absent

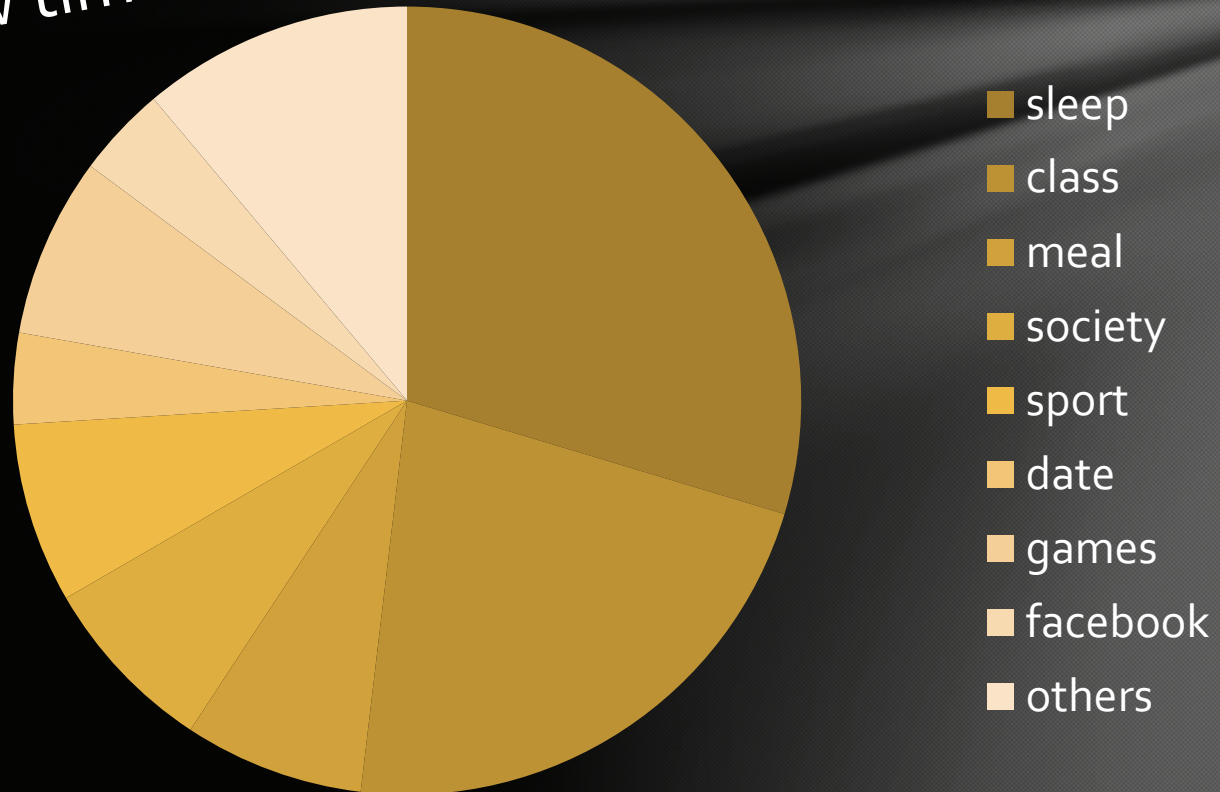
➤ Without Practice

- Examples in textbook
- Homework
- Exercises in textbook

Warnings

➤ Time Management

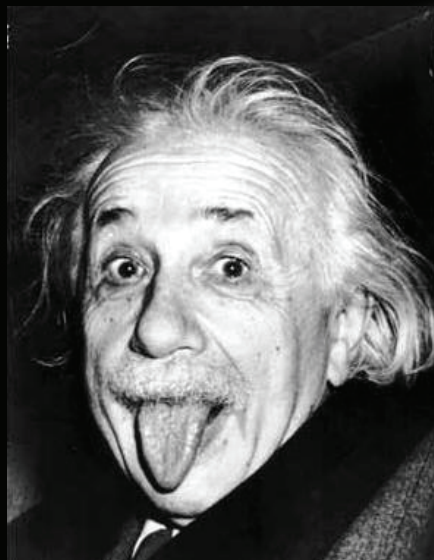
How time flies!!!



Suggestions

➤ Discussion

The knowledge that we have can be analogous to a circle. Inside the circle is what we know and what we call knowledge; outside the circle is what we don't know and need to explore.



Suggestions

➤ Resources



Suggestions

- What have we learned?

f is diff. at $x=a$:

$$f'(a) = \lim_{x \rightarrow a} \frac{f(x) - f(a)}{x - a}$$

- **slope of the tangent line**
- **increase or decrease**
- **concave upward (or downward)**
- **extremes**

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f is conti. at $x=a$:

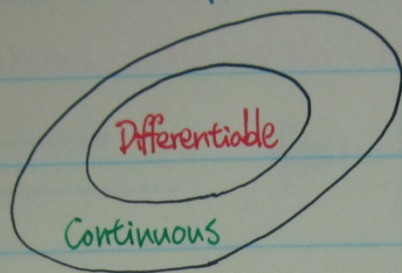
$$\lim_{x \rightarrow a} f(x) = f(a)$$

- **The Intermediate Value Theorem**
- **Existence of Zeros of a Conti. Fun.**

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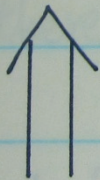
$$\lim_{x \rightarrow a^-} f(x) = f(a) = \lim_{x \rightarrow a^+} f(x)$$

✱ Note: $f(x)$ is discontinuous at $x=a$
 $\Rightarrow f(x)$ is not differentiable at $x=a$.



$$\nexists \begin{matrix} f(a) \text{ is defined} \\ \lim_{x \rightarrow a} f(x) = f(a) \end{matrix} \iff \lim_{x \rightarrow a} f(x) = f(a) = \lim_{x \rightarrow a^+} f(x).$$

i.e., $f(x)$ is conti. at $x=a$



$f(x)$ is differentiable at $x=a$.

*The difference between genius and stupidity
is that genius has its limits.*

- Albert Einstein

Thank You for Your Attention!