

JEOPARDY PROJECT

Due: Friday, May 27, 2011

You and a partner are going to practice and fine-tune your calculus skills and hopefully have some fun in the process.

Create your own Jeopardy Review Game Questions. You will write 5 questions on 5 topics, each progressively more difficult than the one before it. The questions should be comparable to the level of difficulty and style found on the AP Exam and on Mrs. Nguyen's Exams.

The questions in *each* category must present the ideas of calculus from four perspectives: Algebraic (given a formula), Numerical (given a table of values or one value), Graphical (given a graph) and Written (given a story/situation).

Your questions **MUST BE UNIQUE**...please do NOT just copy problems from the book, internet, review books, released AP Exams etc. You are to include SOLUTIONS to your 25 problems. Remember, solutions are worked out, step by step, not just answers. You are welcome to create additional problems, or make them extra creative and "real-life" to earn additional credit. Creative Category names are appreciated, as well! Try to not make the easy ones too easy, or the difficult one too impossible.

The problems **MUST** be typed up OR *neatly* hand written and scanned. This project is to be ELECTRONIC, either a DOC file (for the typed projects) and Powerpoint or PDF file (for the scanned projects) and Powerpoint.

The project is to be emailed to me, Mrs. Nguyen. They are to be in my Inbox BEFORE 9 am on Friday May 27, 2011.

Items	Points
5 categories, 25 questions (typed using WORD, follow directions, correct)	$2.5 \times 25 = 62.5$
PowerPoint set up ready to play	5
Extra categories	
Final Jeopardy	
Double Jeopardy (2 nd board)	
Sound effects (PowerPoint)	
Graphic designs (Power Point)	

A partial list of topics is included below.

- Limits 2
- Derivative Formulas 4
- Implicit Derivatives and Inverse Function Derivatives 3
- Continuity and Differentiability 2
- Slopes and Equations of Tangent Lines 3
- Related Rates 4
- Linear Approximation 2
- Mean Value Theorem and/or Rolle's Theorem 2

- Max/Min, Increasing/Decreasing 3
- Concavity, Inflection Points 3
- Optimization (Applied Max/Min) 2
- Physics applications (Particle Motion, speeding up/slowing down, total distance traveled, etc.) 2
- Integration/Anti-Differentiation 2
- Fundamental Theorems of Calculus 2
- Integral Approximation using Rectangles/Trapezoids 2
- U-Substitutions for Integration 4
- Average Value of a Function 3
- Area Between Two Curves 4
- Volumes by Rotation 2
- Volumes by Cross Section 4
- Solving Differential Equations 3
- Slope Fields 2

	Names	Topics
1.	Thomas / Daniel	Max/Min, Increasing/Decreasing, Concavity, Inflection Points, Physics applications, Integral Approximation using Rectangles/Trapezoids, Volumes by Cross Section
2.	Frank / Nic	Derivative formulas, linear approximation, integral approximation using rectangles/trapezoids, area between two curves, volume by rotation
3.	Simon / Mounir	Limits, Slope and Equations of Tangent Lines, Concavity and Inflection Points, U-Substitution for Integration, Slope Fields
4.	Angela / Grady	Continuity and Differentiability, Related Rates, Fundamental Theorem of Calculus, Area Between Two Curves, Volumes by Rotation.
5.	Emily / Jason	Derivative Formulas, Slopes and Equations of Tangent Lines, Concavity/Inflection points, Integration/Anti-Differentiation, Slope Field
6.	Amanda / Lynn	Implicit Differentiation/ Derivatives of Inverse Functions, Optimization, Related Rates, Average Value of a Function, Fundamental Theorem of Calculus
7.	Keonmin / Kevin	Linear Approximation, MVT/Rolles, Max/Min/Increasing/Decreasing, U-Sub for integration, Volumes by Cross Sections
8.	Stephen / Jesse	Related rates, optimization, physics application, average value of a function, solving differential equations

9.	Sarafina / Mimi	Implicit derivatives, integration, area between two curves, volumes by cross sections, average value of a function
10.	Jared / Tulio	Derivative Formulas, Continuity and Differentiability, Related Rates, Mean Value Theorem, Solving Differential Equations
11.	Evan / Karter / Sageanne	U-Substitution by Integration, Slopes & Equations of Tangent Lines, Solving differentiable equations, implicit differentiation, limits
12.	Haley / Jen	Volumes by cross section, deriv. formulas, max/min increasing/decreasing, area between 2 curves, u-sub for integrals